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SUBSISTENCE SHARING NETWORKS AND COOPERATION:

Kaktovik, Wainwright, and Venetie, Alaska

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by
Gary Kofinas, Shauna B. BurnSilver, James Magdanz, Rhian Stotts, & Marcy Okada

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About the Cartoons: The drawings used on the title page were cartoons made for the Sharing Project by Doug Urquhart, a talented cartoonist and biologist of Whitehorse, Yukon. These and other drawings by Doug were used as prompts during some interviews to convey the concepts of sharing and cooperation asked of research subjects. Doug passed away in 2015 after years of service to indigenous people and inspiration to wildlife co-management in the North.

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This study is dedicated to
residents of Kaktovik, Wainwright, and Venetie who are actively engaged in subsistence—to elders whose wisdom and guidance helped with our research, to harvesters, processors, and consumers who live a subsistence way of life, and to youth for their commitment to sustaining Alaska Native cultural traditions into the future

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Naomi O'Neal of UAF put in countless hours helping with the study, including coordinating the research team's interviewing in Kaktovik entering data, identifying errors in the manuscript, organizing and managing materials, reviewing chapters, doing literature searches, compiling the bibliography, numbering figures, and more. Rhian Stotts put in months of work meticulously managing and analyzing data. Katie Moerlein coded qualitative data from the survey instrument. Deirdre Helfferich' s work as our artful and detail-oriented editor gave the final report its strong professionalism.

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Gary Kofinas, PhD
Sharing Project Principal Investigator
June 26, 2016

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Executive Summary

This study documented and analyzed social networks of sharing and cooperation that are part of Alaska Native subsistence-cash economies, and explored the potential vulnerability and resilience of Alaska rural communities to conditions of social and ecological change. The study was undertaken in response to the Bureau of Ocean Energy Management (BOEM), formerly Mineral Management Services (MMS) Statement of Work NSL-AK-05-04. Research activities were initiated in spring of 2008 with the survey instrument administered from October 2010 to May 2011. The study engaged two North Slope Alaska coastal communities, Kaktovik and Wainwright (Iñupiat), and one rural interior Alaska community, Venetie (Gwich'in), in partnerships to complete the research. Wainwright and Kaktovik were invited to participate because of BOEM's mandate to study the potential impacts of offshore energy development. Venetie was included as a contrasting interior Alaska community that is not exposed to offshore development, and thus served as a "control."

Primary goals of the study were to provide agencies and communities with quantitative and qualitative baseline data on patterns of cooperation and exchange in subsistence-cash economies, and the vulnerability of communities to social-ecological changes relevant to food security and well being. At a community level, the study provided documentation of behavior that reflected cultural traditions and social cohesion among Alaska Natives.

The study used survey research methods, ethnographic analysis, social network analysis, and group interviews to collect data. Research methods were developed and refined through close consultation with Local Project Advisory Committees in each community. Using survey research, we sought to interview the head or heads of every household in each community. Interview response rates were high: 82% in Kaktovik, 96% in Wainwright, and 94% in Venetie. Data were analyzed to describe household socio-economic conditions and provided general and specific characteristics of sharing and cooperation patterns among local and non-local households. The study's analysis of persistence, vulnerability, and resilience assessed past-to-present patterns of the subsistence-cash economy and the implications of plausible future social-ecological changes.

Key substantive findings from the study include:

1. Social relations involving inter-household cooperation represent a significant portion of household inflows of subsistence foods within communities, accounting for between 60–75% of inflows into households in all three communities. In the two North Slope communities only about one-quarter of total inflows were from households' own harvesting efforts. In the Interior community about one-third of the total inflows were from households' own harvest. Between three-quarters and two-thirds of all other food produced and redistributed within communities stemmed from some kind of social relationship, including cooperative harvesting (19%–37%), gifting (sharing) (9%–23%), helping shares (1%–14%), and whaling relationships in Wainwright and Kaktovik (33%–46%) that included cooperative hunting, shares, sharing and feasts involving the entire village.

2. Subsistence activities consist of more than hunting. Significant flows of non-food resources such as contributions of labor, equipment, or supplies represent multiple ways Alaska Natives in the study communities engaged in "subsistence."

3. Research findings from all three communities show a skewed ratio similar to Wolfe's

"30:70 Rule," which predicts that 30% of the harvesters will produce 70% of a community's subsistence foods. This study measured household inflows and as expected, found that the proportions were slightly higher than 30:70. In Wainwright, 30% of households brought in 76% of harvested food and in Kaktovik 30% of households accounted for 81% of harvested food. In Venetie 30% of households brought in 93% of harvested food. Significant reliance on fewer harvesters in the future could make the subsistence system vulnerable.

4. Households in each of the three communities are highly connected, based on a range of network metrics (i.e., degree distribution, level of reciprocity, modularity), yet some households are more connected than others. These households represent key providers of subsistence resources in their community, conforming to Wolfe's (2004) description of "super-hunting households."

5. Highly productive households are characterized in general as having mature or older household heads, more adult hunters, and a source of cash income.

6. While household income was correlated with household productivity (the sum of all wild food inflows in pounds from all social relations), household self-provisioning was not.

7. Narratives (i.e., qualitative findings) about sharing indicate that households share with relatives while also sharing with other households that are in need. Quantified patterns of outflows confirm this result, indicating that food flows out from households with high producers to lower-producing households, supporting the need-based directionality of food flowing to those with less. Kinship data were not a focus of this study, and data on kinship relationships among households were not collected. Based on the findings of this study and research by others, we hypothesize that patterns of connectivity can be explained in additional detail by accounting for kinship relationships.

8. Findings show a correlation between high household harvest and outflow. We calculated outflows based on gifting, helping shares, and trading redistribution of hunted, fished, and gathered (e.g., berries) food. Super households are super providers. Households with high harvest and high income are the source of a majority of food flowing into other households within the same community/village.

9. A comparative analysis of past household data in years 1977, 1988, and data from this study, 2010a, for the North Slope communities of Kaktovik and Wainwright show that subsistence systems have persisted in spite of households' continued engagement in the cash sector of the economy.

10. Many of the households in all three communities reported high food insecurity (Kaktovik 45%; Wainwright 43%; Venetie 35%). We found no correlation between household characteristics and level of food security. And despite high inflows, 33% to 48% of households in "high harvest" terciles were categorized as "food insecure," suggesting that food security status may be seasonal, or that respondents perceived themselves as being insecure in their ability to meet their food needs.

11. Income-harvest relationships are complex. High harvest occurred across low, medium, and high-income households. However, with the exception of three households, all high-harvesting households had at least one adult member employed during the study period. Cash plays an integral role within the subsistence system.

12. Study findings show that gifting of subsistence resources is not confined within communities. Sharing in subsistence commonly extends beyond the boundaries of a single village to include others across Alaska and beyond.

13. The patterns of engagement of men and women in hunting and subsistence activities differ by community, by resource, and by social relationship. Men are responsible for a majority of harvested food by weight; however, women are a key source of food ties by count.

14. Social network analysis illustrated how patterns of sharing and cooperation vary widely by the resource and the community. For example, patterns of ties for caribou (1,193 ties) differ from those for beluga in Wainwright (281 ties), and these patterns of social ties around beluga in Wainwright differ from Kaktovik (136 ties). Differences are explained by unique harvesting strategies and related local social organization of harvesting and sharing.

15. Households within and between communities are highly heterogeneous across attributes, such as available cash inputs, engagement in harvesting, number of sharing ties with other households, and demographics. Households employ a variety of livelihood strategies; therefore, references to "communities" as monolithic entities may need to be reframed to capture the diversity of household capabilities within communities.

16. We therefore project considerable variability in levels of vulnerability to economic and climatic change at the household level in each of these communities. This finding is related to the wide range of adaptive capacities of different household types. Results clearly show that certain households are more vulnerable to projected changes than others (i.e., low-income, unconnected and low-harvest households are more vulnerable than high-income, connected, and high-harvest households).

17. Predicting social responses under future conditions of change is difficult, especially given the one-time nature of these data and the general uncertainty in predicting the nature of human agency and collective action at the community level. Still, findings suggest strongly that these communities have a high dependence on subsistence resources, and a significant change in the availability of resources could come with high costs to social, cultural, and economic well-being.

Key methodological findings from the study include:

1. In small, naturally bounded populations, survey methods can quantify flows of goods and services among households, providing a new quantitative social indicator of critical social structures in communities over time.

2. Having continuity in membership of the research team and taking sufficient time to develop meaningful partnerships with partner communities allows for important trust building and opportunities for community input into the research design, which make research data collection more precise and findings more relevant to the community and policy makers.

3. Working with a dedicated steering committee of knowledgeable local residents incorporates critical local knowledge into the research process and lessens the burden on elected officials for providing assistance in all phases of the community-based research process.

4. Strong public support of community leaders in a project is critical to achieving broad participation in survey research and ultimately, more complete and robust findings.

5. Using multiple methods of communication, such public meetings, informal visits with opinion leaders, and a video about the project that is delivered as a DVD to each household helps to inform the public about project objectives.

6. Household expenses are difficult to document with retrospective survey research.

7. Documenting cultural traditions, such as subsistence sharing and cooperation, and reporting research findings back to the community produces a sense of pride among community residents, and potentially reinforces those practices.

This research provides new and detailed findings concerning Alaska subsistence-cash livelihood systems, drawing on findings from three northern communities. The results also highlight the value in systematically gathering quantitative data on household and community economies.

While insights into community adaptive capacity and resilience are limited because data were only collected for one point in time and therefore do not capture community dynamics under changing social and environmental conditions, they do provide important information on the structure and extent of social processes critical but largely invisible to subsistence studies. The findings also confirm the historic persistence of mixed subsistence-cash economies through time and the extent to which sharing and cooperation continue to act as central features of local culture and identities. Further monitoring and research that documents these systems will provide greater understanding in how and to what extent households and communities are responding to change, and are therefore able to adjust social relationships and economic activities in response to changing social, economic, and ecological conditions.

Wainwright interview crew: Training the Sharing Project team in Wainwright, Alaska.

SECTION ONE

Chapter 1 - Introduction

Chapter 2 - Theoretical Orientation and Framework

Chapter 3 - Methods

Chapter 4 - Background on the Three Study Communities

Chapter 1 - Introduction

This study investigated the structure, flows, and dynamics of sharing and cooperation in household subsistence-cash economies of three villages of northern Alaska—Kaktovik, Wainwright, and Venetie. Focusing on patterns of sharing and cooperation in subsistence, the study advances knowledge of northern communities' vulnerability and sources of resilience, using mixed methods of research. These research methods included ethnography, household surveys, group interviews and social network analysis, generating qualitative and quantitative data. Through these approaches, the project developed new methods for studying Alaska's subsistence-cash village economies, generated baseline data on community systems of subsistence food sharing, provided information to community members and resource management entities about traditional lifeways, and addressed questions about the current and possible future vulnerabilities and resilience of subsistence-cash systems of these communities. The project also facilitated research partnerships with study communities and contributed to arctic system science.

The study was undertaken in response to the Bureau of Ocean Energy Management (BOEM), (formerly Mineral Management Services) Statement of Work National Studies List-AK-05-04 Statement of Work, "Dynamics of Distribution and Consumption of Subsistence Resources in Coastal Alaska" (NSL-AK-05-04). As part of its mandate, BOEM conducts studies of any area or region in the United States potentially affected by an offshore lease sale to establish information needed for assessment and management of potential impacts by Outer Continental Shelf (OCS) oil and gas activities on the human, marine, and coastal environments in a manner that is comparable with the results of studies conducted prior to OCS oil and gas development. After the leasing and exploration of any area or region, BOEM conducts studies to establish additional information and monitor for impacts in a manner that is comparable with the results of studies conducted prior to OCS oil and gas development. These studies are intended to identify significant changes in the quality and productivity of such environments, detect trends in the areas studied, and identify the causes of such changes. BOEM uses the findings from such studies to recommend modifications in practices to mitigate the effects of OCS activities, and enhance the data/information base for predicting impacts that might result from a single lease sale or cumulative OCS activities.

Motivation for this Study

The study was motivated by the potential implications of oil and gas development to northern villages, local residents' interest in documenting traditional ways of life as a means of protection against undesirable changes, and the information needs of government agencies responsible for managing for arctic oil and gas development. More specifically, BOEM sought to link pounds of subsistence harvest with the social system underlying subsistence in a more dynamic way than merely accounting for weight of harvested resources. An overarching motivation was to assess vulnerability and risk of oil and gas exploration and development on the subsistence-cash economy with more precise quantitative measures than used in past studies. The implications of change on household food security were also important.

Future changes in northern Alaska, however, will not likely be confined to oil and gas.

Today, multiple forces of change, such as changes in climate, culture, and economic conditions, are of concern at international, national, regional, and local scales, with these forces interacting as part of a complex social-ecological system. Forces of change may be slow, such as warming temperatures, and in other cases may occur as sudden shocks, such as oil spills, loss of employment, or dramatic increases in fuel costs.

If or when changes occur, Alaska rural communities will be on the front lines of these changes because of their high dependence on subsistence resources to sustain their nutritional, economic, and cultural needs. Given the dependence on harvested resources, the social structures built around subsistence, and Alaska Natives' clear commitment to maintaining subsistence, protection of subsistence livelihoods has become a first-order social goal.

As Alaska, the United States, and the international community assess the potential effects of these changes on people and systems, it is striking that quantitatively based analyses of northern community-based subsistence food production and distribution systems are rare. The need for more research, better data, longitudinal studies and the rigorous data analysis is striking (e.g., ACIA 2005, Einarsson et al. 2004, Arctic Resilience 2013, Larson and Fondahl 2015). While harvest studies have quantified subsistence harvests and ethnographic studies have explored cultural patterns of subsistence identity, cooperation and sharing, we are aware of no prior studies that combined these two approaches to describe both the community-wide harvest and economic patterns and magnitude of flows of subsistence goods among community households. Consequently, these significant gaps in baseline knowledge limited our understanding of the vulnerability and resilience of subsistence systems in northern Alaska communities. As well, there was a need to define and sharpen analytical distinctions in framing discussions around distribution of subsistence harvests among communities.

Northern communities today are seeking to document their ways of life and pass on cultural traditions to future generations as ways of confronting threats and influencing policy processes. Agencies are in need of good data on which to base policy decisions. As communities and policy makers anticipate possible futures with uncertainty, a better understanding of communities as integral parts of social-ecological systems becomes vital. To meet these objectives, better methods that draw on quantitatively based empirical studies of vulnerability and resilience of rural northern communities are critical. This study sought to address a number of these gaps in knowledge.

Research questions

The following overarching research questions directed project objectives:

1. What are the range of social structures and economic patterns that currently characterize subsistence-cash livelihoods in northern communities?

2. What patterns of social relationships, food flows, and resource flows among households characterize mixed subsistence-cash-economies of the communities, and how do these relationships relate to broader indicators of well-being and adaptive capacity?

3. What are the potential vulnerabilities, and alternatively, sources of resilience of households and communities to changes in social, ecological and economic conditions?

Linked sub-questions include:

1. What proportion of total food flowing within villages is based on social relationships of cooperation and sharing versus household self-provisioning?

2. How variable are patterns of social relationships, flows of food and resources across species and by communities?

3. Is there a relationship between household engagement in the cash economy, household harvest activities and households' positions in cooperative and sharing networks?

4. How do household types (i.e., income and harvest levels, household composition) differ

in their network positionality and therefore, their ability to respond to change and risk?

5. How do community residents perceive changes that have occurred through time in their social networks?

6. How variable is food security within villages?

7. Given observed sharing and cooperative patterns, how could a significant change in employment or harvesting success affect the distribution of resources across the network within communities?

Organization of the report

The report is organized in three sections. In Section I we introduce the study (this chapter), present the theoretical orientation and framework for analysis (Chapter 2), describe research methods (Chapter 3), and give background on the study communities (Chapter 4). Section II presents research results, including findings on what motivates people to share (Chapter 5), demographics and ethnicity of community residents, cash inputs, and harvesting (Chapter 6), and results on subsistence cooperation and social networks of sharing, including findings on ties, magnitude of wild food flows about nodes, and social relations (Chapter 7). Section III explores the persistence, vulnerability, and resilience of household subsistence-cash systems (Chapter 8) and presents a summary of the study's conclusions and recommendations for future research (Chapter 9).

Reference households are abbreviated as "HH". Percentages in the body of the report are rounded to whole numbers.

Additional publications about the study's findings can be obtained by contacting the lead author of this report.

Chapter 2 - Theoretical Orientation and Framework

This chapter describes the theoretical orientation and framework that guided the study, including analytical categories used to measure subsistence sharing and cooperation. Our approach was transdisciplinary, drawing from literatures of economic anthropology, network theory, social-ecological systems resilience theory, and vulnerability theory.

A Social-Ecological Systems Perspective

We approached communities, their mixed subsistence-cash economies, and the ecosystems of which they are a part as coupled social-ecological systems (SES). An SES is composed of interacting and interdependent physical, biological, and social elements that emphasize the 'humans-in-nature' perspective (Chapin et al. 2009). An SES framework implies that these communities are complex adaptive systems with feedback loops, non-linearity dynamics, and potential regime shifts or state changes that modify system structure, function, and identity. Resilience of an SES is defined as the ability of the SES to respond to change and retain its structure, function, and identity, with its capacity to respond defined as the system's adaptability or adaptive capacity (Walker et al. 2004). Resilient social-ecological systems are evolutionary and adaptive, constantly changing in response to internal processes and external shocks. For example, one hypothesis is that the households of an arctic community have greater resilience to resource shortfalls if community members are highly cooperative in harvesting resources and well networked with other households locally and regionally in the sharing of harvested wild foods.

Resilient social-ecological systems exhibit multiple, semi-independent scales or "panarchy" (Gunderson and Holling 2002) with interactions occurring both within scales and among scales, such that a crisis (e.g., global energy crisis) in one scale can influence interactions in other scales (e.g., higher fuel costs for hunters). For example, in the context of this study household-level drivers of change can scale up to affect community-level outcomes, and vice versa. When a system breaches a critical threshold and can no longer sustain its previous structure and function, it undergoes a regime shift to a new state. For example, a warming climate may increase temperatures and nutrient levels in arctic lakes, causing a change to algal-dominant states, as has occurred in the past (Overpeck et al. 1997). Similarly, economic and ecological conditions in an arctic community could potentially result in a mass outmigration of residents, transforming the system with outcomes at both household and community scales. As a "complex adaptive system," arctic communities are collections of multiple entities engaged in dynamic networks of interactions, whose collective behaviors evolve in response to shocks. These systems are characterized by evolution, aggregate behavior, and anticipation. Human actors embedded in these systems have agency. They make decisions and can learn and adapt. Thus, aggregate behavior emerges from the interaction of specific parts (i.e., individuals, households, and communities) (Holland 1992).

Characterizing any SES, identifying its critical thresholds of change, and measuring resilience with research is a challenge, especially given the past tendencies to view human-ecological interactions with mechanistic models. Adger (2000b) has noted that resilience theory has been guided to a great extent by ecological thinking, giving only limited attention to the social dimensions, how they differ from ecological dynamics, and the methods analysts should use to link the two. In his critique

of the resilience paradigm, Davidson (2010) acknowledged that resilience theory has drawn "attention to conditions that facilitate breakdown and renewal, and dynamic feedback processes" (page 1141), but notes that social systems are fundamentally different from ecological systems:

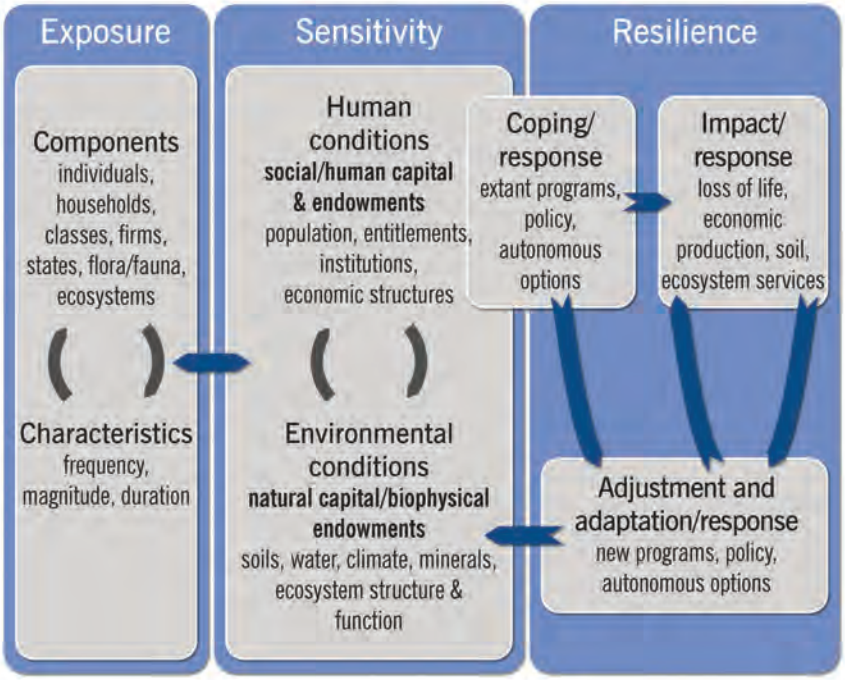
> The application of the resilience framework to social systems will require improved articulation of the relationship—or more precisely the multiple relationships—between complexity and disturbance in a less deterministic manner than is afforded by ecological systems, in order to specify the conditions favoring the likelihood for resilience, adaptation, or transformation. While the structural complexity of both ecological and social systems can be conceived of in similar terms, the feedback processes associated with each are incomparable: Social systems are unique in that the tendencies toward complexity, and the responses of individual organisms to those levels of complexity, are defined not solely by structural variables, but by agency. (2010:1142)

Davidson's quote emphasizes the importance of human choice or human agency in SES dynamics, and the need to move beyond the application of theory and towards empirically-based quantitative analyses that tests and refines theory, as undertaken in this study.

Vulnerability assessment has emerged in a parallel but complementary stream of theory building. While resilience theory has focused on SES dynamics, vulnerability assessment has examined the harmful effects of environmental, social, and political change in relationship to human risk, sensitivity, and adaptive capacity (Turner et al. 2007). Vulnerability is defined as susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt (Adger 2001, 2006). Vulnerability is also a multi-scalar concept, encompassing analyses from the global to regional scales, and down to the level of households. *Household vulnerability* (of primary concern in this study) within a social-ecological system is multi-dimensional, combining numerous variables that differentiate households' characteristics across the three domains of exposure, sensitivity, and adaptive capacity. The *exposures* of major concern to arctic households are primarily economic (e.g., rising food and fuel prices) and fluctuating environmental conditions stemming from climatic change and land and sea use change. *Sensitivity* reflects the likelihood that households will experience harm from a given set of exposures based on their combined livelihood characteristics, while *adaptive capacity* represents the degree to which households are able to absorb change based on combinations of socio-economic endowments. (Figure 2.1)

Vulnerability studies generally seek to identify the distribution and composition of risks to harm from change within and between study populations. In this context, households within communities possess a range of heterogeneous

Figure 2.1. Vulnerability framework (adapted from Turner et al. 2003 and Kofinas et al. 2013).



capabilities and resource endowments, and so logically, different households have different sensitivities and capacities to cope with change. Some households are highly vulnerable to specific changes, while others are not.

Measures of Adaptive Capacity

Adaptive capacity or adaptability in an SES follows from properties that allow the system or individuals to adjust or recover, while retaining the same social-ecological state (Walker et al. 2006; Chapin et al. 2009). This capacity is related to factors or processes that enable or constrain choices, such as actors' memory of managing past stresses or barriers that may result from inequitable power relations. In their review of adaptive and transformative capacity literature, Kofinas et al. (2013) identified dimensions of adaptive capacity relevant to arctic social systems, which can be considered as assets or endowments available to a community or household when responding to change. *Endowments* here are different capabilities that households have available to them; for example, specific modes of livelihood diversification, or/and combinations of social, human, physical, or financial capital (Scoones 1998). These dimensions of adaptive capacity include, but are not limited to:

Natural capital – the stock of resources that directly or indirectly produce the flow of ecosystem services (i.e., benefits to humans, derived from ecosystems). For example, the diversity of natural capital in a system contributes to the resilience of the system; a community with a diversity of harvested species may be less vulnerable to ecological change in its ability to switch harvested species, as opposed to a community that is highly dependent on a small number of species.

Social capital – the capacity of individuals to access resources and act collectively. Social capital follows from the extent to which actors are networked within their group and beyond to other groups. Subsistence sharing and cooperation in harvesting among households and beyond, as documented in this study, constitute indicators of social capital at the community level.

Human capacity – the human resources and competencies of the group, such as skills through education, interpersonal skills, leadership. For example, the skill level and number of hunters represent measures of human capital in a household's acquisition of food and cash.

Infrastructure and equipment – buildings, roads, airports, snowmobiles, boats, ATVs (a.k.a. all-terrain vehicles or 4x4s) that may affect sensitivity to changing conditions. In the context of a northern community, infrastructure as a source of adaptability would include having adequate housing where young families can reside or households with storage (e.g., freezers or ice cellars) for subsistence foods.

Financial capital – access to financial resources (i.e., money) through ownership of property, savings, investments, well-financed government programs, inheritance. A flow of cash from jobs, annual dividend payments from the Alaska Permanent Fund and a regional and village Native Corporation, and social assistance for the needy are important resources for weathering hard times or making changes to emergent conditions.

Knowledge assets – availability of information for assessing conditions, anticipating future changes, and planning. The traditional ecological knowledge of northern indigenous people, the contributions of science-based measurements of ecological and social change, and other sources of information are assets that can be critical for assessing, planning, and responding to emerging conditions. Significant conflict in what is perceived as known by various stakeholders could potentially undermine this asset.

Institutional capital – formal and institutional arrangements (rules and policies) that guide and shape human decision-making. In the northern context institutions include the array of policies and institutions that guide governance (i.e., the means by which society makes decisions; different from the

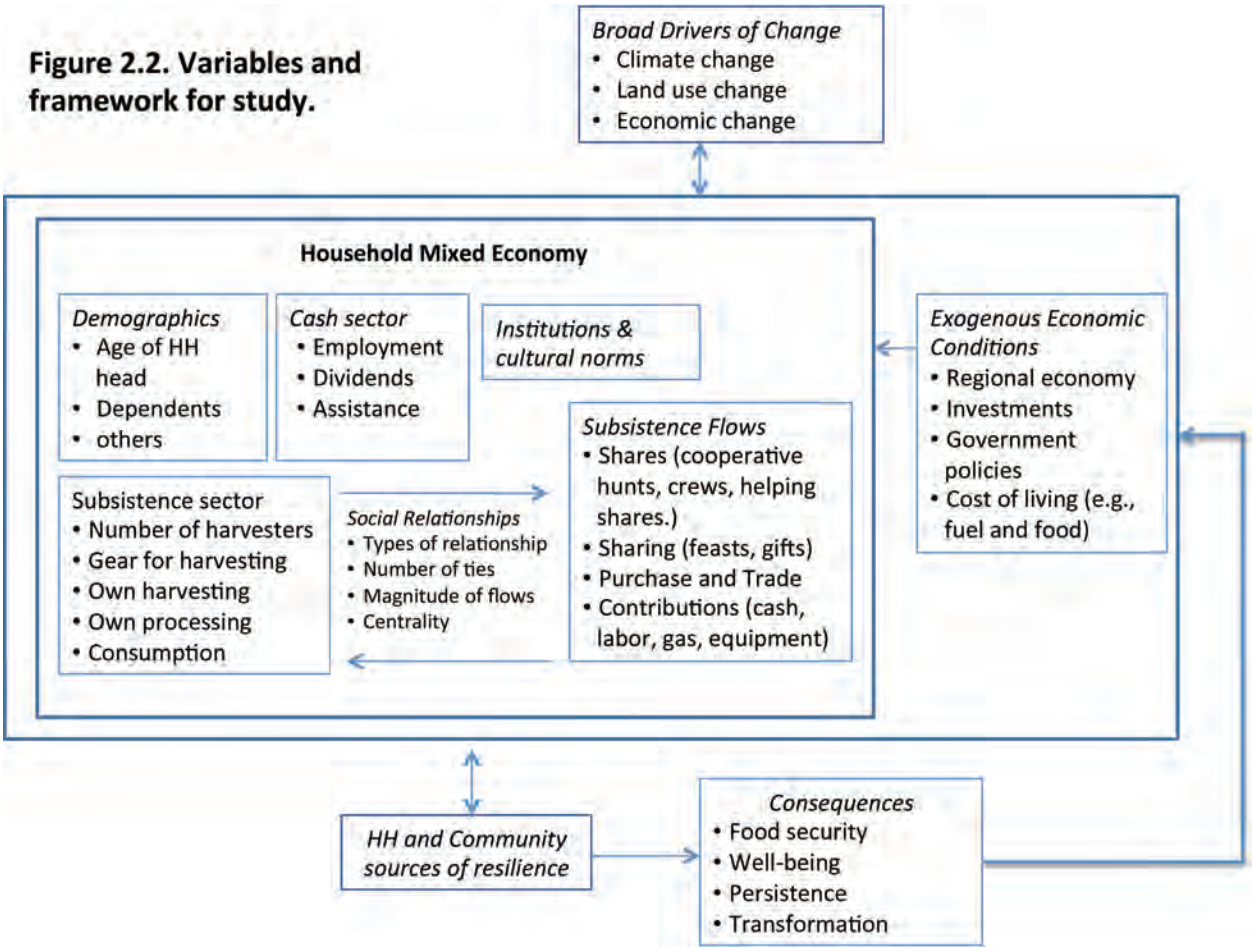
institutional structures of government). For example, institutional capital includes the Marine Mammals Protection Act, the Alaska Eskimo Whaling Commission, and local and regional rules regarding participation in and leadership of bowhead whaling crews. Informal institutions are norms and ethics that shape human behavior. Informal institutions overlap with cultural capital described below.

Cultural capital – language, worldview, beliefs, norms, often constructed through livelihood pursuits. Cultural capital includes values and behaviors linked to group identity, such as the norm that a young caribou hunter shares all of his or her first-ever harvest with others or that the first moose harvested each fall is shared across the village.

Assessing adaptive capacity is, at best, complex and tricky (Berman et al. 2016). Having quality infrastructure may insure protection from some changes but can come with the need to continue maintenance at great financial expense. Well-defined institutional arrangements for management of natural resources may provide for security while constraining flexibility and responsiveness when immediate action is needed. Cultural capital can limit consideration of different points of view and restrict innovation. Yet, understanding these assets provides an indication of how the system may respond to shocks or other forms of stress.

We explored household subsistence sharing and cooperation as sources of resilience, considering all households of a community as a higher-level adaptive capacity. (See Figure 2.2.) The adaptability of households has been the subject of many past livelihood studies (e.g., Chambers and Conway 1992; Adger 2000a; Defries et al. 2006), with the household being a particularly useful unit of analysis in the study of adaptability

Figure 2.2. Variables and framework for study.



because it is the arena where many social choices are made (e.g., the decision to hunt alone or cooperatively with others, to share a harvest with other households, to move away from the village and live in an urban center, etc.). Each of these decisions relates directly to the dimensions of adaptive capacity listed above, and therefore to questions of vulnerability and resilience.

Northern subsistence

Subsistence is defined as the production of food (hunting, fishing, gathering, and post-harvest food processing and distribution) undertaken without commodification or profit maximization (Landgon 1988), having three main functions: i) harvesting and processing, ii) distribution, and iii) consumption. Production consists of preparation for harvesting and the actual hunting, fishing, or gathering of wild foods. Processing includes butchering, smoking, canning, and cooking wild foods. Distribution of wild foods in subsistence involves the division, allocation, and exchange of goods and services among individuals (Worl 1980; Magdanz et al. 2002). In Alaska the definition of subsistence also has legal standing (Caulfield 1992). And as articulated by Alaska Natives from their cultural perspective, the meaning of subsistence extends beyond pounds of meat to include social relations of community, cultural identity, and a way of life.

Past studies show that the production of wild food in Alaska villages is commonly organized around extended family groups (Bodenhorn 2000a, 2000b; Burch 1975; Collings et al. 1998; Magdanz et al. 2002) and varies depending on local culture, ecology, and economic conditions. The actual harvesting of species in subsistence can be undertaken by individuals, several members of a single household, and/or members of different households working cooperatively. Harvesting can also be highly organized, such as community hunts or with crews requiring membership, recruitment, and long-term commitment, such as in Iñupiat bowhead whaling. Time spent processing harvested food can exceed the time spent harvesting, and commonly involves contributions of labor and goods among community members.

Subsistence foods have been shared and traded with extended family members and others, sometimes across considerable distances beyond the physical bounds of the village (Damas 1972; Kishigami 2004; Spencer 1959; Wenzel et al. 2000). These acts of sharing and cooperation in subsistence have deep traditional roots for indigenous peoples, linking contemporary cultural identity to earlier times when collective action was critical to human survival. Interestingly, today arctic peoples report that such cooperative subsistence activities are a primary reason they remain in remote, rural communities (Kruse et al. 2008; Poppel and Kruse 2009).

The rapid changes anticipated for the high latitudes, such as greater industrial development and climate change, suggest the need to understand more fully the adaptive capacity of household cash-subsistence economies in northern communities in the face of future changes.

Toward a networks understanding of subsistence

Systems of exchange and reciprocity in subsistence have been the subject of economic anthropology (Planter 1989), evolutionary theory (Henrich and Henrich 2007), and game theory (Axelrod 1984). Research suggests that these systems exist particularly among hunter-gatherer groups (e.g., Lee 1979). These and other studies have shown that simple economic analyses (i.e., viewing subsistence as flows of benefits) are incomplete in accounting for the complex motivations among those involved. Putting questions of motivation for sharing in perspective, Hovelsrud-Broda (2000) commented,

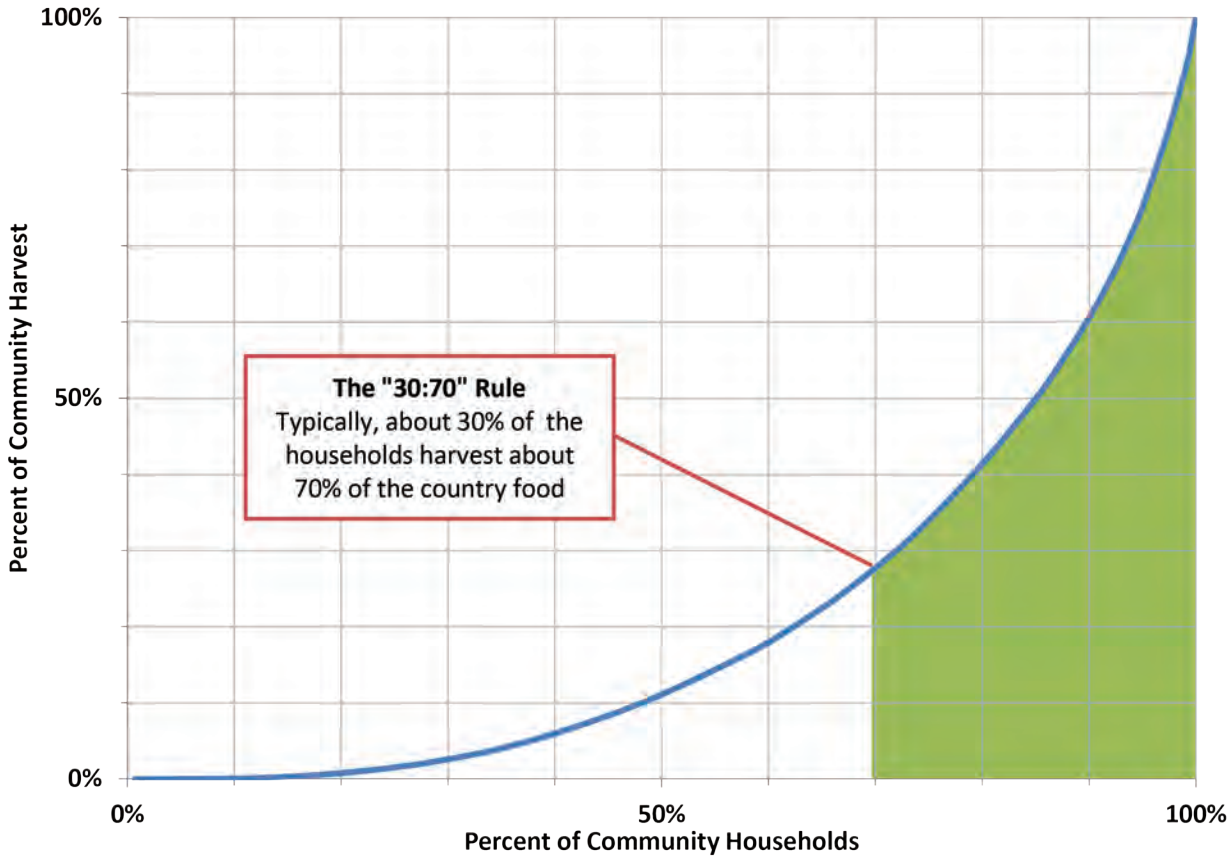
> I will not go further into the debate here over why people transfer and share their resources… The argument about *why* can be better understood if we first know *what*. An understanding of the transaction systems and how these are related to socio-economic structure and social relations will eventually lead to answers to the *why* question. [emphasis original] (2000:194)

Many past studies have documented subsistence by focusing on the quantity of food harvesting

and consumption, and assessed subsistence needs at the community and household levels (see Wolfe 2004). The findings of these studies provided an understanding of the differences in harvesting and consumption patterns among communities (i.e., urban vs. rural) and how types of households and hunters (i.e., super households and super hunters) contribute differently to subsistence food production at the community level. In his research in Alaska, Wolfe (2004) identified a common 30:70 ratio ("the 30:70 rule") where 30 percent of the harvesters typically account for 70 percent of the total community harvest poundage (Figure 2.3). More recently, Magdanz et al. (2002, 2004) and others (Collin 2011) have applied social network analysis to document and analyze the structure of systems of exchange among individuals and households in Alaska. The use of social network theory has significantly advanced household-level analyses of subsistence production systems by providing a better appreciation of household-, family- and community-level dimensions of subsistence, the structure of sharing networks, and the links between sharing and kinship ties. The Alaska Department of Fish and Game (ADFG) and the National Park Service (NPS) have also examined some of the dietary implications of food sharing networks in villages of northwest Alaska.

Social networks analysis explores explores relations among connected entities in a system and is an especially useful tool for exploring complex adaptive systems. While network analysis can incorporate attributes of individual entities, the focus is on relations rather than attributes (Watts and Strogatz 1998; Granovetter 1973, 1983; Rogers 2003). Social networks analysis supports theories to describe interconnected systems in relational terms, such as degrees of connectedness, typologies of structure, structural equivalence, community identification, and diffusion (Borgatti et al. 2009). With roots in mathematical graph theory (Erdös

Figure 2.3. Wolfe's "30:70 Rule."



and Rényi 1959), contemporary network analysis spans disciplines (Butts 2009), and has been applied in sociology (Boorman and White 1976), anthropology (Denham and White 2005), epidemiology (Goodreau 2006), ecology (Estrada and Bodin 2008), biology (Dunne et al. 2002), and economics (Burt 1992; Jackson 2011; Goerner et al. 2009). As with the study of complex adaptive systems, network theory seeks to identify fundamental properties common to all connected systems.

Network analysts already have identified and quantified common properties of several different types of complex systems, including Watts and Strogatz's (1998) solution to the small-world problem. In a small world network, most connections occur between neighboring nodes, but a few connections occur between distant nodes, creating a network characterized by high clustering but short characteristic path lengths (Watts and Strogatz 1998:442). This structure explains the "small world problem" described by Milgram (1967). Since small worlds were classified by Watts and Strogatz, it has become apparent that they are ubiquitous, presumably because they provide an evolutionary advantage and contribute to resilience.

Regardless of the field, network relations can be categorized into four basic types: similarities (e.g., membership), social relations (e.g., friendship), interactions (e.g., advice), and flows (e.g., resources) (Borgatti et al. 2009:894). Between pairs of sources (i.e., givers) and sinks (i.e., recipients), some relations may be undirected (e.g., membership on a crew) and some may be directed (e.g., leadership). Some relations are valued (amounts of flow). It is possible for a relation to be several types simultaneously. In analysis, for example, an Iñupiat whaling captain's ties to his crew might be characterized as:

- *Similarity:* He was a member of a whaling crew. This similarity was neither directed nor valued (i.e., he is either a member or not).
- *Interaction:* He provided leadership to his crew. This interaction was directed from the captain to the crew members, but not valued.
- *Flow:* He received whale from the crew after the hunt. This flow was both directed (from the crew to the captain) and valued (in edible pounds).

In analysis, this same whaling captain also could be characterized in any one of several modes:

- *Himself,* an individual in the community
- *A household*, his household of residence
- *A group*, his whaling crew
- *The settlement* (i.e., village) where the captain resides
- *The social collective* defined by the captain's sharing network

Current computer network software can analyze all these types of relations, although some procedures are limited to unvalued ties, such as those not measured by the flow of wild food in pounds. Current network software can analyze only one- and two-mode (bipartite) networks. Subsistence network data are multi-mode, valued flows for complete, naturally bounded networks, the most complex kind of network data typically analyzed. In our review of potentially useful approaches, we favored approaches with similarly complex data. Commenting on the importance of flows, Borgatti and Xun (2009) noted:

> In principle, flows are often the most important kinds of tie. But, in practice, flows are rarely measured and are instead assumed from interactions or social relations. (2009:7).

Subsistence flows have certain qualities that distinguish them from other kinds of relations. Most subsistence flows consist of tangible, perishable, and unwieldy fresh meat and fish. Path lengths (i.e., the number of nodes through which flows pass) will therefore tend to be short. Conceptual frameworks and analytical tools must fit the data:

> To represent an empirical phenomenon as a network is a theoretical act. It commits one to assumptions about what is interacting, the nature of that interaction, and the time scale on which that interaction takes place. Such assumptions are not "free," and indeed they can be wrong. Whether studying

> protein interactions, sexual networks, or computer systems, the appropriate choice of representation is key to getting the correct result. (Butts 2009:416)

Because hunter-gatherer societies cooperate extensively in harvesting foods and redistribute goods widely in their communities of practice, the term "network" often appears in studies of subsistence food systems (e.g., Gurven et al. 2001). However, these scholars usually do not apply formal network methods. There are a handful of important exceptions, discussed below.

Past research on subsistence and food sharing networks

Working with two indigenous groups in Nicaragua, Koster (2011) employed local research assistants to complete daily food consumption forms from 35 households for a period of 9 to 12 months. The forms documented types, amounts, and sources of the food consumed in the previous 24 hours. Households (in 2 adjacent communities) were located on GPS units, and genealogies were collected to at least the grandparental generation. A "quadratic assignment procedure" was used to test hypotheses in which food sharing patterns were the response variables and predictor variables included reciprocity, distances between households, and several different kin relationships. "This study provided support for multiple evolutionary models of food sharing, most notably kin selection and reciprocal altruism, while the distribution of large game resembles tolerated scrounging more than costly signaling" (Koster 2011:411). Koster's study was unusual in several respects. It included extremely detailed longitudinal flow data, solid grounding in anthropological theory, and rigorous statistical tests of network hypotheses. Koster's work in Nicaragua was informed in part by Allen-Arave, Burven, and Hill's work with the Ache in Paraguay (Allen-Arave et al. 2008). There, researchers sampled food flows over a 4-month period that, in analysis, suggested that contingent reciprocity was the norm among close kin. Although they sampled and analyzed food flows, they did not use network analysis methods; Koster took the method that extra step in Nicaragua.

In northern Canada, Collings (2011) adopted a network approach to study food sharing, conducting bi-weekly interviews with 14 Inuit males over a 9-month period, asking about hunting effort, food exchanges, and income changes. In Alaska, Magdanz et al. (2002) added a social network module to a standard household harvest survey used by ADFG, asking respondents to identify who harvested, processed, and distributed certain subsistence foods to the respondent household, and found highly patterned structures of food production and distribution, strongly associated with kin relationships. These relations, however, were interactions, not valued flows. Subsequently ADFG expanded the set of questions in its later studies to include sources of equipment, supplies, and cash, and found that cash networks were much sparser than subsistence food networks in the same communities (Magdanz et al. 2011). The inclusion of non-subsistence ties in a subsistence system was consistent with Stern's recommendation:

> There is a large ethnographic literature that documents Inuit exchanges of game (Bodenhorn 1989; Collings et al. 1998; Condon et al. 1995; Dahl 2000; Damas 1972; Hovelrud-Broda 2000; Kishigami 2000; Nuttall 2000; Remie 1984; Wenzel 1981, 1995, 2000, for example); yet none of the authors in the preceding list addresses exchanges unrelated to subsistence hunting. This bias in the literature fixing Inuit sharing to subsistence activities strikes me as an error of omission rather than one of commission. (2005:67)

Delineating types of sharing and cooperation

Bodenhorn (2000a, 2000b) argued that many of the food-sharing terms commonly used in northern subsistence research of Alaska do not capture the complexity of food sharing As well, several researchers have noted analytically different categories that delineate "sharing." Woodburn (1998) referenced "demand sharing" when a harvester expresses their need or right to a share and Burch (2006) noted how this type of sharing was something done "naturally" among Iñupiat. Sahlin's (1972) classic anthropological study of

traditional societies differentiated "general" from "balanced reciprocity," with the former being related to long-term reciprocity among members of a social group and the latter being more "calculated… where fair exchange is the norm," and the relationship relies on a two-way flow (Planter 1989:212; Langdon 1986; Galginaitis 2003).

Bodenhorn (2000a) described "shares" as the portion of the harvest provided by those who have contributed to the harvest, through loaning of gear, helping with processing after the harvest, or giving of funds for the purchase of fuel. Shares in this context constitute a rightful portion and generally are allocated as a one-time transaction. Bodenhorn (ibid.) also noted that in the case of the Iñupiat, the hunter does not own the carcass of the animal s/he has harvested outright, and a set of rules must be followed. Consequently, shares are allocated depending on the species. For example, bowhead whale *(Balaena mysticetus)* harvests by far have the most complex rules for the division of shares. The whaling crew that is the first to strike a whale is entitled to the largest share of the whale (Nelson 1982). The parts of the whale that are divided are the meat and *maqtaaq* (i.e., skin and blubber), the baleen, the flippers and tail, and various organs such as the heart, intestines, tongue, and kidney (Bodenhorn 2000a, 2000b; Luton 1985; Worl 1980). Each whaling crew that assisted with the hunt and the towing of the whale will receive a share. The captain is obligated to make sure each member of his whaling crew receives an equal share, as well as people who were not a part of the hunt, but who donated material goods or loaned equipment to the crew (Jorgensen 1990). The captain is also responsible for the communal sharing of the whale during specific times of the year (i.e., *Nalukataq* [the spring whale festival], Thanksgiving, and Christmas) and his share must be completely distributed before the next year's spring hunt (Bodenhorn 2000a, 2000b). Less formalized rules for sharing other harvested animals have also been described. Animals harvested using a boat, such as bearded seals *(Erignathus barbatus)* and walruses *(Odobenus rosmarus divergens)*, are divided equally, with the boat owner receiving a share for the use of his boat. When caribou *(Rangifer tarandus)* are hunted in groups, it is common that all hunters receive an equal share of the meat products. Ivory and skins from harvested animals go to the person who is responsible for the actual harvest of that animal (Bodenhorn 2000a, 2000b). Fish caught in a net and group harvested are divided equally, while fish caught with a rod and reel are considered individual property (Bodenhorn 1988). Ducks and geese cooperatively hunted are shared equally (ibid.). There are differences in sharing between communities and there may be flexibility in execution, depending on circumstances. As well, there is typically no set of rules on how further sharing should be done once a share is given.

If one were to look at balanced reciprocity in a purely spiritual context within Iñupiat culture, sharing traditional foods could also fall within the definition of this term. Instead of the reciprocal relationship lying between the provider and the recipient of the food, the balance occurs between the animal from which the food originally came and the hunter who is sharing (Bodenhorn 2000a, 2000b; Slobodin 1981). With this framing, the animal allows itself to be taken by a hunter, who, in turn, shares the animal with others.

Woodburn (1998) further delineates types of sharing with the term "delayed reciprocity," where sharing at one point in time may result in receiving at a later time. Giving to an elder by a younger person may fall into this category, if viewed from the instrumental perspective that the younger person would one day be the recipient. The distribution of bowhead whale products during *Nalukataq*, Thanksgiving, and Christmas by whaling captains to the community at large could also fall into the sphere of delayed reciprocity.

Analytical categories used in this study

As our starting point, we drew on academic literature, agency reports, and emic (i.e., locally constructed) descriptions as provided by exploratory interviews with key informants and our Local Project Advisory Committees. Through that process we developed a richer understanding of sharing and cooperation in subsistence and generated quantitative measures of wild food flows and social relations that reflect actual practice.

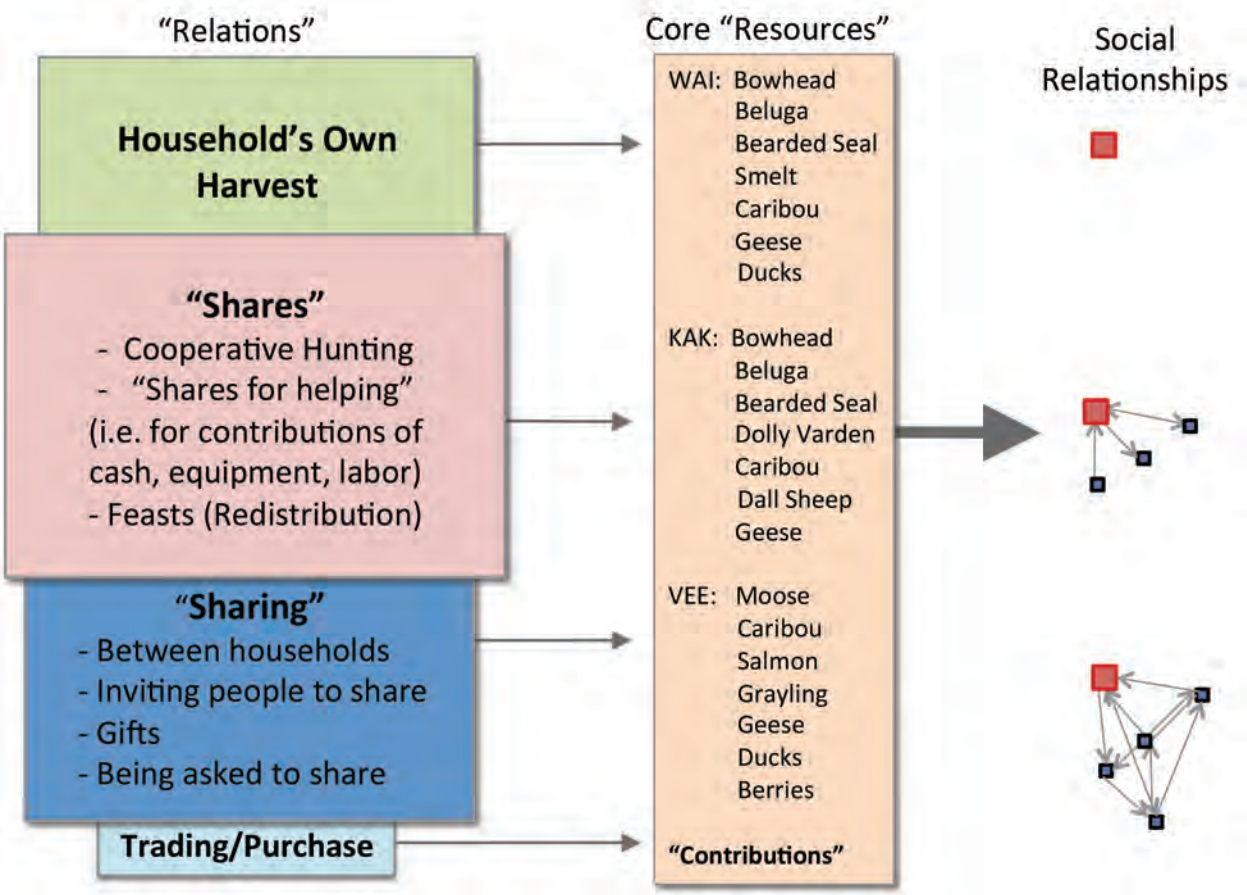
We arrived at categories that served as the basis for documenting patterns of sharing relations and measuring the magnitude of flows associated with them. Figure 2.4 illustrates the basic types of relations examined by this study. The list below elaborates on that list to capture nuanced differences in sharing and cooperation.

Own Household Harvests: Harvesting by members from a single household. It is noteworthy that harvesting by members of a single household can involve cooperation and sharing of gear owned among the household members.

Shares: A share of a harvest constitutes an understanding that one will receive some portion of the harvest in exchange for some type of contribution. Shares can result from participating in a cooperative hunt (i.e., members of two or more households hunting, fishing, or gathering together), the loaning of equipment for harvesting, contributions of money for gas or equipment to be used in a hunt, contributions of labor (e.g., processing of meat, such as cutting up fish) and giving to a feast with the expectation that the wild food will be used as part of the community meal (i.e., redistribution).

Cooperative Harvest Relations represent all meat and fish (or berries in the case of Venetie) in pounds over 12 months that came into each household based on household members going out to hunt, fish, and gather with individuals from other households. Households thus

Figure 2.4. Analytical categories for sharing, core species used as the subject of this study, and complexity of respective social relationships.



reported the share of the harvested resource they received based on successful outings with unique groups of individuals from other households.

Captain-Crew Relations: Upon successful landing of a whale, the whale is divided into a series of shares based on roles that individuals fulfill within both the successful whaling crew (e.g., captain's shares, towing shares, crew shares) and members of other active whaling crews who helped tow the whale to shore and/or cut up the whale on land (additional crew shares). This type of relation therefore represents the pounds flowing into households from captain, towing, or crew shares aggregated across all landed whales over the 12-month study period. Captain and towing shares in Kaktovik are significantly underrepresented in this study's dataset because 2 of 4 successful captains of the year declined to be interviewed.

Helper and Community Shares related to Beluga and Bowhead: "Helper shares" and community shares in this study are part of hunting of beluga in Wainwright and Wainwright's third whale (taken in fall 2009). "Helper shares" refers to shares of food received by households stemming not from active engagement in hunting, fishing, or gathering activities, but a contribution made to the hunting of others. For example, households reported that they contributed labor, gas, equipment, groceries, ammunition, cash, cooking, etc. to people from other households, and then in return received a share in pounds of the harvest when it was successful. This relationship is by definition reciprocal. In the context of bowhead whaling, households also contribute significant resources to whaling crews.

A second type of share is associated with beluga and bowhead hunting. After the communal hunt of beluga in Wainwright, households receive household shares, as all village households are entitled to a share from the communal hunt. Most beluga in this village flowed to households through this type of relationship. In contrast, in Kaktovik most meat from beluga hunts flowed to households based on sharing and cooperative harvest shares. Household shares additionally apply to bowhead whaling in another context. The third whale taken by Wainwright in the autumn of 2009 was the first fall whale ever taken by the village. When harvesting that whale the community decided that instead of dividing the whale according to captain and crew shares, the entire whale would be divided into household shares. All Wainwright households thus received household shares of bowhead. All these types of share relations described above represent total flow of food in pounds from shares flowing into households over the 12-month study period.

Feast Relations: Feast relations include shares of bowhead that households received at two types of feasts in Kaktovik and Wainwright. Immediately after a whale is fully cut up and divided to captains, crew members, and those who helped the crews, the successful captain and his whaling crew throw a "captain's feast" at the whaling captain's home (Galginaitis 2014). Everyone in the village is invited. Community members eat together and also take home small amounts of the whale. The second feast is the *Nalukataq*, which takes place every year in the spring in each whaling village. These events can vary from village to village. Kaktovik has a combined communal feast to which all successful captains from the previous year contribute. Wainwright whaling crews hold individual *Nalukataq*, which are hosted by the individual crews who were successful the previous year. In both villages, all community members are invited to the feasts. Individuals eat together and most households also bring coolers that they fill with individual shares of bowhead to take home. Most people go home with coolers filled with bowhead meat and *maqtaaq* as well as a wide diversity of other food. Feasting shares thus represent the total flow of food in pounds from these two kinds of feast flowing into households over the 12-month study period. The data of this study did not include feast

shares from either Thanksgiving or Christmas, which are other times when whaling captains also provide significant amounts of whale to the communities. Thus, *feast shares reported in this study significantly underestimate the amount of food flowing to households from commensal feasts on an annual basis.* In this dataset, crews in Wainwright and Kaktovik are represented as the source of feasting shares to households.

Lending Relations: The lending and repair of equipment that occurred between households is another type of contribution and social relation in harvesting. Similar to processing ties described above, the magnitudes associated with these ties reflect that loaning or repair occurred between households, but do not reflect the number of times that a given piece of equipment was repaired or loaned between households. Additional relations included in this category are the reciprocal side of the helper shares described above. The aggregated contributions of gas, equipment, cash, labor, ammunition, and groceries are represented as the number of different kinds of contributions made by households across all resource types. The magnitudes associated with these relations thus reflect aggregated types of ties across resources over the 12-month study period, not the number of times each household made a contribution.

Processing Relations: This relationship describes contributions of labor provided by individuals from one household to another household across all resources. For example, people variously reported that they helped others cut, skin, clean, carry, and store meat, fish, and berries. The magnitude of the ties reflected in this type of relationship represents that individuals contributed processing labor to another household for particular resources (e.g., an individual contributing labor to Dolly varden fishing and caribou hunting would be a magnitude of 2). The magnitudes associated with ties for this relation do not reflect the number of times households contributed their labor per resource.

Purchasing and bartering relations: Finally, there are buying and bartering relations. This category is distinct from the category of shares in that it involves a level of commodification in which the actor uses money to purchase wild food, as opposed to contributing *a priori* to the harvesting and the *ex post* production effort. For example, if contributing to a caribou hunt by giving money for gas and the hunt were unsuccessful, there would be no expectation of return whereas exchanging a caribou for money would have that expectation.

Information sharing is another type of exchange that is part of the system. In this study no effort was made to document information sharing. This omission was made not because information isn't important, but because an effort was made to lessen the burden on respondents and do a thorough job with the material and labor dimensions of sharing and cooperation.

It is important to note that most of the relations described above are not confined to transactions among those living in a single village. As reported in the findings of this study, many relations of subsistence extend to individuals and households elsewhere. A family in Anchorage may send a contribution of money to a hunter in Kaktovik and in turn, receive a share of caribou meat that is shipped back to Anchorage. A villager may lodge and eat with a family in another village, and that visitor may later gift the host household several salmon that were harvested in the village. The social networks of subsistence can be extensive and are not necessarily restricted by geography, and instead are determined by human relationships.

Magnitude of flows

At the recommendation of Dr. Dee Williams of BOEM, this study included a measure of the magnitude of flows in sharing. In this respect, the study was unique, including those measures derived from cooperative activities in the production of wild foods. Documenting such flows may seem difficult, but it can be done. Focusing on flows of subsistence goods and services among community members has considerable potential,

first for understanding the system itself, second for identifying vulnerabilities in the system, third for evaluating the adaptive capacity of the system when subjected to social or ecological shocks, and finally, for characterizing the resilience of arctic communities over time. A materialistic focus on flows is not meant to disregard the qualitative literature on social structures in northern communities. Nor does it imply that one can describe a community simply by measuring flows of goods and services. However, documenting actual flows provides opportunities for testing hypotheses about and evaluating changes in community functioning that are not available to qualitative researchers. Development and application of this method is a unique contribution of this research. The method section that follows includes a table used to calculate pounds from quantity of wild foods reported as received by a household.

Questions of Persistence, Vulnerability and Resilience of Mixed Village Economies

The persistence, vulnerability, and resilience of community subsistence in villages have long been in question by policy makers and academic researchers alike. With rapid change occurring in the high latitudes, these concerns are critical today (ACIA 2005; Chapin et al. 2006; Kofinas et al. 2013; ARIR 2013). The study of change and its impacts on rural northern communities is typically underpinned with strong assumptions about the nature of change, the robustness of local SES in the face of these changes, and the capacity of local social systems to respond in ways that retain their fundamental structure, function and identity.

In their classic paper "Tappers and Trappers," Murphy and Steward (1956:336) observed, "the process of gradual shift from a subsistence economy to dependence on trade is evidently irreversible, provided access to trade goods is maintained." This shift typifies theoretical assumptions of the 1960s that dynamics of market capitalism, once established, inevitably propel subsistence societies toward an economy based on market exchange. By the early 1980s, however, arctic anthropologists were speaking in convincing terms about the emergence of a vibrant "mixed economy" in indigenous communities (Jenness 1962; Hughes 1965; Langdon and Worl 1981; Lonner 1986; Wolfe and Walker 1987). While individuals were indeed working more jobs for cash (Jorgensen 1990), the "inevitable" transition away from engagement in subsistence was not developing as expected. Instead, the emergent mixed economy was described as "stable" and "persistent" (Kruse 1991; Langdon and Worl 1981; Usher 1981). This persistence can, at some levels, be considered a form of human agency by Alaska Natives—a conscious effort to maintain subsistence activities as part of their local economy. Household-level data showed positive correlations between hunting engagement and wage income, as households invested cash back into subsistence and better equipment (Chabot 2003; Kruse and Foster 1986). However, at the village level, employment income and subsistence were negatively correlated, associated in some areas with increasing connectivity to road networks (Kerkvliet and Nabesky 1997; Wolfe et al. 1984). Thus, even while the emergent mixed economy was described as robust or resilient, the question of an eventual transition to a market economy remained open. VanStone (1960) hypothesized that the mixed economy would remain vibrant until material expectations outstripped the ability of subsistence to provide them, and Nelson (1969) wondered if greater employment would translate into declining cultural interest in subsistence as a way of life.

More than three decades later, questions remain about the extent to which the mixed economy in rural Alaska persists, with new questions about how social and ecological changes may affect those systems. Today oil and gas development in northern Alaska may have single, additive, and cumulative effects on the social-ecological systems of which Iñupiat communities are a part (National Research Council 2003). These effects may include changes in:

- ecosystem services that are of high value to communities, such as the abundance and distribution of important wildlife resources and/or people's access to those resources,
- the cash economic inputs to communities, such as changes in employment and/or transfer payments,

- the patterns of subsistence and non-subsistence resource sharing, which may affect resource consumption, diet, and health of individuals,
- the quantity and quality of time available for on-the-land activities,
- the transmission of cultural traditions,
- and people's sense of wellbeing.

Rate of change is an additional variable to be considered in assessing these effects as well as the capacity of communities to respond in ways that support current and future community needs and goals. Although past research has sought to assess aspects of these effects (e.g., Kruse 1992; Braund et al. 1988; Braund et al. 1989a–c; Braund et al. 1993; Jorgenson 1995; Barnhart et al. 1995a–f; Fall et al. 2000; Haley 2003; Kruse et al. 2004), the methods for assessing vulnerability of local communities to the impacts of oil and gas development are underdeveloped.

To what extent will ecological and economic changes affect future subsistence activities? How, if at all, will networks of sharing and cooperation among community households help buffer communities in the face of changes? To what extent will there be disproportionality in the distribution of negative effects, should they occur? This study's examination of the persistence, vulnerability, and resilience of mixed village economies, considered in light of the project's findings, are limited and should be viewed as exploratory, because detailed household data were collected for only a one-year period. Yet the findings do provide insights about persistence, vulnerability, and resilience. To undertake this part of the analysis we documented households' reported proportion of those households consuming subsistence foods. Second, we evaluated households' food security as reported by heads of households. Third, we drew on secondary data collected by the North Slope Borough to assess changes in participation in subsistence through time. Next, we examined the proportions of households with different combinations of income and harvest levels, and the extent to which they redistributed food to other households. Finally, we considered the implications of economic and ecological change to explore the possible effects of such changes on the current subsistence-cash system.

To summarize, we used a transdisciplinary approach by drawing on multiple literatures and using mixed methods for data collection and analysis. Theoretical understanding of social-ecological resilience was matched with empirically based studies of Alaska community subsistence to create a powerful framework of analysis in the study. The description above provides the elements of that framework. The chapter that follows describes our methods for research.

Chapter 3 - Methods

This study was funded by BOEM on January 2, 2007, with research activities intensifying in May 2008 after postdoctoral researcher Dr. Shauna BurnSilver joined the project team. We used a collaborative research approach with participating communities and mixed methods for data collection and analysis (Bernard 1988). These mixed methods included discussion groups for preliminary research and survey research as the primary data collection method. Some ethnographic studies were also included. Because we sought to document social networks of sharing and cooperation in villages, we needed at least 80% of each community universe of households to be interviewed to generate sufficient data to represent those systems. Households were the study's primary unit of analysis, compiled to represent the community systems. We concurrently sought to make the study meaningful and beneficial to local residents, agency resource managers, and policy makers. Meeting these challenges required sufficient time to build relations of trust with community partners and develop a complete understanding of the study context in order to acquire good quality information.

Below we describe the methods by which we selected communities, our approach and philosophy of working with communities, preliminary investigations that laid the groundwork for survey research, and the administration of research. We also describe the process of analyzing data, the data management plan, and our process used for reviewing findings and generating final products.

Selection of Communities

Our directive from BOEM was to include two coastal communities of North Slope Alaska, one from the Beaufort and one from the Chukchi Sea, because coastal villages were the most likely to be affected by offshore oil and gas development and because baseline data for those villages was therefore needed. In addition to two coastal communities, we invited a third to participate that would provide contrasting conditions and inform our analysis of vulnerability. Because this community was not likely to be affected by offshore oil and gas, it served as our "control."

Several communities were considered. Ultimately Kaktovik, Wainwright, and Venetie received invitations to participate. Wainwright was invited because of its proximity to proposed Chukchi Sea oil and gas exploration. Kaktovik was invited because of its proximity to current and proposed offshore exploration activities and on-shore exploration interests in the Beaufort Sea, and because the project's Principal Investigator (PI), Gary Kofinas, had a former professional relationship with the community. Venetie, the third community, was invited because its contrasting conditions as an interior Alaska Gwich'in Athabascan village would be theoretically interesting and because the project PI had a former professional relationship with the community.

Each of the 3 communities was formally invited to participate in the study through written communications and a series of follow-up presentations to the public and community leaders. Each community's tribal council passed a formal resolution approving participation in the study. Village tribal organizations served as the lead local contacts in the study and as subcontractors for services such as local hiring and rental of meeting facilities. The North Slope Borough Wildlife Management Department and the Council of Athabascan Tribal Governments, two regional organizations, were

also contacted and informed about the project. The North Slope Borough Wildlife Management Department was particularly supportive in introducing the project's researchers to the community of Wainwright and endorsing the study in Kaktovik.

Community Partnerships

Strong researcher-community collaboration results in better research results and enhanced community benefits. Therefore, an effort was made to cultivate meaningful partnerships with each participating community. To achieve that objective, considerable resources were allocated to spend time in each community, with project researchers visiting each community at least 4 times (12–16 days each time) before administering the survey.

Under the direction of tribal councils and other local leaders, a Local Project Advisory Committee (LPAC) of 4 to 7 members was formed for each community. (See Table 3.1 for LPAC membership.) The LPACs met regularly with researchers, advising on the project's design, which variables to include in the framework, the wording of interview questions, the selection of local interviewers, and general communications about the project's objectives to the village. The LPACs proved to be invaluable in informing the study with local knowledge.

After researchers heard concerns from several Kaktovik residents about their willingness to participate in a project funded by BOEM, the Kaktovik LPAC recommended that a video be produced describing the project's objectives and benefits, with a copy distributed to each household. The video articulated the goals and rationale for the study, and included an explanation of social network analysis and statements of support from local and regional leaders about the importance of documenting subsistence ways of life. Because it was agreed that the video would be only used for communication with community members, it is not included with this report.

In 2011 the project received the Secretary of Interior's "Partnership in Conservation Award" for its collaborative research efforts with local communities.

Preliminary Background Research

Background research was undertaken in several phases. First, a literature review on the 3 communities, subsistence-cash mixed economies, wild foods sharing, and social network analysis was completed. Second, we established and met with LPACs over the course of a year where researchers had discussions about the project's goals, design, methods, and communications with the village. Each LPAC also provided perspectives on current and past patterns of subsistence sharing, changes in subsistence activities, and the norms, practices observed by the community in the exchange of wild foods and in cooperative harvesting. These discussions with the LPACs were supplemented with informational discussions with local key informants. We worked with LPACs to construct historical timelines of community change for each of the communities that reflected critical points of transition in village life. We

Table 3.1. Local Project Advisory Committees.

Kaktovik	
	Nora Jane Burns
	Carla Sims Kayotuk
	Fenton Rexford
	Flora Rexford
Wainwright	
	Joe Ahmaogak
	Lizzie-Marie Bodfish
	John Hopson, Jr.
	Lucille Mayer
	Rex Nashookpuk
	Ida Panik
	Rossman Peetok
	Ira Ungudruk
Venetie	
	Ernest Erick
	Eddie Frank
	Gareth Frank
	Mary Rose Gamboa
	Patrick Simple

also compared the analytical constructs appearing in the literature on northern subsistence sharing with *in vivo* subsistence activities and local vernacular, and soon discovered significant inconsistencies. (See Chapter 2 in section "Analytical Categories Used in This Study.") We used these discussions to inform our community interactions and when formulating the survey instrument.

Another phase of our preliminary research involved the graduate research project of Marcy Okada. Okada's study included fieldwork and interviews in North Slope villages, including Wainwright, Barrow, and Kaktovik, and was undertaken as a summer internship with the North Slope Borough Wildlife Department. Her work culminated with the master's thesis, "The Comparison of Qualitative and Quantitative Approaches for Measuring Traditional Food Sharing in Communities of the North Slope, Alaska" (Okada 2010). Okada's findings provided important information on residents' rationale for sharing subsistence foods and a quantitative (cluster) analysis of the household types and household levels of sharing and harvesting, based on data from the Alaska section of the Survey of Living Conditions in the Arctic (SLICA). A summary of her interview findings is included in Chapter 4 of this report. University of Alaska Anchorage Professor Emeritus Jack Kruse provided Okada access to SLICA data and excellent guidance in her analysis.

Previous comprehensive surveys by the ADFG Division of Subsistence Community Subsistence Information System found that Kaktovik and Wainwright harvested at least 60 different species in the study years. Because collecting quantitative network data for every species that came to each household from every source through every type of relationship would have been virtually impossible to complete in a reasonable amount of time, our study focused on social networks for "core subsistence resources" for each community. These included 7 species each for Kaktovik, Wainwright, and Venetie (Table 3.2). The process of selecting core species included reviewing available harvest data from published reports to assess which species were harvested in the greatest quantity and which provided the greatest total pounds of meats. We also worked with LPACs to identify which harvested species were perceived as the most culturally important and selected the representative set of species for a range of resource types (i.e., marine mammals, terrestrial mammals, waterfowl, fish, and berries.). After the researchers' initial selections of core species, the lists went to each LPAC for review and verification.

The survey instrument

The ADFG Division of Subsistence and the National Park Service had previously conducted research on country food production systems and subsistence sharing, and through those studies developed several generations of questionnaires. We initiated development of our survey instrument by first working from the questionnaires on harvesting and subsistence resource sharing used by the Division of Subsistence. The survey instrument collected information about permanent household residents, amounts of wild food harvested, flows of core species between households

Table 3.2. Core species.

Wainwright	Kaktovik	Venetie
Bowhead	Bowhead	Moose
Beluga	Beluga	Caribou
Bearded Seal	Bearded Seal	Salmon
Smelt	Dolly Varden (Arctic Char)	Grayling
Caribou	Caribou	Geese
Geese	Dall Sheep	Ducks
Ducks	Geese	Berries

based on a set of social relationships, wages earned, and other income received by household members. A demographic section asked about gender, kin relationships, age, birthplace, and ethnicity of each household member. Harvest sections for each major category subsistence resource asked what species were hunted, taken (excluding the previously identified core species), used, and how much the household members harvested. These species are referred to as "non-core species" in this report. An employment section asked about 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 estimated household income from non-employment sources such as the Alaska Permanent Fund dividend, Social Security, and public assistance programs. The survey also asked food security protocol of the respondents. Project survey instruments are found in Appendix I.

Basing the survey instrument on the ADFG's standard questionnaire and format made our research findings consistent and comparable with other harvest studies conducted by that agency. As noted above, all in-depth questions on social networks of subsistence resource sharing and cooperative hunting were focused primarily on core species and what households *received* from other households. At the request of the LCAPs, one section was included to capture *giving* (outflows from households) at a more general and lower resolution. This section proved important in documenting networks of sharing that extended to people beyond the immediate study community. We modified the most current ADFG instrument to reflect the objectives of this study, but added and/or modified variables on household cash inputs (income / outputs / expenses); ethnicity and duration of residence; and measures of the magnitude of flows (e.g., pounds) in wild food exchanges to households (households). Using the modified survey instrument, this research made several unique contributions: First, the instrument collected individual, quantitative reports of flows of subsistence foods among households. To our knowledge, no previous study has employed social network methods to systematically collect quantitative wild food flow data for multiple communities over a one-year period.

As already noted, the instrument used anthropologically and locally informed analytical categories, capturing the distinction between: i) harvest by members of the respondent household only; ii) cooperative harvesting involving members of the respondent household and at least one member of another household and receiving "shares" of harvested food; iii) households contributing to the hunting efforts of other households through the contribution of, for example, equipment, cash, labor, or gas, and subsequently receiving "shares" of any successful harvest; iv) sharing (i.e., gifting) of subsistence foods with another household, a whaling crew, or a feast; and v) barter and trade exchanges involving members of another household.

Sources and recipients of goods, services, and wild foods were not limited to residents of the study communities; respondents could (and did) name sources anywhere in the world. As was undertaken in previous ADFG research (Magdanz et al. 2002, Magdanz et al. 2004, Magdanz et al. 2011), the study also documented relationship ties in addition to subsistence foods, such as exchanges involving labor, equipment, and cash. The survey did not ask about kinship relationships beyond the immediate household.

The food security protocol used in these surveys was a modified version of the 12-month, food-security scale questionnaire developed by the US Department of Agriculture (USDA) (Bickel et al., 2000). This questionnaire is administered nationwide each year as part of the Current Population Survey. 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 Alaska Native populations, and in these surveys the term "healthy meals" replaced "balanced meals" to reflect unique dietary and cultural circumstances in rural Alaska. There were several sub-questions added to determine whether food insecurities, if any, related to subsistence foods or store-bought foods. Food security questions were also focused on actual consumption and availability of food,

rather than the mere perception of security and insecurity (e.g., "Did you go without meals?"). (See research instruments in Appendix I.)

While the full survey primarily generated quantitative measures of people's past behavior, the final section of the questionnaire asked a series of open-ended questions to capture respondents' qualitative perceptions on the behavior of the sharing system and changes that may have occurred.

The survey instrument collected information about multiple types of social relations and types of nodes (i.e., connecting points in flow of resources), sometimes in a response to a single question. For example, a single report of the whaling captain's share from a whale hunt could support an analysis in any combination of the types and nodes above. In structuring the dataset, it was important to maintain the ability to analyze the network data from all possible perspectives, yet to be efficient and avoid duplication.

The household was defined as the basic unit of analysis, with the understanding that findings would also allow for analysis scaling down to individuals and up to the community level. In-flows to households were the primary measure for harvest and network questions.

Pretesting and modifying the instrument

Pretesting of the research instrument with 2 residents in Kaktovik (one active hunter and one whaling captain) and 4 residents of Venetie (3 active hunters and one inactive hunter) proved essential. Modifications to survey questions were then based on the quality of responses and feedback from these respondents, with additional input from key informants (e.g., whaling captains) and LPACs. Because this research was the first to document detailed quantitative flows of bowhead whales among the Iñupiat, including the *Nalukataq* (spring community whaling feast) and contributions to whaling crews, we had to test and modify some sections of the research instrument several times in consultation with whaling crews and captains before arriving at a workable approach.

Human Subjects Review and Research Ethics

As required by the University of Alaska Fairbanks, the study's protocol for research received an approval after review from the UAF Office of Research Integrity (IRB). The IRB requires that anonymity of research subjects be adequately protected and subjects not be exposed to significant risks from participation. All UAF personnel involved in interviewing completed the IAB's Human Subjects Training. The US Office of Management and Budget (OMB) also reviewed and approved the survey instrument (OMB Control Number - 1010-0184).

Administration of survey instrument

We worked with each local tribal organization to solicit applications from local residents to work as members of our interviewing team. The University of Alaska Fairbanks hired/contracted 6 to 7 integral individuals in each community to assist with the administration of the instrument. An equal number of graduate students from UAF volunteered to serve the project as interviewers (Table 3.3 and Images 3.1, 3.2 and 3.3).

The interview schedules for each community avoided conflicts with subsistence activities and feasts. Interviews occurred in October 2010 in Venetie, November 2010 in Wainwright, and May 2011 in Kaktovik. Prior to doing interviews, we conducted a one-and-a-half day training program with local hires and graduate students in each community, instructed by the project's lead investigators (BurnSilver, Magdanz, and Kofinas). Training provided an overview on the objectives of the project, instruction in interviewing, recordkeeping, and trial-run practice interviews.

Graduate students and local hires teamed in pairs conducted the interviews. Using household lists compiled and reviewed by LAPCs and tribal entities beforehand, interview teams made appointments for interviews with household heads. No unannounced knocking on doors requesting interviews occurred.

To construct a list of households and their members for the entire community, we worked with local organizations that provided basic

housing and household information, conferred with key respondents to refine the list for better accuracy, and continued to revise the list as information became available during the interviewing process. Respondents were limited to the head or heads of households (i.e., husband and wife), who provided all information about their household. Head or heads of households were self-selected in the interview setup process. In some cases other household members were present at the time of interviews and contributed to the interview process.

Each household head participating in an interview was paid $50 for the first half hour, and $25 per fifteen minutes thereafter, at a maximum of $100 paid, except for whaling captains. Because whaling crew captains asked to spend considerably more time providing detailed information because of their role, crew, and the *Nalukataq*, their interviews were considerably longer and they received $200 for their time.

All completed interview forms were turned in at the end of each day and reviewed by the project's interview "crew chief" for information gaps or illegible or ambiguous records. As needed, interview forms were returned to interviewers for clarification, which in some cases required communication with the respondent again to obtain missing information.

Data Limitations

The survey collected information on subsistence activities during a single year. This assumed that the year selected was representative. This usually cannot be determined before a survey's implementation, but could be assessed during analysis by comparing the current results with past harvest data results, when available, and assessed through ethnographic interviews conducted as part of this project. Some variation in harvests among species and incomes among different industries from year to year was expected. This approach also assumed that respondents could remember their important activities during the previous year. To minimize recall problems, surveys targeted household heads on the assumption that household heads were most likely to be aware of all household members' activities. Respondent recall bias was not expected to change significantly over time or from community to community. It was not expected to affect comparisons of data from this study with other studies employing similar methods. Some respondents were unable to remember specific quantities of subsistence foods harvested, shared, or otherwise obtained by members of their households. Some respondents were reluctant to provide information about personal or household incomes, especially earned income. Some locally hired community researchers were personally reluctant to ask respondents about income. As a consequence, some income and employment data were missing. To provide more accurate community estimates for total harvests and incomes, mean data replaced missing data, as explained below.

Bowhead whales are redistributed to community households in multiple ways. Bodenhorn (2000a, 2000b) and Kishigami (2013) describe redistribution as proceeding based on both formalized sharing rules and informal mechanisms. *Commensal* feasts are an example of formally structured sharing rules. There are 4 feasts in Wainwright and Kaktovik at which bowhead are distributed (captain's feasts, *Nalukataq*, Thanksgiving, and Christmas). Beluga also may be shared during Thanksgiving and Christmas feasts, but this only occurs if individuals bring it to share. We did not collect data on Thanksgiving or Christmas feasts. In group conversations prior to survey design we were told that while all those attending Thanksgiving and Christmas feasts receive bowhead, the amounts are small—"everyone who attends receives a taste" was the description, and most households attend. Given the already long length of the survey instrument, we decided to limit the bowhead questions to captain's feasts and *Nalukataq* and the other social relationships linked with bowhead whaling in each community (crew membership, towing cooperation, helper shares, etc.). Kishigami describes that in Barrow, the *uati* (lower back section) and *aqikaak* (tail flukes) portions of a landed bowhead whale are saved by successful captains and then served at *Nalukataq* (50%) Christmas (25%) and Thanksgiving (25%). We did, however, report household-level bowhead (meat and *maqtaaq*) received from *Nalukataq* and captain's feasts, and provide an estimate for the additional amounts that would have

Table 3.3. Interviewers (with residence or affiliation at time of interviews)

Kaktovik Interviewer Crew Members
Darren Kayotuk (Kaktovik)
Carla Sims Kayotuk (Kaktovik)
Marie Rexford (Kaktovik)
Torie Sims (Kaktovik)
Annie Tagarook (Kaktovik)
Raymond Aguvluk (Wainwright)
Bonnie Spencer (Wainwright)
Naomi O'Neal (UAF)
Leigh Coppola (UAA)
Irmelin Gram-Hanssen (UAF)
Irina Ikatova (UAA)
Gary Kofinas (UAF)
Shauna BurnSilver (UAF)

Wainwright Interview Crew Members
Raymond Aguvluk (Wainwright)
Lizzie-Marie Bodfish (Wainwright)
Joyce Captain (Wainwright)
Chuck Ekak (Wainwright)
Ronnie Kimoktuak (Wainwright)
Ida Panik (Wainwright)
Bonnie Spencer (Wainwright)
Danielle Bennett Redmond (UAF)
Irmelin Gram-Hanssen (UAF)
Martin Robards (UAF)
Eleanor Wirts (UAF)
Gary Kofinas (UAF)
Shauna BurnSilver (UAF)
Jim Magdanz (ADFG)

Venetie Interviewer Crew Members
Jesse Charlie (Venetie)
Dennis Erick (Venetie)
Earl Erick Jr. (Venetie)
Roy Henry (Venetie)
Julian Roberts (Venetie)
Larry and Maggie X (Venetie)
Katie Moerlein (UAF)
Catherine Chambers (UAF)
Colette de Roo (UAF)
Winslow Hansen (UAF)
Gary Kofinas (UAF)
Jim Magdanz (ADFG)
Shauna BurnSilver (UAF)

Image 3.1. Venetie interview crew.

Image 3.2. Wainwright interview crew: Practicing the interview by members of the crew.

been shared in subsequent feasts based on figures presented in Kishigami for Barrow feasts (2013).

Standardization in data collection procedures was important because many different people gathered data. One or more principal investigators were present throughout the administration of the surveys and administered a number of surveys themselves. Standardization and quality control

Image 3.3. Kaktovik interview crew.

were accomplished through an initial orientation process, daily review of completed surveys, and a post-administration review of all surveys.

Data analysis and management

Quantitative data were entered into the Statistical Program for the Social Sciences (SPSS, version 19) at UAF under the supervision of lead investigators, in some cases following templates provided by ADFG for social network analysis and in other cases creating new templates. Raw data of different types (demographic, employment, harvest, network ties, food security, etc.) were entered into separate data files, and each community's raw data were stored in separate files. Qualitative data on perceptions of sharing were transcribed in full, and analyzed with open coding using Atlas.ti software (version 6). Once quantitative data were entered into SPSS, files were reviewed by the lead investigators for accuracy and consistency among communities. Apparent errors were resolved by checking copies of the original survey instruments and corrected, if necessary, in the raw files. Using SPSS syntax, raw files of the same type were combined, creating one set of data files for demographic, economic, harvest, network ties, food security, etc. for the project. Other than correcting data entry errors, the raw files were not altered in subsequent analyses. Mergers and transformations of the raw files were accomplished with SPPS syntax to facilitate correction of errors discovered later in analysis, and to facilitate replication.

Harvest amounts and amounts received by households were reported in a variety of units: numbers of individual fish or wildlife harvested, gallons harvested (for berries), pounds received, boxes, coolers, bags, gunny sacks, etc. Standard conversion factors for individual species to pounds, gallons to pounds, and unorthodox units to edible pounds were completed using methods developed by ADFG. (See Appendix II.) These standard conversion factors applied in the study to estimate edible pounds for each harvest and type of social relationship.

The project collected flows of subsistence foods coming into households, rather than simply harvests. As a consequence, respondents reported different parts they received as shares from hunts and gifts, such as caribou ribs, shoulder blades, hams, heads, tongues, even intestines. That method created unusual conversion challenges in calculated edible weights for a variety of (mostly) animal parts. Several archeologists have explored this problem. Binford (1978) proposed a measure called the "Modified Generalized Utility Index" (MGUI). Metcalf and Jones (1998) reevaluated Binford's work and concluded that simple weights were as reliable as the MGUI, and proposed a measure called the "Food Utility Index" (FUI). The FUI is the gross weight of a part minus the dry bone weight of a part, with a Binford averaging routine applied (Metcalf and Jones 1998:489–491). Wiklund et al. (2008) also have estimated *Rangifer* (caribou/reindeer) carcass weights. Buckland and Gérard (2002) provided estimates for component weights for domestic geese. These sources supported calculations and a conversion table for edible weights of individual parts of caribou and waterfowl.

In a small number of cases, respondents did not know or were unable to recall a particular amount of harvest, network flows, or type of income. For harvests and network flows, annual mean values were calculated for each resource by each

relation in each community, and missing harvest and flow values were replaced with mean values.

For income, monthly mean values were calculated for each job category in each community, and missing income values were replaced with monthly mean values and multiplied by the number of months worked. For missing harvests and network flows, mean values for resources by relation type were calculated for each community. These "mean replacement" procedures were the same as those used by ADFG in its comprehensive survey program.

Using SPSS syntax, the individual data files were merged into one file for analyses of household socio-demographic and economic data, two final files for network analysis, and a harvest file for core and non-core species:

- The Demographics File contained one record for each household (300 records) and included index variables (i.e., community and household ID), summarized data on household types, schooling, household income from all sources (jobs, village and regional corporations, retirement, public assistance), employment type (full-time, part-time, on-call), household equipment, number of hunters, food security, summarized inflows, summarized harvest, and summarized network variables (e.g., indegree and outdegree for harvests and contributions). This data file produced the network "attributes file" described below.

- The network "ties file" contained one record for each report of each flow of each key species or subsistence-related good or service into (or in some cases out of) each respondent household across the three communities. Each record was identified by study community and respondent household, and contained codes identifying the type of relation, the resource involved, the source of the resource (the giver), the sink (destination, usually the respondent household) for the resource, and some constructed variables to categorize resources and relations. The final ties file contained approximately 10,500 records.

- The network "attributes file" contained one record for every source and sink named in the ties file, and included index variables (community and household ID) to link records to the ties file. This file contained demographic variables (e.g., household size, age of heads), economic variables (e.g., income, jobs held), food security score and category, harvests quantities, and network variables calculated from the ties file (e.g., indegree, outdegree). This file contained 590 records: 300 surveyed households in the study communities, 27 other households in the study communities, 228 individuals in other communities, and 34 crews, organizations, and groups both in and outside of the study communities.

The two ties files were exported from SPSS to Excel, imported to UCINet, analyzed in UCINet, and graphed with NetDraw (Borgatti et al. 2012).

Analysis of harvest data

Total harvest for core and non-core species was estimated by ADFG. Core species harvest data for households' own hunting and cooperative hunting relationships were combined with harvest data for non-core species. Harvest estimates 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:

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

where:

$$\bar{h}_i = \frac{h_i}{n_i} \quad (2)$$

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 method estimated 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 an SD, V, and SE:

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

where:

S = sample standard deviation,

n = sample size,

N = population size,

$t_{a/2}$ = student's t statistic for alpha level (α = .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.

Summaries of results of harvests for each study community were added to the ADFG-CSIS. This publicly accessible database included community-level findings only, not household-level information.

Analysis of qualitative data

Our analysis of qualitative data took an inductive approach to coding responses to questions (Bernard 2011). This method is based in grounded-theory research (Glaser and Strauss 1967; Strauss 1987; Strauss and Crobin 1990) where the goal is to become grounded in the data and allow understanding to emerge from an intense study of the survey responses. The idea of grounded theory is that there is no predetermined set of codes to be applied, but instead, codes emerge based on the range of answers from respondents. To begin the coding process, we first read through the entire set of responses to each open-ended question. As patterns and themes began to emerge from the text, we then created codes that represented themes that appeared repeatedly in the survey responses. For example, when asked how one determines how much food to share, survey respondents repeatedly mentioned that they decide how much to share based on need. We then created a code "based on need," and attached the appropriate survey responses to that code. Each open-ended question has a set of codes associated with it. The list of codes was refined and amended as we went through the process of coding all the data.

Review and Dissemination of Findings

Preliminary results were presented to the three study communities at public meetings on two occasions, first in July of 2012 and again in July of 2013. Community reviews did not generate feedback resulting in substantive changes. "Community Summary Reports" for each community were published and distributed to the community and regional organizations. Peer-reviewed papers based on this study can be obtained by contacting the authors of this report.

Conclusion

The Sharing Project used highly participatory and quantitatively rigorous research methods to develop research instruments, administer those instruments, analyze data, and report findings to research subjects. The next chapter provides brief background information about the three study communities.

Chapter 4 - Background on the Three Study Communities

Kaktovik, Wainwright, and Venetie (Figure 4.1) served as the three study communities of this research. Wainwright and Kaktovik are Alaska Iñupiat communities located on the northeastern and northwestern coasts of Alaska, respectively. Venetie is in eastern interior Alaska, situated on the Chandalar River, a tributary of the Yukon River. These geographically isolated communities are off the road system, but served by regular commercial flights. The closest regional center for Wainwright and Kaktovik is Barrow (population 4,212), the governmental center for 8 communities in the North Slope Borough. The closest regional centers for Venetie are Fort Yukon (population 583) and Fairbanks (population 32,469 in city and 99,357 in North Star Borough).

All three communities have active subsistence-cash economies with cultural traditions of wild foods sharing and cooperation in wild food harvesting. All three are mostly surrounded by federally managed public lands. Alaska Natives of these communities are subject to the

Figure 4.1. The three study communities.

Table 4.1. Profile of study communities

	Kaktovik	Wainwright	Venetie
population †	239	553	166
ecosystem	coastal arctic	coastal arctic	boreal forest
ethnicity	Iñupiat Eskimo	Iñupiat Eskimo	Gwich'in Athabascan
location of settlement	70°7'58"N 143°36'58"W	70°38'50"N 160°0'58"W	67°3'20"N 146°24'58"W
education	Harold Kaveolook School; North Slope Borough School District (63 students; 8 teachers)	Alak School; North Slope Borough School District	John Fredson School; Yukon Flats School District (54 students; 4 teachers)
household infrastructure	household water and sewer service	household water and sewer service	none
relevant land claim	Alaska Native Claims Settement	Alaska Native Claims Settement	Alaska Native Claims Settement
corporate structures	Kaktovik Village Corporation; Arctic Slope Regional Corporation	Olgoonik Corporation; Arctic Slope Regional Corporation	Opted for no village corporation in lieu of fee simple land ownership
tribal governments	Native Village of Kaktovik; Iñupiat Community of the North Slope	Native Village of Wainwright; Iñupiat Community of the North Slope	Venetie Village Council; Venetie Tribal Government; Council of Athabascan Tribal Governments
regional government	North Slope Borough	North Slope Borough	unincorporated

†based on 2010 Census

terms of the Alaska Native Claims Settlement Act (1971), although there are differences in how Venetie engaged in that settlement. Much has been written about all three communities, their histories, cultural origins and orientations, subsistence-cash economies, traditional knowledge, and political issues. A general summary of local conditions is presented in Table 4.1. Information about the seasonal harvests of species or "seasonal rounds" for each community is presented in Table 4.2. Because the results of this study include demographic, social, and economic information for both the cash and subsistence sectors, that kind of information is limited in this chapter.

North Slope Study Communities – Kaktovik and Wainwright

History of the North Slope Region:

There is much speculation about the Iñupiat people's true geographical origin (Spencer 1959; Chance 1990; Langdon 2004). The Iñupiat are thought to be descendants of nomadic Asiatic people who crossed the Bering Land Bridge from Siberia (Spencer 1959; Hall 1976; Jensen 2014), with continuous inhabitation for 7,000 years.

Historically, there were bartering and trading interactions between coastal and inland peoples in northern Alaska, and customary trading places existed, where people met their trading partners to exchange goods (Spencer 1959). The North Slope Iñupiat commonly held a major trade fair at *Nigliq* on the Colville River Delta and primary trading resources were bowhead whale *(Balaena mysticetus)* meat and blubber and dried caribou *(Rangifer tarandus)* skins (Chance 1990). It was through trade that partnerships and cooperative institutions were formed, by which both commercial goods and renewable resources could be exchanged formally and informally (Spencer 1959).

The Iñupiat people of the North Slope first began interacting with white explorers after 1778, when Captain James Cook led an exploration along the Arctic Coast, with commercial whaling

Table 4.2. Season rounds of the three study communities, indicating primary time of harvesting core species

Wainwright												
	January	February	March	April	May	June	July	August	September	October	November	December
Bowhead					X							
Beluga						X	X	X				
Bearded seal	X		X	X	X	X	X	X				X
Smelt												
Caribou	X	X	X	X	X	X	X	X	X	X	X	X
Geese					X	X						
Ducks				X	X	X	X					
Kaktovik												
	January	February	March	April	May	June	July	August	September	October	November	December
Bowhead								X	X	X		
Beluga												
Bearded seal	X	X	X	X	X	X	X	X	X	X	X	X
Dolly varden						X	X	X				
Caribou	X	X	X	X		X	X	X	X	X	X	X
Dall sheep	X		X	X					X	X	X	X
Geese				X	X	X	X	X				
Venetie												
	January	February	March	April	May	June	July	August	September	October	November	December
Moose	X	X	X					X	X	X	X	X
Caribou	X	X	X					X	X		X	X
Salmon						X	X	X	X	X		
Grayling						X	X					
Geese				X	X			X	X	X		
Ducks				X	X			X	X	X		
Berries							X	X	X			

beginning in 1848 (Bockstoce 1986). The arrival of commercial whalers from New England and elsewhere had a marked impact on the Alaska Native population through the introduction of alcohol and diseases (Chance 1966). For both maritime and inland Iñupiat, alcohol and diseases proved to be an avenue of cultural change and led to a period of cultural disorganization. Starvation among Alaska Natives was also a common occurrence during the whaling period as whale, walrus *(Odobenus rosmarus divergens)*, and perhaps caribou were decimated by and for the commercial whaling fleets (Bockstoce 1986). By 1907, the demand for baleen had decreased substantially, with the price dropping by nearly 75%, and soon the whaling industry came to a close, returning the Iñupiat people to a transformed way of life (Gusey 1983).

During the time of the whaling industry the Iñupiat people were exposed to Western traditions (Chance 1990). Iñupiat participated in the whaling industry by selling their labor as a commodity for assistance with the whale, caribou, muskoxen harvests and by selling whale products harvested on their own (Chance 1990; Bockstoce 1986). They also crewed on whaling ships, worked as cooks, and manufactured warm and waterproof clothing for the crews (Bockstoce 1986). As time went on, some Iñupiat slowly engaged with the wage economy while maintaining their subsistence way of life. The effect was a "mixed" economy that combined cash and hunting. However, subsistence sharing, cooperative harvesting, and trading among the Iñupiat remained the major form of production and distribution (Spencer 1959; Chance 1990).

Other agents of change soon followed commercial whaling, including the reindeer industry, the fur industry, and the arrival of the missionaries. From 1892 to 1930 was another period of adjustment for the Iñupiat of the North Slope, in the form of an introduced species, reindeer, as an economic source. After World War I, trapping fox pelts quickly became the main commerce on the North Slope. Storekeepers bought the furs and by the 1920s, payment was made in cash and no longer exchanged for goods (Spencer 1959). Fur companies had also started to set up posts at various locations on the coasts. Successful fur trappers could earn several thousand dollars a year and were then able to purchase subsistence equipment such as shotguns and rifles, which benefited their subsistence activities (Chance 1990). Fur trapping allowed many Alaska Native hunters the same freedoms as their customary subsistence practices, but the fur trapping era ended with the arrival of the Great Depression of 1929. Between the period of the Great Depression and the end of World War II, Spencer (1959) had observed within Iñupiat society a continuation of cooperation and interpersonal dependence. By custom, a successful hunter was expected to share his catch with community members who were less fortunate. The sharing of wild foods furthered cooperation between both kin and non-kin groups within and between communities.

During the middle to late 1930s, development in the form of missions, schools, and trading posts increased in Barrow and other North Slope communities. Further changes ensued when various disease outbreaks negatively affected the Alaska Native population (Chance 1990). Populations of Iñupiat were either completely decimated or chose to relocate to new areas during the late 19th century and well into the 20th. Changes also took place due to the creation of welfare and educational programs by the US Bureau of Indian Affairs, many of which undermined traditional culture.

Shortly after World War II, with the initiation of post-war defense policies, the federal government took a strong interest in energy resources on the North Slope and began building infrastructure (Jorgensen 1990). Local people were hired and it was common for many of the North Slope Iñupiat to serve in the Alaska Territorial Guard or to join other divisions of the US military. Distant Early Warning (DEW-Line) stations were built across the North Slope, with the purpose of detecting Soviet missiles during the Cold War (Chance 1990). The development of these stations also increased wage employment opportunities and sparked economic growth throughout the North Slope region.

In 1944, the US Navy carried out oil exploration in an area that was to be called the Naval Petroleum Reserve Number 4 and what is now known as the National Petroleum Reserve-Alaska (NPRA) (Tussing, Rogers and Fisher 1971). A cash economy began to emerge as employment opportunities increased and it produced a significant population growth for the Barrow area (Rogers 1970).

The Alaska Native Claims Settlement Act (ANCSA) was passed in 1971, creating village and regional corporations that were deeded corporation lands and in charge of managing capital for their shareholders (Arnold 1978). The Arctic Slope Regional Corporation (ASRC), a for-profit regional corporation, was formed under ANCSA and each of the North Slope communities also founded their own local village corporation. The Act granted the Arctic Slope Regional Corporation 4.6 million acres and $22.5 million, of which the 8 village corporations received portions (Bodenhorn 1989). Iñupiat community leaders intent on forming their own regional government succeeded

in 1972, when the North Slope Borough was established. The borough incorporates 89,000 square miles or approximately 15% of the state of Alaska, and ranges from Point Hope in the west to Kaktovik in the east (Morehouse and Leask 1980).

The borough eventually became a home-rule government in 1974, allowing for taxing authority and enabling the borough to tax Prudhoe Bay oil infrastructure. In 1979 the borough had a taxable base of around 5 billion dollars (Morehouse and Leask 1980). This tax base provided the funding to develop a $370 million capital improvements program, where public service facilities could be built in Barrow and the other communities (Hess 1993). The building of public infrastructure such as health clinics, new schools, and water/sewer systems, along with its maintenance generated a substantial increase in jobs available for the residents of the North Slope. Based on an expanded job market and an improved living standard, local people were enticed into remaining residents of the region. In spite of the introduction of Native-owned corporations at the regional and local levels and a substantial increase in the level of local engagement with the cash economy, the Iñupiat maintained their subsistence livelihood and cultural tradition of sharing (Langdon 1986; Kruse 1991, 1992).

Through the North Slope Borough's Capital Improvements Program (CIP), public sector employment opportunities for local residents increased substantially during 1976 and 1988. As employment opportunities grew, it was largely assumed that the wage economy would become more desirable to the Iñupiat and would eventually replace the subsistence way of life (National Research Council 1993). A survey conducted in 1988 showed that the median Iñupiat household income increased from $21,744 to $32,500 (Kruse 1991). Other research indicated that there were periods of time available for both wage employment and subsistence (Luton 1985; Nowak 1975). The wage economy was used to satisfy the need for material goods, while subsistence activities provided traditional foods and strengthened cultural ties. A 1988 study of North Slope residents showed that men working full-time jobs (12 months a year) engaged in slightly more subsistence activities than those with less than full-time work (Kruse 1991).

Finally, it is important to note that during the arbitration process of the Alaska Native Claims Settlement Act, Alaska Native leaders fought strongly for two components to be incorporated within the Act. First, a cash settlement would not be accepted if it did not include title to a generous land base that could provide for subsistence hunting and fishing. And secondly, Alaska Native leaders argued for the protection of their subsistence way of life through the idea of provisions going to the corporations representing the interests of the Native peoples (Anders 1983). Alaska Native leaders saw the value of both the wage economy and the subsistence livelihood and therefore had the desire to accept one (a "new" source of well-being) and retain the other for their people, with subsistence providing cultural meaning, including the extensive sharing of traditional foods, strengthening social interactions and relationships.

North Slope subsistence livelihood

The traditional norms of Iñupiat subsistence generally do not allow for significant accumulation of harvested resources (Ganapathy 1996; Spencer 1959). Whaling captains who store whale meat and *maqtaaq* for later distribution at community feasts are not accruing traditional foods for themselves. Renewable resources are harvested and stored for the needs of the household, but are also distributed to community members and households in need. The Iñupiat subsistence culture involves the harvesting of fish and wildlife resources, the organization of processing and storing, the distributive methods of sharing, and finally the consumption patterns of these resources (Luton 1985). Each of these components is regulated by Iñupiat cultural norms and has a strong function in supporting the overall subsistence system.

Transfer payments are also a very important part of subsistence livelihood across the North Slope. Permanent residents of the state of Alaska receive an oil dividend check annually and at the regional level, the Arctic Slope Regional Corporation provides oil revenue dividends to each of its shareholders. The Olgoonik Corporation in Wainwright and the Kaktovik Iñupiat Corporation in Kaktovik each provide dividends to their local residents

at the community level. Transfer payments are often used to purchase subsistence equipment to supplement the subsistence livelihood.

Kaktovik (Qaaktuġvik)

Kaktovik is located at 70°7'58"N 143°36'58"W, on the north shore of Barter Island, between the Okpilak and Jago rivers on the Beaufort Sea coast, about 80 miles west of the Canadian border, and lies in the 19.6 million acre Arctic National Wildlife Refuge.

In Iñupiaq, Kaktovik or *Qaaktuġvik* means "the seining place." For hundreds of years Kaktovik was the traditional site of trade and cultural exchange between Canadian Inuit and various Iñupiat/Inuit groups across the Arctic Slope region (Libbey 1983). Gwich'in Athabascan people living to the south were also known to have visited Kaktovik to trade for coastal resources and non-local goods such as tea, sugar, and tobacco (Bockstoce 2009). Kaktovik was not established as a permanent settlement until the 1950s. Many explorations of this region took place in the early to mid-1800s (Nielson 1977). As in the Chukchi Sea, commercial whaling ensued in the Beaufort Sea during the 1890s and early 1900s. Whalers traveling to and overwintering at Herschel Island and the MacKenzie region in Canada commonly used Kaktovik as a stopover (Nielson 1977). Life in Kaktovik during this period remained fairly similar to its past, despite contact with white local traders and Presbyterian missionaries from Barrow (Chance 1990).

In 1923, Tom Gordon established a trading post east of the current village of Kaktovik and thus introduced the community to the fur trapping market and the cash economy (Jacobson and Wentworth 1982). More people from the area began moving to Kaktovik once the trading post was founded, but the majority still maintained a semi-nomadic life, supplemented by the trapping economy. People had seen hard times prior to the arrival of the trading post and were now able to purchase supplies with store credit earned from trapped furs.

It was during the 1920s that reindeer and herding were introduced to into the Kaktovik area (Chance 1990). Active reindeer herders stayed out on the land, watching their herds for months at a time and were able to maintain their hunting traditions in addition to herding for wages. Reindeer herding in the Kaktovik area ended around the late 1930s or early 1940s, primarily due to a weak market for reindeer meat.

The market economy of fur trading ended in the late 1930s and after the end of World War II in 1945, the United States Air Force took an interest in the Kaktovik area as a site for development of an airstrip and hangar facility, as well as a Distant Early Warning (DEW-line) radar station (Nielson 1977). Between 1953 and 1957, the construction of these sites destroyed two village sites, causing relocations, but also providing employment for local residents (Nielson 1977; Chance 1990). In addition to this, the US Coast and Geodetic Survey began mapping the Beaufort seacoast, bringing the opportunity for local wage employment.

With the establishment of a school in August 1951 and the increasing availability of jobs, the population grew with people either returning to Kaktovik from Barrow or from Herschel Island, Canada. The 1950 US Census had counted 46 people, but by 1951, there were 8 families totaling 86 people. By the spring of 1953, the population had increased to 140–145 people (Jacobson and Wentworth 1982).

The year 1972 marked the beginning of the North Slope Borough's Capital Improvement Projects, which were responsible for much of the region's modern infrastructure developments. A majority of the current housing in Kaktovik was built in 1973, all of which now receive electricity from the local power plant, and running water treated by a wastewater and sewage treatment facility.

Kaktovik has similar infrastructure to the other North Slope Borough communities. There is a K–12 grade school, a health clinic, police and fire stations, a post office, two grocery stores, two hotels, and a community center. Additionally, there are office buildings for the village corporation, the city of Kaktovik, and the Village Coordinator and Teleconference Center.

Kaktovik is located in a prime subsistence area, with easy access to terrestrial and marine resources. A joint study conducted by the BOEM (formerly Minerals Management Service) and ADFG Division of Subsistence in 1993 found that the average Kaktovik household used approximately 16 different kinds of locally harvested resources and harvested approximately 8.6 resources, while sharing 7.7 different resources (Pedersen 1995) (Table 4.2). The average household in Kaktovik also received approximately 10.5 different types of resources from other households within the community.

The typical Kaktovik household in 1993 used about 2,713.3 pounds of harvested resources (Pedersen 1995). In total, bowhead harvests supplied 63% of the estimated harvest for the community in that year (Pedersen 1995). Kaktovik only hunts bowhead whales in the fall, during the months of September and October. This narrow time frame means whaling is limited, whereas one may fish and hunt all year round for other things.

Bearded seal *(Erignathus barbatus)* is also an important marine resource, whereas walrus is rarely harvested because Kaktovik lies to the north of its migration route (Fuller and George 1997). Caribou are the most common terrestrial species harvested. Annually, the community harvested between 43 and 172 animals, averaging 126 caribou in 6 years (Pedersen 1990). Caribou are hunted mostly during the months of July and August (Brower et al. 2000). Both Dall sheep *(Ovis dalli)* and muskoxen *(Ovibos moschatus)* are harvested in areas to the south of Kaktovik annually; Dall sheep during the months of October through March and muskoxen primarily in October, November, or March (Brower et al. 2000).

The 1993 study (Pedersen 1995) showed that of the sampled households in Kaktovik, 96% relied upon locally harvested fish and game species to some extent. Households were very much engaged in the subsistence livelihood, as 89% of the sampled households attempted to harvest local resources during the study period. The greatest amount of household subsistence participation was linked with fall whaling, while approximately 40% of the households participated in caribou hunting, sheep hunting, and fishing (Fuller and George 1997). Households within the community were also actively sharing the fruits of their labor, with 92% receiving shares of harvested resources from other households and 83% giving away harvested resources to other households (Pedersen 1995).

Proposed oil development in the Arctic National Wildlife Refuge and in the near-shore Beaufort Sea represent a considerable source of controversy for residents of Kaktovik, with great apprehension about potential impacts to subsistence resources. Yet, there is also great desire for more employment opportunities and other cash inputs.

Wainwright (Ulġuniq)

The community of Wainwright is located on the coast of the Chukchi Sea at 70°38'50"N 160°0'58"W, approximately 300 miles above the Arctic Circle (Figure 4.1). The community is situated on a slight peninsula formed by the Chukchi Sea and the Kuk River Inlet. This river, along with others, provides access for local people to go inland to fish and hunt (Luton 1985). Wainwright is about 90 miles southwest of Barrow, the northernmost point of the United States and the main hub for the North Slope Borough and the Arctic Slope Regional Corporation.

People have lived in the area of present-day Wainwright for centuries. This original settlement was made up of the *Kuugmiut*, people of the Kuk River and the *Utuqqaqmiut*, people of the Utuqqaq River (Ivie and Schneider 1978). There was also a group of people along the coast called the *Sideromiut* who also contributed to the village population. In 1882, the coastal area where Wainwright is located had a population of roughly 80 people (Ray 1885).

The Kuugmiut mainly occupied the area surrounding the Kuk River and the coastal areas near Wainwright, while the Utuqqaqmiut resided near the Icy Cape and Utuqqaq River regions (Luton 1985). The Kuugmiut people focused largely on maritime resources, although travel inland along the Kuk River was fairly common. The Utuqqaqmiut people were known to rely on and follow them into the Interior, and in comparison to the Kuugmiut hunted sea mammals

less frequently. These two groups may have increasingly intermarried as populations fluctuated due to disease outbreaks caused by contact with non-Native explorers and whalers. Trade was also vital between the inland and coastal Iñupiat groups, as much-needed inland products such as caribou skins could be traded for sea mammal oil that was vital for both heating and lighting (Luton 1985; Spencer 1959).

The settlement of Wainwright was established in 1904 at its present spot mainly because of a construction error in building a schoolhouse. The structure was supposed to have been constructed closer to the inlet (at Thomas Point), but the building materials were offloaded where present-day Wainwright is now located (Milan 1964). Schoolteachers were hired by the Bureau of Education and sent to Wainwright to teach the village children, as well as establish and manage the US Post Office.

Two stores were established in the late 1930s within the village. With these stores came the year-round availability of goods and this consequently encouraged more people to settle in Wainwright. As with the other villages across the North Slope, Wainwright also experienced the boom and bust of the fur trading industry. Trading posts were a common venture and provided a cooperative avenue between the local white people and the Iñupiat (Schneider and Libbey 1979).

In 1904, a reindeer herder's station was built at Wainwright Inlet. Local reindeer herders were hired by the Wainwright Reindeer and Trading Company under the authority of the Bureau of Education to manage and maintain the reindeer assigned to them (Bodfish 1991), and between 1918 and 1934, herds grew to significant population sizes, increasing from about 2,300 to 22,000 animals (Chance 1966). However, reindeer herding soon declined because of the lack of market and limited interest in herding as a way of life, with the last herd disappearing in the 1950s.

Among the communities on the North Slope, Wainwright was fortunate to have access to naturally occurring coal reserves. People within the area transported coal by dog team and use it to heat their homes. During the late 1880s before the village was founded, informal coal mines were opened that attracted local people to the area. In turn, coal was marketed to the steam-powered whaling ships passing through (Jorgensen 1990).

The population of Wainwright was continually in flux between 1890 and 1970, rising and falling with the industrial tides of coal mining, whaling, reindeer herding, and fur trading. Despite the establishment of the reindeer station in 1904, the population did not increase substantially until the school was expanded in the early 1920s (Jorgensen 1990). In the late 1940s and early 1950s, the population decreased as residents moved to Barrow looking for work (Luton 1985).

Travel to Wainwright by airplane became increasingly more common in the 1970s, when electric landing lights were installed on the gravel runway in 1970. Supplies were also delivered by ship once a year via the *North Star III*. This supply ship would provide the co-operative stores, Bureau of Indian Affairs schools, and private customers with an assortment of pre-ordered goods.

A co-operative village power station was established in 1967–1968, running on oil and in turn supplying electricity to local residents. Originally, the people of Wainwright cut blocks of ice out of a nearby lagoon in order to meet their needs for water, but a water treatment and supply station has since replaced this method (Brosted 1975). The community now has a health clinic, a school with grades K–12, fire station, search and rescue office, solid waste facility, a hotel with a restaurant, two village stores (one now run by the Olgoonik Village Corporation), and two churches. Within the main part of town, there are also modest office buildings for the village council, Olgoonik Corporation, and the city of Wainwright. Residents of Wainwright also enjoy the comfort of modern housing with electricity and plumbing.

After Barrow and Point Hope, Wainwright currently has the third-largest population within the North Slope region and is predominantly Iñupiat. From 1960 to 1970, Wainwright's population increased 19.68% and from 1970 to 1980, it increased by 22.2% (Rex 1994). The increase in

population size during this time has been strongly attributed to wage employment provided by the North Slope Borough's Capital Improvement Projects program (Braund et al. 1993). The availability of jobs and a better standard of living gave local people incentives to remain in, or return to the community (Luton 1985).

Past studies show that many residents either have held full-time jobs or part-time seasonal jobs, with the majority being employed through positions created by the North Slope Borough, Village of Wainwright (the tribal organization), Olgoonik (the Native village corporation), or the City of Wainwright, yet people of Wainwright are able to maintain subsistence activities such as bowhead whale hunting, caribou hunting, and other subsistence pursuits. Langdon (1986), Jorgenson (1990) and others noted that two livelihoods complement each other. Wage labor provides the ability to purchase needed goods, including subsistence equipment items such as all-terrain vehicles, snowmachines, and motorized riverboats.

In a 1992 harvest survey conducted by the North Slope Borough, Department of Wildlife Management, marine mammals comprised approximately 51% of the overall harvest for Wainwright (Fuller and George 1997). It is estimated that in an average year, marine mammals would ordinarily contribute more to the overall harvest, since in 1992 no bowhead whales were harvested (Fuller and George 1997). Bowhead whales are usually harvested as early as mid-April to as late as early June, depending on ice conditions (Kassam and Wainwright Traditional Council 2001), and in 2011 when open waters persisted the community harvested its first fall whale (Braund et al. 2013). Wainwright residents also hunt for other marine resources such as walrus, beluga whale *(Delphinapterus leucas)*, and bearded seal (Fuller and George 1997; Braund et al. 2013). Walrus are harvested from mid-June to September, beluga in the summer from late June to early July, and bearded seal from as early as spring until the fall (Kassam and Wainwright Traditional Council 2001; Braund et al. 2013).

Results from a survey conducted from 1988 to 1990 found that Wainwright residents harvested at least 46 species of fish, birds, and marine and terrestrial mammals (Braund et al. 1993). Marine mammals comprise the bulk of the community's total harvest, at approximately 69 to 70% (ibid.). Terrestrial mammals contribute the second largest amount, averaging around 24% (ibid.). Caribou were the single most important terrestrial species for Wainwright, with 748 being harvested in 1992, representing approximately 87,514 edible pounds (Fuller and George 1997). Caribou are harvested primarily in August and September, before they go into rut (Kassam and Wainwright Traditional Council 2001; Braund et al. 2013). Waterfowl are also harvested and a number of species are taken, such as: black brant *(Branta bernicla nigricans)*, king eider *(Somateria spectabilis)*, common eider *(Somateria mollissima)*, and white-fronted geese *(Anser albifrons)* (Fuller and George 1997). Black brant are commonly hunted from May to mid-July, in late August, and throughout September (Kassam and Wainwright Traditional Council 2001). Both king and common eiders are hunted during their spring migration and white-fronted geese are harvested during their spring and fall migrations (ibid.).

Rainbow smelt *(Osmerus mordax)* are by far the most common fish species harvested and are actively caught in the winter months of January and February, where they reside in large numbers in the lagoon close to the village (Fuller and George 2002). Fishing is a fairly popular subsistence activity for Wainwright residents. Results from the 1988–1990 survey revealed that the majority of Wainwright households are participating to varying degrees in the subsistence tradition, with about 88% taking part in at least one subsistence activity (Braund et al. 1993).

Oil and gas development have been distant activities in the past; however, recent lease sales and interest in exploration in offshore Chukchi Sea development have emerged as important issues for the community to consider. Among the issues include the risks associated with offshore development (e.g., oil spills), on-shore infrastructure, and how a non-local workforce supporting offshore development may affect village life and the environment.

Interior Alaska Study Community – Venetie

Venetie, the third study community of the study, is situated at 67°3'20"N 146°24'58"W in Interior Alaska, a region loosely defined as the boreal forest ecosystem south of the Brooks Range and north of the Alaska Range. Interior Alaska rural communities differ in significant ways from North Slope communities, in their Athabascan Indian cultural orientation, low cash economic household income levels, absence of harvested marine subsistence resources, limited oil and gas development activities and benefits, and high exposure to wildfire.

Venetie Alaska Native residents are primarily Gwich'in, an Athabascan culture group that historically ranged from the western reaches of the upper Noatak River Valley in northwestern Alaska east to the Arctic Red River and Mackenzie River in Canada (Raboff 1999). Early to contemporary Gwich'in identify with subgroups or bands that historically occupied this vast region. Neets'ąįį Gwich'in occupied the region on the east fork of the Chandalar River, including the current site of the Venetie Settlement, with other Gwich'in bands to the south, west, and east (Osgood 1936). As is the case with the Iñupiat, Gwich'in of Interior Alaska moved throughout the landscape seasonally to harvest food resources, with periodic meeting places for trading and social interactions. Neets'ąįį would occasionally travel north to trade with the Iñupiat, although there were also conflicts between the two groups (Slobodin 1981).

Interactions with Euroamericans began in 1789 with explorers, and later included missionaries and traders. The greatest early impact was the result of the Hudson Bay Company's establishment of trading posts in the region, including one at Fort Yukon. The richness of furs in the region and their market value modified the travel, seasonal activities, and access to new goods for the Gwich'in (Slobodin 1981). Several epidemics ensued, dramatically reducing their population before and during this period (Krech III 1979). Manufactured goods were incorporated into Gwich'in life by the turn of the century, with regular access to firearms making the use of caribou fences unnecessary and harvesting more individualistic (Caulfield 1983). The period was also punctuated with resource scarcity, particularly caribou, which resulted in hardship and in some cases starvation. The US purchase of Alaska affected the activities of the Canadian Hudson Bay Company, which relocated trading posts east. Gold seekers followed in the late 1800s and early 1900s, resulting in intermarriages.

Through the leadership of John Fredson, the community of Venetie, along with Arctic Village, Christian Village, and K'aastsik, received approval of a 1.48 million-acre "Chandalar Indian Reserve" through the Indian Act of 1934 (Caulfield 1983). Thus, the Gwich'in were among the first Alaska Natives to receive formal recognition of land ownership by the US federal government. Serious declines in caribou followed, a major flood affected villages of the region, and education policies and the construction of a school in Fort Yukon affected families' on-the-land activities.

In 1960 Congress established the Arctic National Wildlife Refuge and in 1971 passed the Alaska Native Claims Settlement Act. As a part of the latter, Venetie and Arctic Village selected not to participate in the village corporation provisions and instead received fee simple title for the Chandalar Reservation. As a tribal entity, the two communities govern as the Venetie Tribal Council.

The Alaska National Interest Lands Conservation Act (1980) enlarged the Arctic Refuge, established much of it under the Wilderness Act, and with other land designations, created a complex land-management regime in the region. For coordination of resource management, health services, and education in villages of the Upper Yukon River system, Venetie works as a member of the Council of Athabascan Tribal Governments. Proposed oil and gas development on the coastal plain of the Arctic Refuge, the core calving area of the Porcupine Caribou herd on which Venetie and Arctic Village depend, has galvanized the community in opposition to its potential impacts.

With no resource development in the region, no village corporation, and few commercial enterprises, Venetie has limited local employment

opportunities for residents. Those seeking high-paid and regular employment generally have to move to urban centers such as Fairbanks or Anchorage, find employment in the resource extractive industries of the North Slope, or serve on firefighting crews.

As will be reflected in the findings of this study, these three communities contrast in many ways—their respective geographies, cultural orientations, histories. They also share many common characteristics as being dependent on subsistence-cash economies and having vibrant cultural identities.

SECTION TWO

Chapter 5 - How and Why They Share – Self-Reported Rationales and Strategies of Sharing

Chapter 6 - Household Demographics, Cash, and Harvests

Chapter 7 - Cooperation and Social Networks within Subsistence Livelihoods

Chapter 5 - How and Why They Share – Self-Reported Rationales and Strategies

In this chapter we draw on two sources of respondent-reported qualitative evidence to document the motivations for sharing, the roles individuals play in deciding how much to share, how conditions of scarcity affect sharing patterns, and how sharing has changed over the last decade. Our sources include responses to open-ended questions administered in this study's survey and findings on motivations for sharing from the UAF master's thesis research of Marcy Okada (2010), undertaken as a parallel study to this project and based on interviews in Wainwright and Kaktovik in the summer of 2008. Okada's interviews were recorded, transcribed, and coded for emergent themes. Below we first present the findings on motivations for sharing from Okada's (2010) study and follow with reported patterns of sharing, self-reported by household heads. In both cases we present findings on frequency of stated themes.

Self-Reported Reasons for Sharing

Okada (2010) interviewed Wainwright (n = 10), Kaktovik (n = 7), and Barrow (n = 5) harvesters and identified 8 reasons why people shared in subsistence (See Table 5.1, next page.). These included 1) maintaining cultural traditions; 2) avoiding waste; 3) benefiting from "good luck"; 4) providing a good feeling; 5) giving and taking (balanced reciprocity); 6) forming a relationship with animals; 7) remembering hard times; 8) gaining a sense of pride. The codes and quotes below illustrate these reasons.

Passing on cultural traditions

> They just pass it on from generation to generation. Like me, I learned from my parents and my parents learned from their parents and their parents learned from my great grandparents. It just goes on and now I'm teaching my son and pretty soon as the grandchildren grow, it'll pass on to the grandchildren, so it just keeps going on and on and on. That way, you know, they'll know that Iñupiat were sharing and caring people.

> My grandson got his first caribou and asked me why I gave all of his caribou meat away. I told him that when you catch your first animal, you have to give it to all the elders. I got a piece because I am an elder too. He was kind of upset that I gave it all away to everybody and I told him that this is the way you start off your life, by sharing. You can't be greedy with anything, if you're going to be greedy and think like that, you're not going to be a hunter, you're going to be a poor hunter.

Avoiding waste

> So I think that's one of the real important reasons why we share subsistence foods, it's because it's fresh from the land, it's fresh from the sea, fresh from the sky, and you don't want it to spoil, you don't want it to rot.

Table 5.1. Reasons people share, from Okada (2010).

Reasons Why People Share	Number of Respondents Who Mentioned Theme	Percent of Total Mentions of Categories by Respondents n = 35	Mentions by Respondents' Age Group (%) 20 to 39: n = 7 40 to 59: n = 18 60 & above: n = 10	Mentions by Respondents' Employment Group (%) Full-time: n = 20 Part-time: n = 8 Retired: n = 7	Mentions by Respondents' Status Group (%) Single: n = 8 Married: n = 23 Widowed: n = 4
Cultural Tradition	16	46	20 to 39: 14% 40 to 59: 67% 60 & above: 30%	Full-time: 45% Part-time: 38% Retired: 43%	Single: 25% Married: 48% Widowed: 50%
Avoiding Waste	15	43	20 to 39: 29% 40 to 59: 39% 60 & above: 60%	Full-time: 40% Part-time: 25% Retired: 71%	Single: 38% Married: 43% Widowed: 50%
Good Luck	13	37	20 to 39: 14% 40 to 59: 44% 60 & above: 40%	Full-time: 35% Part-time: 50% Retired: 43%	Single: 38% Married: 39% Widowed: 50%
Good Feeling	12	34	20 to 39: 43% 40 to 59: 28% 60 & above: 40%	Full-time: 25% Part-time: 25% Retired: 57%	Single: 25% Married: 35% Widowed: 25%
Giving and Taking	8	23	20 to 39: 43% 40 to 59: 28% 60 & above: 0%	Full-time: 15% Part-time: 38% Retired: 0%	Single: 25% Married: 17% Widowed: 0%
Relationship with Animals	7	20	20 to 39: 14% 40 to 59: 11% 60 & above: 40%	Full-time: 10% Part-time: 13% Retired: 29%	Single: 25% Married: 13% Widowed: 0%
Memory of Hard Times	5	14	20 to 39: 0% 40 to 59: 11% 60 & above: 30%	Full-time: 5% Part-time: 0% Retired: 71%	Single: 0% Married: 9% Widowed: 50%
Pride	3	9	20 to 39: 14% 40 to 59: 11% 60 & above: 0%	Full-time: 5% Part-time: 25% Retired: 0%	Single: 13% Married: 9% Widowed: 0%
Total	79	-------	------	-----	-----

Good luck

> It comes back, it does. The way I look at it is when we go out, it becomes easier to catch game. As my mom commented on it, that guy's a good hunter cause he shares. Or there's a word too that the elders use, *signatuitchuaq inuk niqsa yuktuk*, those that are not stingy are good hunters", so the game is easy to catch for them.

> Growing up I was taught to share food with other people and then you will have better luck hunting the next time you go out. That's the story I have heard before. For instance, if I got a caribou and were to share it, I would be able to get more caribou the next time I go out hunting. It's an Iñupiat belief.

Good feeling

> You want to share it, you want to make friends, you want to make people smile, you want to make people feel warm and welcoming. You want to make them know you. You know, where they're going to recognize you every time they see you, "Hi so and so, thank you for the *maktak*, thank you for the ducks, thank you for the geese." And it makes you feel good inside…You know that kind of feeling.

Relationship with animals

> If anybody is messed up on how to share, it really becomes a bad thing because we're taught not to fight over animals. And rather than fight over whose portion they got, then they got to really know how to divide the animals. You would think it's superstition or people would say it is superstition but it's not, it's the law of the land and the law of the animals. And that's the way it is you know, if there's any discord or anything over the equipment, it doesn't go well with the animals.

Pride and status

> I go out and hunt and gather for those who can't hunt and gather or can't do it very easily. Those that don't have access to it but enjoy it; I go out and hunt for them. Provide for those who can't provide for themselves.

> As my mom commented on it, that guy's a good hunter 'cause he shares. Or there's a word too that the elders use, *signatuitchuaq inuk niqsa yuktuk*, "those that are not stingy are good hunters," so the game is easy to catch for them.

Findings from the survey of this project: Self-Reported Motivations and Sharing Behaviors

Kaktovik

Who Decides and How—Kaktovik

We asked Kaktovik household heads to report who in their household decides how to share harvested caribou. The data revealed 10 codes. The following is a list of the 10 codes and the number of times each code appeared:

- head of household (36),
- partners (8),
- harvester (7),
- varies (4),
- wife/matriarch (3),
- pick those in need (3),
- grandma (*aaka*; 2),
- mother (1)
- husband (1).

Next, we asked how people generally decide how much of a caribou to share. Eight codes emerged from the data. The following is a list of the 8 codes and the number of times the code appears in the survey data:

- give to family and elders (18),
- based on need of others (15),
- share equally (14),
- depends on providing household's food supply (12),
- give away half and keep half (10),
- reciprocation (3),
- enough for a meal (2),
- don't give away (2).

Many of these respondents noted that sharing wild foods with elders is a community priority. People often share first with elders, then with family members, and then finally with other members of the community if enough food remains. A group of respondents said that the need of other households determines how much subsistence foods to share. Others stated that they give away almost all of their catch, to whoever asks. This group of

respondents made the point that they share among everyone equally, without preference to a particular group of people. Some people reported that their personal needs and food supplies influenced their sharing decisions. One respondent said the following: "I look at my personal needs and share what's leftover." Others said that they follow a general pattern of giving away half of their catch and keeping the other half. A small group of respondents noted that they consider who helped or lent equipment when deciding how much to share.

Sharing in Times of Scarcity—Kaktovik

We sought to understand how households and communities share differently in years of scarcity versus years of abundance. With regard to how the sharing patterns of *households* differ between years of scarcity and years of abundance, 5 codes emerged from the Kaktovik data. The list of codes and frequency with which they appeared in the data is as follows:

- share less when resources scarce (13),
- no difference (11),
- varies (5),
- never been scarce (1),
- can't say (1).

Many respondents said that less sharing occurs in times of scarcity. However, it is important to note that people said they still try to share whatever they can, as the following quote shows: "If [there is] less, then people share less but the sharing still happens!" When wild foods are less widely available, people tend to keep that food in the community and not send it out to friends and family members who live elsewhere. The following quote talks about what occurred during a year when fishing was poor: "We didn't send out fish to relatives. We kept it all and we fished late." Some noted that their sharing pattern does not change much during years of scarcity. Many Kaktovik respondents noted that the proportion of food shared remains the same: "We usually give out half of what we get. It doesn't matter how much total comes in." A few respondents noted that their sharing patterns are always changing, regardless of resource abundance. One noted that several children recently moved home, so they are now sharing less than in the past. Another mentioned a recent marriage and the effect of this change on the household's sharing pattern.

Similarly, we asked respondents how sharing on the *community* level in Kaktovik differs between years of scarcity and years of abundance. Four codes emerged from the data:

- no difference (12),
- share less when resources scarce (10),
- less sharing overall now (3),
- other comments (7).

The responses coded as other comments did not directly address the question. A large number of respondents noted that there is no difference in sharing in Kaktovik during years of abundance compared to years of scarcity, highlighting the importance of sharing in the community. Others noted that less sharing occurs when households do not have enough for themselves: "When there's not much to share, don't share much. Have family to feed and can't share the little bit that they have". A small number of respondents noted an overall decline in sharing in response to this question. "Families used to share more, especially immediate families. Nowadays, hunting is not a priority. It's harder to share today. People have so much on their mind; they don't help each other as much".

Perceived Changes in Sharing and Causes—Kaktovik

When asked if sharing has changed over the past 10 years respondents said no, sharing has not changed. Those who said yes were then asked how sharing has changed in the past 10 years. Four codes emerged from the data:

- depends on food availability (6),
- less sharing now (5),
- more sharing now (3),
- less hunting now (1).

When prompted with this question, many informants again discussed the notion that sharing is related to harvesting success: "If we have it we give it away. If we don't, we don't." Others said that overall, less sharing occurs in Kaktovik now compared to 10 years ago. One respondent described

the change in sharing in this way: "It used to be the [whaling] captains who went from house to house and see the families and see what they need. And they didn't need anything back. Today's people are not like that anymore." Others felt that more sharing occurs now compared to 10 years ago.

Next, we asked what caused changes in sharing over the past 10 years. This question prompted a large number of unique answers. We grouped responses into 8 codes. The codes and frequency that each code appears in the data is as follows:

- related to hunting activity (10),
- cost and equipment constraints (4),
- availability of wild foods (4),
- cultural change (4),
- no change (2),
- drugs/alcohol (1)
- climate change (1).

The largest group of responses focused on how changes in hunting patterns affect sharing networks. Many noted that a particular person is no longer hunting due to work constraints, a move away from the community, or a death, and this change hinders sharing. Others noted that a lack of equipment and the financial burden associated with subsistence activities prevents them from sharing. The equipment required to hunt today is very different from the past, as this respondent describes: "Long time ago we didn't have a lot to go hunt with, no ski-doo only dog team. Nowadays you need gas and money." Some noted that cultural changes in the community have affected sharing networks, as the older generations and their knowledge die out of the community: "Change the way the family is brought up. Sharing might stop if an elder passes. The household might have harder time because the connection is with the elder." Finally, issues with drugs and alcohol and the effects of climate change were both mentioned as specific factors affecting sharing in Kaktovik.

Contributions of Sharing to Household and Community Well-being—Kaktovik

The final questions of the open-ended component of the survey asked respondents *"how sharing contributes to well-being."* First, we focused on how sharing contributes to the well-being of the household. We identified 6 codes from the responses. The list of codes and frequency that the codes appear are as follows:

- general positive effect (36),
- provides food (7),
- tradition (5),
- pride (5),
- community cohesion (5),
- neutral feeling (2)

The largest group of responses discussed the general positive effects that sharing has on households in Kaktovik. The following quotes provide a few examples of the responses linked to this code. "Keeps you alive. Feel better." "Happier, feels better, always good to share." "When you go hunting, giving is good. Hunt as much as you can and give half away. That's at least how I do. It's better to give than receive. Then next time you get more…." "Feels good when you share with family. Got to share with friends and with seniors. No asking. Just share, better to share." Some respondents specifically mentioned the physical benefits of giving and receiving food. One respondent discussed the significance of receiving just a small amount of some kind of subsistence harvest: "I know who needs the taste—even just for a taste, the elders." Another group of respondents noted that sharing is an important tradition, one that is passed down from parents and grandparents to children. "Well I guess I was raised by my parents and grandparents and they shared everything they hunted and I guess I got in the habit of that. Share everything with the elders." For some, giving harvested foods to others fosters a sense of pride, as this respondent described: "It makes my boy proud that he can support not only his family, but also elders…." Five responses focused on how sharing contributes to community cohesion. One respondent discussed this theme in the following way: "If people share it makes you feel like you are a part of the community and that people are looking out for you and take an interest in your well-being."

Next, we asked respondents how sharing contributes to the well-being of the *community* of Kaktovik. The data revealed similar codes to the previous question, as may be expected.

Six codes emerged from the data. The code list for this question and the frequency that each code appears in the data is as follows:

- good feeling (28),
- maintains tradition (10),
- provides food (9),
- cohesion (8),
- contributes to overall well-being (7), and
- gain respect through sharing (3).

Many respondents focused on the positive feelings that come from sharing when asked how sharing contributes to community well-being. One respondent talked about the 'feel good' effect of sharing in this way: "It's big—everyone contributes—you can see the joy it brings—makes the day!" Another respondent discussed how those good feelings may go away when sharing is interrupted: "I believe it makes everyone happy— Light spirited, it connects people together. It brightens people's sprits. When no one shared with us we were down and sad about it. We wondered why, did we do something? We questioned ourselves. [It] made me feel even worse for not having any caribou to share with people. I'm always wishing I could have caught more to give more out." Sharing plays an important role in maintaining Iñupiat traditions in Kaktovik, as the following respondent discussed: "Sharing honors traditional values and helps the spirituality of the community. The community comes together.… It is part of forming the identity for children." One respondent simply stated, "It makes me feel like an Iñupiaq." Some respondents noted that sharing contributes to community cohesion in Kaktovik and helps to keep everyone close as a family. Another group of respondents focused on how sharing is important for redistributing food through the community and for providing wild foods to those who cannot hunt for themselves. Sharing helps to augment the foods that can be found and afforded at the store, as this respondent discusses: "Sharing is important. [It is] expensive at the store. [There is] not enough money to go to the store and people don't have equipment to go out hunting." Some respondents chose to answer this question very broadly, which we coded as "overall well-being." The following quote is one example: "Sharing is very spiritual. Contributes both to the economic aspect of the community but also the spiritual." Another respondent said, "[Sharing] makes it a better place to live." Finally, a small number of responses focused on the respect that comes from sharing and positive effects that respect has on community well-being.

Wainwright

Who Decides and How—Wainwright

We asked Wainwright household heads who in their household decides how to share a harvested caribou. The data revealed 8 codes and the number of times each code appeared:

- head of household (63),
- partners (42),
- husband (6),
- wife (1),
- harvester (4),
- several people in household (7),
- does not give away (6),
- other (9).

Next, we asked how people decide how much subsistence of the caribou to share. Ten codes emerged from the data:

- based on need (46),
- depends on providing for own household's food supply (37),
- give half and keep half (19),
- give to family and elders (17),
- give certain proportion (11),
- share evenly (8),
- keep most (4),
- enough for a meal (2),
- lacking equipment (1),
- reciprocation (1).

Respondents most commonly cited the need of other households as the main factor influencing how much they share. Another important theme mentioned by respondents was the food supply and harvest success of the providing household. One respondent described their sharing decision process in the following way: "depends on how much we have. If we have a lot she'll share a lot, if we have a little bit she'll share a little bit." A group

of respondents stated that they generally give half of their harvest away and keep the other half. Others noted that they give away a set proportion of their harvest, but not necessarily half, or generally give away certain parts of an animal. One respondent said, "Give away about a quarter of it. Always the same." We found that many respondents preferentially share with family members, immediate and extended, and elders, before sharing with the rest of the community. It is important to note that these different themes are not exclusive from each other. Some responses were assigned more than one code, such as the following: "We try to think about those who need it, those without hunters or those without the means to hunt or also family too…our immediate family." Here, a respondent mentioned both need and family. Others stated that both need of other households and harvesting success played a role in their decision making process: "We know somebody is hungry so we give it away, and when we have plenty." A small number of respondents mentioned that they do not think about how much to share, but instead share evenly amongst community members. One respondent focused on reciprocation when answering this question. This person stated that they decide how much to share based on who does the work.

Sharing in Times of Scarcity—Wainwright

With regard to *how the sharing patterns of households differ between years of scarcity and years of abundance,* we identified 6 codes. The list of codes associated with this question is as follows:

- no difference (43),
- share less when animals scarce (37),
- changing animal numbers (12),
- other comments (12),
- do not share (3),
- more sharing when there is less (2).

Many respondents said there is no difference in sharing between good and bad harvesting years; people are always sharing. Respondents emphasized that it is important to share, even if one is only able to provide a small amount: "[We] share every time we catch, even if it's only a little—still give". Another large group of household heads stated that more sharing occurs during years of abundance and less sharing occurs when wild foods are scarcer. The following quote is similar to responses provided by many respondents: "[In] years we had lots of traditional food we shared more. [It is] harder to share when you had little food."

Next, we asked respondents *how sharing on the community level differs between a year of scarcity and a year of abundance.* This question produced a wide range of answers, with respondents providing so many unique answers that it was difficult to group many. The following codes emerged from the survey data:

- share more when successful/less sharing when unsuccessful (33),
- no difference in sharing (23),
- varies (4),
- more sharing in lean years (4),
- less sharing overall (2)
- other comments (26).

Similar to the previous question, many respondents noted that more sharing occurs when hunters are successful compared to when they are unsuccessful. However, respondents stated that sharing is still important in years of scarcity, but less food leaves the household. "There was a year when there were no whales caught and not too much caribou nearby. The weather was bad for geese. There were smaller portions. People still shared a lot, just smaller portions." A large group of respondents stated that there is no difference in sharing between years of abundance and scarcity, illustrating the importance of sharing of wild foods in Wainwright. One respondent said it succinctly: "Community shares in good and bad." Another stated, "They were still glad to share because that's one of our values to share." A small number of respondents stated that more sharing occurred in years of scarcity: "In the lean years, the people gave more away to those who had nothing." We grouped a large number of responses into the code "other comments." We linked answers to this code that did not fit into any other code and that were dissimilar to all other answers. If we had created a code for each unique answer, there would be an additional 26 codes. Several respondents did not directly answer the question, but instead provided a comment about sharing broadly. For example

one respondent said "love to share," while another said "learning from Grandma." Another said, "Caribou are far inland" in response to this question. One respondent said they could not answer the question since they were new to the community. Another said they have not noticed a difference in abundance of wild foods over the years.

Perceived Changes in Sharing and Causes—Wainwright

We asked respondents how sharing has changed in the past 10 years. We identified 6 codes, based on the responses to this question. The codes and the frequency that they appeared in the data are as follows:

- no directional change (38),
- less sharing now (22),
- share more now (12),
- less hunting now (3),
- family changes affects sharing (1),
- other comments (13).

Learning from elders and teaching younger generations to share were commonly mentioned by respondents as reasons why sharing remains important in the community: "I watched my grand-parents, my parents…and I share the same way just for a smile on their face. My kids are not allowed to sell wild foods." Many respondents mentioned that despite drastic changes, such as increasing fuel and ammunition prices, the introduction of food stamps, and changes in animal populations, sharing wild foods remains a vitally important social norm in Wainwright. "Sharing is the same. Hunting has changed but sharing always… nothing is going change that. It's not just food. We're passing on all of it to our kids to share. Dancing and language, knowledge of ice conditions to whoever is interested in learning… It's not just food that we share, it's wisdom. It's love that we share. Up here it's one big family, not the white man's world everybody out for themselves." Another group of respondents stated that the sharing of wild foods occurs less now compared to the past. Some respondents said they did not know why sharing is less important in the community now, while others mentioned specific factors influencing a general decline in sharing. Some noted that more people now sell wild foods because they need money, while others stated that increasing regulations limit hunting opportunities, which in turn affects one's ability to share. The loss of family members and the lack of equipment also affect people's ability to share wild foods, as the following quotes describe: "I hardly have anything this year, so I can't share very much. My husband is gone you know. I just get what my son-in-law catch." "Used to share more when we had our boat and snowmachine; could get more traditional foods and so it was easier to give." Another theme that emerged was the idea that some share more now than in the past. Several respondents noted that increasing harvesting success is linked with more sharing: "I've been able to share more because I have become a better hunter over past 10 years." Again, a large group of answers remained grouped together in 'other comments'. Generally the responses that were coded as other comments did not directly address the question. Within this group of comments, a range of topics were mentioned, such as global warming, the sharing of store-bought foods, the influx of food stamps, the opinion of a newcomer to the community, and changes in whaling.

After asking respondents how sharing has changed, we sought to understand what caused these changes. The survey data associated with this question revealed 7 separate codes. It is important to note that only those who said that sharing has changed answered this question, so only a small proportion of the respondents provided answers. The codes and frequency of the code in the survey data are as follows:

- changing family dynamics (11),
- changes in hunting (9),
- jobs/money/equipment (8),
- changing environmental conditions (6),
- tradition (5),
- lack of wild foods (4),
- changing cultural norms (4).

Sharing networks are generally strongest amongst family members. Changing family dynamics, such as the death of an elder, kids growing up and leaving the household, or an active hunter moving away from the community can drastically change the sharing patterns among a set of

households. Several respondents mentioned this phenomenon: "We share more now than when the kids were younger. Now they go hunt themselves. I wasn't hunting back then. I was busy with the kids and work. But I provided for my dad's crew." Several people noted that they or other members of their family now hunt less, which affects their ability to share: "We don't go out hunt so much anymore. My dad is old. We depend on my brother and his snowmachine broke down." The cost of subsistence activities and the lack of capital to go hunting and fishing were cited by many as affecting their ability to pursue subsistence resources: "The prices go up on gas, equipment. We have a hard time keeping up, especially in winter time. We go out less and get less." A group of respondents mentioned changing environmental conditions as a factor affecting changes in sharing patterns. It is important to note that climate change and other environmental shifts were generally mentioned as one of several factors: "Lack of resources, lack of job, global warming." Another set of respondents discussed the changing cultural norms in Wainwright, and how that affects sharing patterns: "[The] community is getting younger—the way of thinking about sharing has started to go away. Sharing was an older generation thing. Back in the day people always shared…." The responses coded as 'tradition' focused on the continued importance of sharing: "Part of Iñupiat culture to give to who needs it; if they don't have people to get it for them." Finally, some respondents discussed a general lack of wild food as the reason why their household may share less.

Contributions of Sharing to Household and Community Well-being—Wainwright

Respondents were asked if and how sharing contributes to the well-being of their household. We linked responses to 7 codes, which are listed along with the frequency that each code appears in the data:

- general positive effect (64),
- provides food and health benefits (28),
- continues tradition (26),
- give and later receive (24),
- sense of community cohesion (6),
- no sharing (3),
- neutral (1).

Many respondents recognized and mentioned the general positive effect that sharing has on households in Wainwright. "We feel good" or "we feel happy" were very common responses to this question. One respondent said, "Makes everybody happy. We don't even think about it—we're willing to help. [We're] happy to share what we got if we have enough." Other respondents specifically mentioned that sharing provides food to people who would otherwise go without, and also discussed the health benefits that come from eating wild foods. "Sharing is everything. In order to survive you need to share. Some households wouldn't be able to survive. Some households are blessed with the equipment and resources. If it came to nobody sharing anymore there would be a lot of people hurting." "Native food is the best. When we eat native food we get healthier." The sharing of wild foods helps to connect people living in Wainwright today with their ancestors and their legacy of living off the land. Many respondents discussed the vital role that sharing plays in the community and the importance of passing on the sharing tradition: "It's an Iñupiat value and we teach it to our children so they could in turn pass it onto their children." "It makes me feel good, plus it is tradition. My grandma always said, 'Never stop practicing your Inupiaq ways, always use them.'" Another group of respondents discussed the reciprocal nature of sharing. "Give now and you will receive later" was a common idea expressed when respondents answered this question. As put by one respondent: "When I share with people, people share back with me. This way we make sure each household has enough to eat."

After focusing on the household level, we then asked respondents how sharing contributes to the well-being of the community. The data revealed similar codes to the previous question, as may be expected. The code list for this question and the frequency that each code appears in the data is as follows:

- provides food and health benefits (46),
- general positive effect (43),
- community cohesion and identity (29),
- continuing tradition (20),
- give and later receive (4).

Respondents noted that sharing helps to ensure that everyone in Wainwright has access to wild foods, even those who are unable to go hunting themselves. "When we share with our community, it helps the health of our community because there are some people who can't hunt for themselves." Similarly to the previous question, many respondents mentioned the general positive effects of sharing on the community of Wainwright. The following are words pulled from respondents' answers that were coded as 'general positive effects': smile, happy, feel good, love, in our hearts, lifts spirits, feel better, full of joy, and very good. A group of respondents noted how sharing contributes to community cohesion in Wainwright. Giving and receiving wild foods fosters a sense of community and caring: "Everyone becoming one family through sharing; just like being one big family. Keeps the village strong." Others discussed the role that sharing plays in linking the past with the present. "It keeps the culture alive. [There is] joy in knowing somebody got something and we know we're going to get some. We're depending on our children now that we're getting older and that helps the community." Finally, a small number of respondents mentioned the reciprocation associated with sharing and how that contributes to community well-being: "If we give something to somebody they give back. Like if we have ducks after duck season we'll give them and if they have caribou they'll give to us. It just goes on and on."

Venetie

Open-ended questions about sharing differed from those asked in the other study communities, because Venetie was the first community where interviews were conducted and we decided that rephrasing the questions in Kaktovik and Wainwright would provide better results.

How Decisions Are Made About Sharing by Household—Venetie

We asked survey respondents how members of their household make decisions about when and how to share subsistence resources. This question differed from the questions posed in other communities, which asked only about sharing a single caribou. Ten codes emerged from the data. The list of codes and the frequency with which they appeared in the data are as follows:

- unrestrained sharing (25),
- based on need (21),
- when household has enough or extra (17),
- family members (12),
- elders (10),
- people who ask (7),
- social gatherings (7),
- reciprocation (5),
- families with children (3),
- tradition (3).

A large proportion of respondents noted that they share "anytime" and to "anyone." These responses were coded as unrestrained sharing. One respondent discussed unrestrained sharing in the following way: "If I get a bunch of meat, [I] just give it away to whomever I think wants them. I share all the time." For some respondents, the decision of how and when to share is based on the needs of other households, as this respondent explains, "If somebody asks for something or I see they need something I share with them." Respondents noted that when it comes to sharing moose, hunters share with those who were not able to get a moose themselves. Whether someone has enough meat for their own household often determines if and when they share with others. One respondent explained how their decision to share was based on their meat supply in the following way: "It depends on [the] quantity of food harvested and time of year. If my freezer is full and it's not cold enough outside I'll share because [there is] no way to keep it." Several respondents noted that they primarily share with members of their family. Another group of respondents said they make sure to share with elders when they are able. Some noted that meat is often redistributed more than once: "We give it to our parents and they give it to others, like elders." It is important to note that some responses, such as the previous one, were assigned multiple codes. The previous quote is coded as both 'elders' and 'family members.' Some household heads mentioned that social gatherings are opportunities to share wild foods. Household heads specifically mentioned

potlatches associated with funerals and holidays as important times for sharing foods. Sharing meat with those who lent a helping hand, shared meat at an earlier time, or loaned equipment is a common occurrence. Several noted the importance of reciprocal sharing: "We just remember who give us some fish, and when we get fish later, we return it." A small number of respondents noted that they share especially with households that have children. Finally, those responses linked to the code 'tradition' discussed how sharing is a very natural process, one that dates back generations, and how and when to share is rarely discussed explicitly.

Sharing in Times of Abundant Harvesting vs. Limited Harvesting—Venetie

Next, we focused on how sharing changes based on harvesting success. We asked respondents if members of their household share wild foods differently when they have been successful in hunting, compared to when they have been unsuccessful. We found that 64% of respondents said 'no,' sharing is not different when a hunter is successful compared to when they are unsuccessful. We then asked the 34% of respondents who said 'yes' *how* sharing is different. Five codes emerged from the data. The codes and frequency with which they appeared in the data are as follows:

- when successful share more/ unsuccessful share less (23),
- share based on need (5),
- prioritize if unsuccessful (4),
- share more when there is less (2),
- children priority (1).

The largest proportion of respondents reported that they share more when they have been successful compared to when they have been unsuccessful. One respondent put it very simply, "I can't share if I have none." Some respondents noted that in times of scarcity, they make sure to share with those who are most in need. A few respondents discussed how they prioritize when they are less successful; they limit their sharing to a select group of people, as the following respondent describes. "If we have a lot, then I'd give it away to everybody. If I have very little, [I give] just to family, elders." Two respondents reported that more sharing occurs in times of scarcity. One said the following: "Give it away more in a bad season to make sure people are getting some." Finally, one respondent noted that during unsuccessful periods of hunting, they try to make sure that households with children are receiving meat.

Strength of Sharing Networks—Venetie

Our final open-ended survey question focused on the strength of sharing networks. Specifically, we asked the respondents this question: How strong are your sharing relationships with other households? Six codes emerged from the data:

- strong (52),
- very strong (21),
- when and if I have it (9),
- specific to some households (4),
- lessening (4),
- and weak (3).

Overall, respondents felt that their sharing relationships with other households are strong, as this respondent describes: "Strong people are generous proud people." A group of respondents noted that their sharing relationships change, based on how much meat they have and are able to share. One respondent explained the flexible nature of sharing relationships in this way: "I think they are very strong, but not always the same. The need to share is always strong, but flexible, depending on how much you have and who is in need." A small number of respondents reported that strong sharing relationships are specific to certain households. One respondent explained in the following way: "Pretty strong with family, friends, and elders." Four respondents noted that the strength of sharing relationships is lessening over time. Increasing hunting regulations and a decreasing presence of moose in the area were both mentioned to be causing a decrease in sharing. Three respondents reported that their sharing relationships were somewhat marginal. One respondent was new to the community, and therefore had yet to develop their sharing relationships. Another noted that they are home a lot and don't share with anyone.

Discussion

Self-reported qualitative evidence of sharing motivations and rationales for behavior provide one understanding of sharing in community subsistence-cash economic systems. In the absence of data from two points in time that provide insights into system dynamics in varying conditions, self-reported qualitative data do inform our understanding of the range of perceptions local residents. They also have the potential of serving as a starting point for further research.

Reflecting ideology on human-environment relationships, and in particular indigenous beliefs in animals as sentient beings, community members expressed their obligation to share with other humans in respect to animals who have shared themselves with hunters. Fulfilling these obligations is seen as translating into a greater likelihood of hunting success in the future. In this respect, the "lucky" hunter is not only described in probabilistic terms, but also as one who freely shares his or her catch with others. Sharing was also described as functioning as a form of security in anticipation of one's possible future conditions of scarcity. If unsuccessful in harvesting during one season, norms of sharing may provide households a safety net for acquiring needed wild foods. Sharing was described as a form of social welfare—a way of taking care of those in need in a way that gives a sense of pride and pleasure. As well, sharing and cooperation were described as cultural markers that distinguish the indigenous subsistence user from other harvesters, such as urban hunters seeking trophy animals. Finally, acts of sharing and cooperation in subsistence food production have been described as generating a good feeling and an important sense of social cohesion or community. Institutionalized rituals, such as the Iñupiat *Nalukataq*, also contribute to social interaction, the distribution of traditional food, dancing, and celebration.

Findings from our two North Slope communities (where the "who decides" question was asked), are consistent with each other—that household heads have a significant role in deciding on the frequency, magnitude, and type of sharing that will flow from a household. Responses on with whom to share, how scarcity affects sharing, and how sharing has changed were mixed and therefore inconclusive. These findings suggest several questions worthy of future research, such as the extent to which scarcity constrains and reduces sharing and the extent to which kinship relationships shape the recipients of wild food in conditions of scarcity. When interpreting these findings, it's important to note that it is not surprising that a diversity of household heads reported a diversity of perspectives. Communities and their households are rarely monolithic in their perspectives.

Chapter 6 - Household Demographics, Cash, and Harvests

This chapter presents results from the portion of the survey that focused on community and household demographics, the cash sector of household economies, and harvested subsistence resources. Results are presented by community, using a similar format for each. Households were categorized by the age of the household head in three types: Developing (<40yo), Mature (40–59yo), and Elder (>59yo).

Kaktovik, Alaska

Demographics and Education - Kaktovik

We surveyed 82% of Kaktovik households (70 out of 85) (Table 6.1) and identified 236 residents in all surveyed households. Mean household size was 3.4 individuals (SD: 2.29; Median: 3.0). The average dependency ratio for Kaktovik households was 0.36, reflecting the number of minors supported by adults and elders within households. More than 81% of the respondents (n = 57) self-identified their household members as of fully Alaska Native descent, while 16% of households (n = 11) self-described as composed of all non-Alaska Native individuals. A few households identified as mixed ethnicity (n = 2, 2.9%) (Table 6.2). Five Kaktovik households (7%) were headed by non-Native teachers, the majority of whom lived in the community only during the 9-month school year.

A majority of Kaktovik households were categorized as Mature households (50%), followed by Elder households (34%) and then Developing households (16%). Most Developing households consisted of unmarried individuals (6 of 11 households) (Table 6.3). Most Mature households were either Nuclear (11 of 35) or Extended families (9 of 35), while Elder households were predominantly Extended families (8 of 24 households) or single individuals (7 of 24 households). Extended Families, Single Individual households and Nuclear households represented over 75% of all household types. Size of households ranged from 1 to 10. The largest households were Extended families (Mean = 5.82 individuals), followed by Nuclear families (Mean = 4.73 individuals) (Tables 6.3, 6.4 and Figure 6.1).

Overall, 40 households (57%) self-identified as having one head of household. The remaining 30 households (43%) had 2 heads of household. Of the 30 households with 2 household

Table 6.1. Community demographics, Kaktovik.

	Total	Standard Deviation	Median	Minimum	Maximum
No. of HHs surveyed[a]	70.00	-----	-----	-----	-----
No. of People[b]	236.00	-----	-----	-----	-----
	Mean				
No. of People per HH[b]	3.37	2.29	3.00	1.00	10.00
No. of Adults per HH[b, c]	1.91	1.40	2.00	0.00	6.00
No. of Elders per HH[b, d]	0.46	0.67	0.00	0.00	2.00
No. of Minors per HH[b, e]	0.94	1.34	0.00	0.00	4.00
Dependency Ratio[b, f]	0.36	0.60	0.00	0.00	3.00

a. 82% (70 of 85) of hhs were surveyed

b. Of households surveyed

c. Adults are defined as people between 18 and 59

d. Elders are defined as people 60 and over

e. Minors are defined as people 17 and younger

f. The dependency ratio is no. minors: no. of adults and elders within a HH

Table 6.2. Percentage of household members self-identified as Alaska Native, Kaktovik.

	Percent	Total Number
100% Non-native HH	15.71	11
1-25% Alaska Native	0.00	0
26-50% Alaska Native	0.00	0
51-75% Alaska Native	0.00	0
76-99% Alaska Native	2.86	2
100% Alaska Native	81.43	57
Total	100.00	70

heads, 35% were led by a couple, where one of the household heads had a high school diploma or above. In 46% of these households, both individuals had a high school diploma or above. Of 40 households that had just one household head, 61% were led by an individual with a high school diploma or above. Children were present in 40% of households and 30% of all households had children in school. Table 6.5a, presents education data for 64 individuals named as a primary head of household (household1) and an additional 29 individuals named as secondary heads of household (household2). Almost 40% of both groups had a high school diploma or GED. More than 26% of primary household heads had additional degrees or years in school beyond secondary (19% with 1–2 years of higher education). Looking at all adults in Kaktovik (Table 6.5b), 58% had a maximum education of a

Figure 6.1. Household size by household type, Kaktovik.

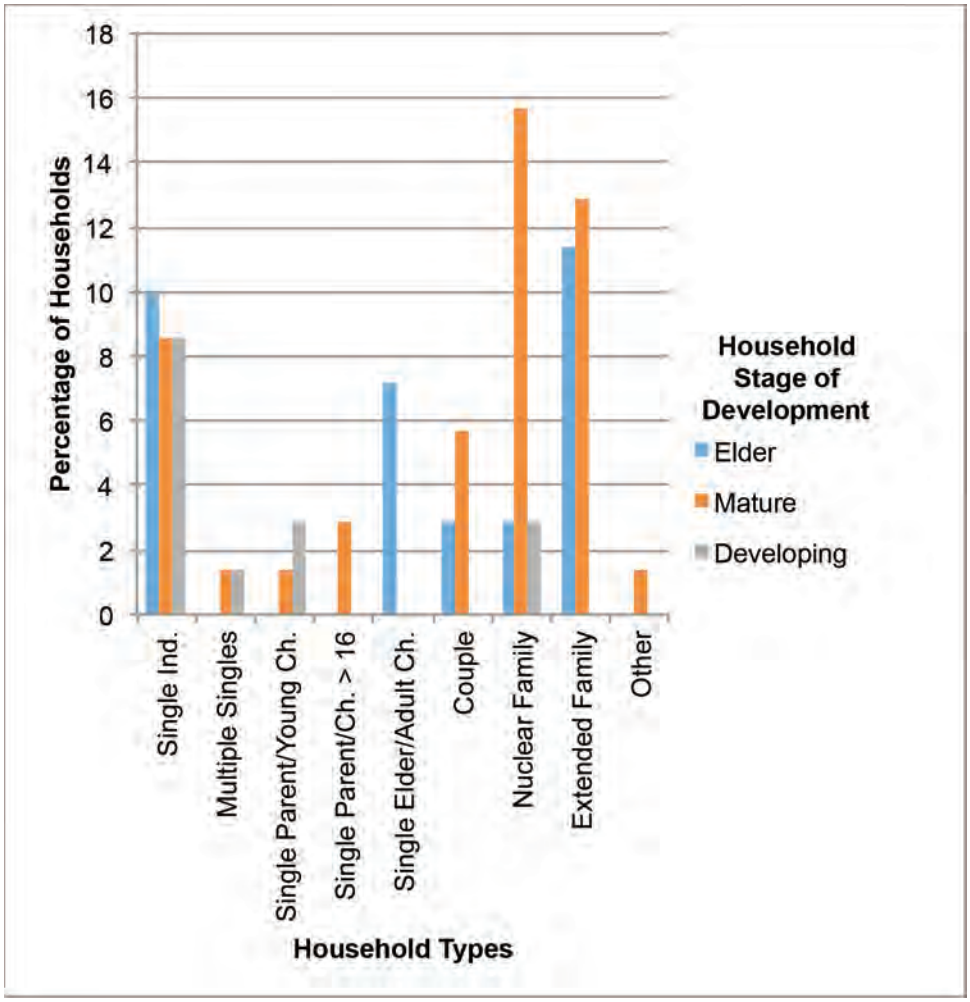


Table 6.3. Household type by household development stage.

	Developing[a] % (No.)	Mature[b] % (No.)	Elder[c] % (No.)	Total % (No.)
Single Individual	8.57 (6)	8.57 (6)	10.00 (7)	27.14 (19)
Multiple Single Individuals	1.43 (1)	1.43 (1)	0.00 (0)	2.86 (2)
Single Parent with Young Children	2.86 (2)	1.43 (1)	0.00 (0)	4.29 (3)
Single Parent with Children >16	0.00 (0)	2.86 (2)	0.00 (0)	2.86 (2)
Single Elder Parent with Adult Child(ren)	0.00 (0)	0.00 (0)	7.14 (5)	7.14 (5)
Couple	0.00 (0)	5.71 (4)	2.86 (2)	8.57 (6)
Nuclear Family	2.86 (2)	15.71 (11)	2.86 (2)	21.43 (15)
Extended Family	0.00 (0)	12.86 (9)	11.43 (8)	24.29 (17)
Other[d]	0.00 (0)	1.43 (1)	0.00 (0)	1.43 (1)
Total	15.71 (11)	50.00 (35)	34.29 (24)	100.00 (70)

a. Developing refers to households where the head is under 40 years old.

b. Mature refers to households where the head is between 40 and 59 years old.

c. Elder refers to households where the head is over 59 years old.

d. "Other" refers to Kaktovik HH 70, which has a 48-year-old female, 38-year-old female colleague, 11-year-old nephew, and 11-year-old daughter.

high school degree or GED, an additional 17% had more school beyond high school, and 5% held a four-year or master's degree or beyond. No men held a four-year degree, while 4 women had four-year degrees. However, 2 men and 3 women held either a master's degree or above (3% of adults).

Employment and Household Cash Inputs—Kaktovik

Almost 90% of households in Kaktovik had at least one individual who was employed at least one month during the 12-month study period (61/68 households); the remainder (n = 7 households) had no one in the household employed (Table 6.6). Adults who were employed (18 and over) were employed on average 8.2 mos. per year (Table 6.7). The average number of total months employed across all working individuals within households was 16.61 with a median of 15.0 and SD of 11.11 (Table 6.8). The mean number of jobs held per household (either full-, part-time or on-call) was 2.25 with a median of 2.0 and SD of 1.67. This figure reflects either individuals holding multiple jobs or multiple people employed within households.

Table 6.4. Household size by household type, Kaktovik.

	Mean	Standard Deviation	Median	Minimum	Maximum
Single Individuals	1.00	0.00	1.00	1.00	1.00
Single Individuals + Unrelated Individuals	2.00	0.00	2.00	2.00	2.00
Single Parent with Young Children	2.67	1.16	2.00	2.00	4.00
Single Parent with Children >16	2.50	0.71	2.50	2.00	3.00
Single Elder Parent with Adult Child(ren)	2.80	1.10	2.00	2.00	4.00
Couple	2.00	2.00	2.00	2.00	2.00
Nuclear Family	4.73	1.39	5.00	3.00	7.00
Extended Family	5.82	2.10	6.00	2.00	10.00
Other[a]	4.00	----	4.00	4.00	4.00

a. "Other" refers to Kaktovik HH 70, which has a 48-year-old female, 38-year-old female colleague, 11-year-old nephew, and 11-year-old daughter.

Table 6.5. Household heads and Adult/Elder Individuals' maximum education levels, Kaktovik.

	Grade School % (No.)	Junior High School % (No.)	Some High School	High School Graduate or GED	1–2 years Higher Education % (No.)	Four-Year Degree % (No.)	Master's and Above % (No.)	Total % (No.)
A. Household Heads								
Individ. named as hh1	12.50 (8)	14.06 (9)	7.81 (5)	39.06 (25)	18.75 (12)	3.13 (2)	4.69 (3)	100.00 (64)[a]
Individ. named as hh2[b]	10.71 (3)	3.57 (1)	14.29 (4)	39.29 (11)	25.00 (8)	0.0 (0)	7.14 (2)	100.00 (29)[c]
B. All Adult and Elder Individuals[d]								
All Men	7.32 (6)	9.76 (8)	12.20 (10)	59.76 (49)	8.54 (7)	0.0 (0)	2.44 (2)	100.00 (82)[e]
All Women	7.14 (5)	5.71 (4)	8.57 (6)	55.71 (39)	12.86 (9)	5.71 (4)	4.29 (3)	100.00 (70)[e]
All Adults	7.24 (11)	7.89 (12)	10.53 (16)	57.89 (88)	10.53 (16)	2.63 (4)	3.29 (5)	100.00 (152)[e]

a. Education values missing for 6 individuals.

b. 57.1% (40) households named one adult head of household.

c. 42.9% (30) of households named two household heads. 1 individual named as hh head 2 were missing education values.

d. All adults and elders (individuals 18 years old and over), household heads and all other adults.

e. Education values missing for 13 adult and elder individuals (5 men: 7 women).

Of 40 hhs that have just one hh head, 61.11% (22) are led by an individual with a high school diploma or above (11 male: 11 female). Four cases have missing education information.

Of the 30 hhs that have 2 hh heads, 34.62% (9) are led by a couple where only one of the hh heads has a high school diploma or above (6 male: 3 female). For 46.15% (12) of couples, both individuals have a high school diploma or above. Four cases have missing information for at least one of the hh heads.

30% of households currently have children in school 3 no. responses missing).

Table 6.6. Percentage (No.) households employed 2009, Kaktovik.

	Percent	Total Number
HH Employed in 2009	89.71	61
HH Unemployed in 2009	10.29	7
Total[a]	100.00	68

a. 2 hhs are missing employment information

Almost two-thirds (61%) of all employment by industrial categories stemmed from local government, primarily jobs generated by the North Slope Borough (Table 6.9 and Figure 6.3). Services account for 17% of reported jobs with finance (6%), retail trade (6%), transportation (5%), mining (4%), and construction (1%) making up the difference. Individuals held a diversity of job types as illustrated in Figure 6.3. However, 4 categories, services, administrative support, teaching, and sales occupations, made up more than 50% of all jobs in Kaktovik. Figure 6.4 illustrates that employment in all 3 employment schedule categories

Table 6.7. Income and employment, Kaktovik.

	Kaktovik
Income	
Per Capita Job Income	$ 26,831
Per Capita HH Income	$ 32,269
Employment	
Employment months per adult	8.2
No. jobs/household	2.3

Figure 6.2. Kaktovik sources of employment.

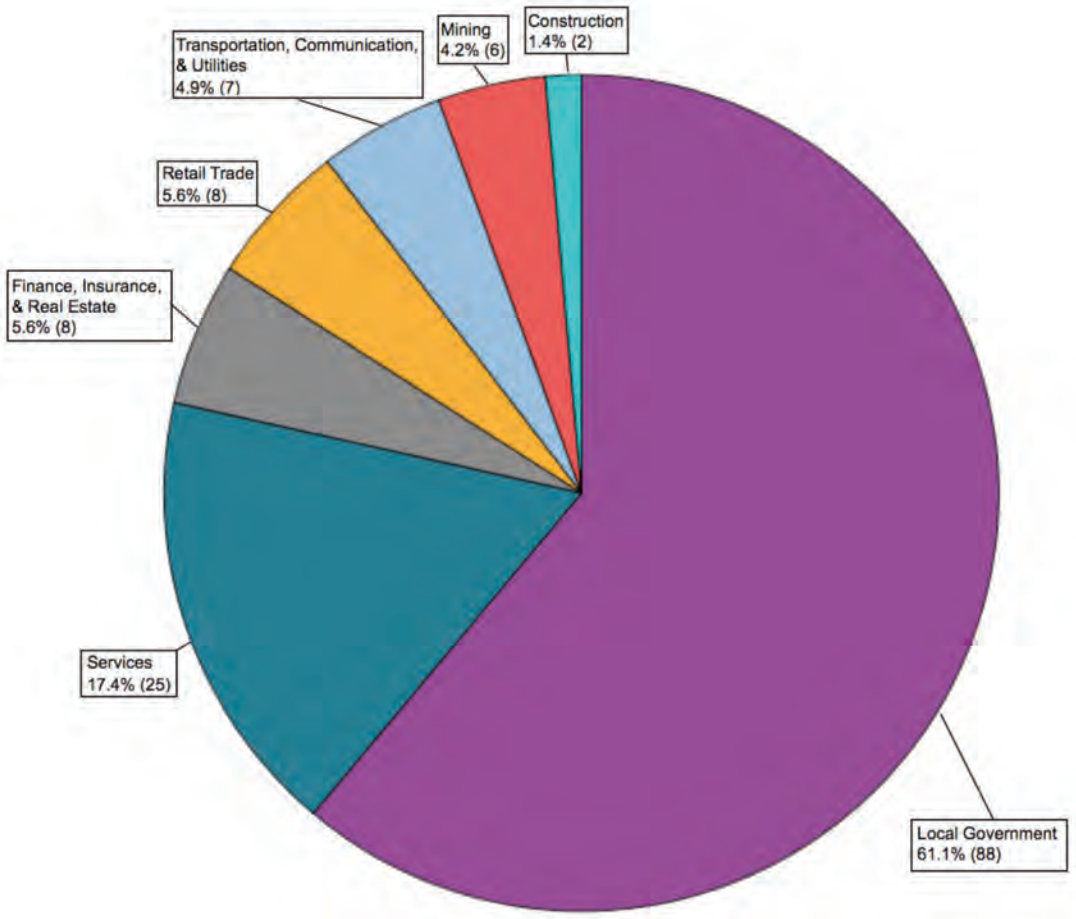


Table 6.8. Household-level employment data, Kaktovik.

	Mean (months)	Standard Deviation	Median	Minimum	Maximum
HH Total Months Employed	16.61	11.11	15.00	0.00	40.00
HH Total No. of Jobs	2.25	1.67	2.00	0.00	8.00
No. of Full-Time Jobs within HH	1.19	0.97	1.00	0.00	4.00
No. of Part-Time Jobs within HH	0.62	1.16	0.00	0.00	6.00
No. of On-call Jobs within HH	0.32	0.78	0.00	0.00	5.00
Ratio of Jobs to adults within HH	1.09	0.83	1.00	0.00	4.00
Ratio of Full-Time Jobs to HH Size	0.47	0.42	0.33	0.00	1.50
Ratio of Part-Time Jobs to HH Size	0.24	0.52	0.00	0.00	3.00
Ratio of On-call Jobs to HH Size	0.10	0.23	0.00	0.00	1.25

Figure 6.3. Kaktovik types of employment.

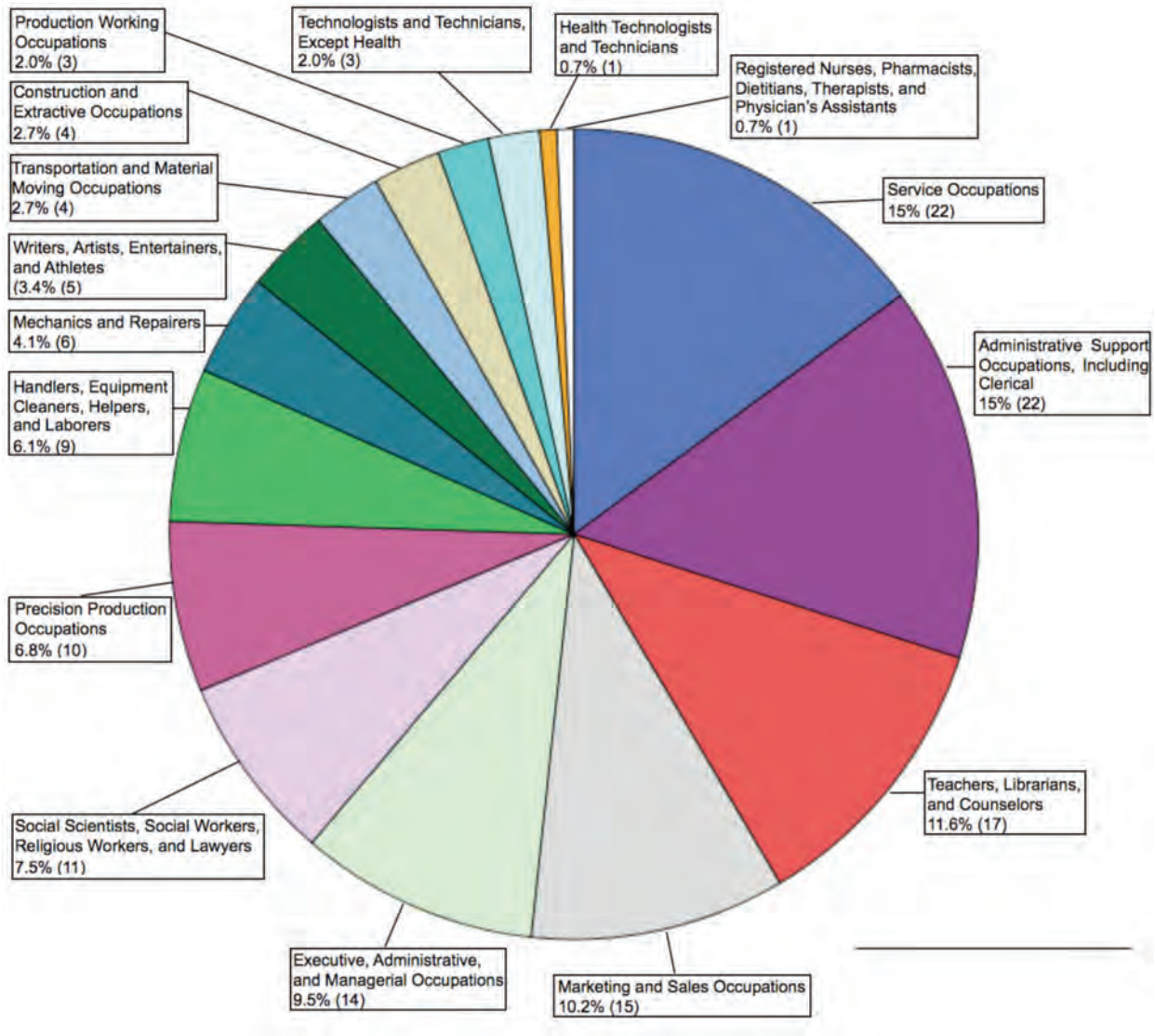


Table 6.9. Sources of employment, Kaktovik.

Job Type	Percent	No. of Households
Local Government	61.1	88
Services	17.4	25
Finance, Insurance & Real Estate	5.6	8
Retail Trade	5.6	8
Transportation, Communication & Utilities	4.9	7
Mining	4.2	6
Construction	1.4	2

was fairly consistent throughout the calendar year, with a small decline in full-time employment during the summer months (May–July).

The diversity of income flows into Kaktovik households is shown in Table 6.10. Mean household wage income with imputed values was $51,789.80. The median value was $55,500.00 and income variability was high (SD: $47,109). Average gross household income was $86,190 (Median: 88,127; SD: $48,639). Mean household dividend income accounted for between zero and 94% of total household income. The mean proportion of household income represented by dividends was

Figure 6.4. Number of jobs of each employment type by month, Kaktovik.

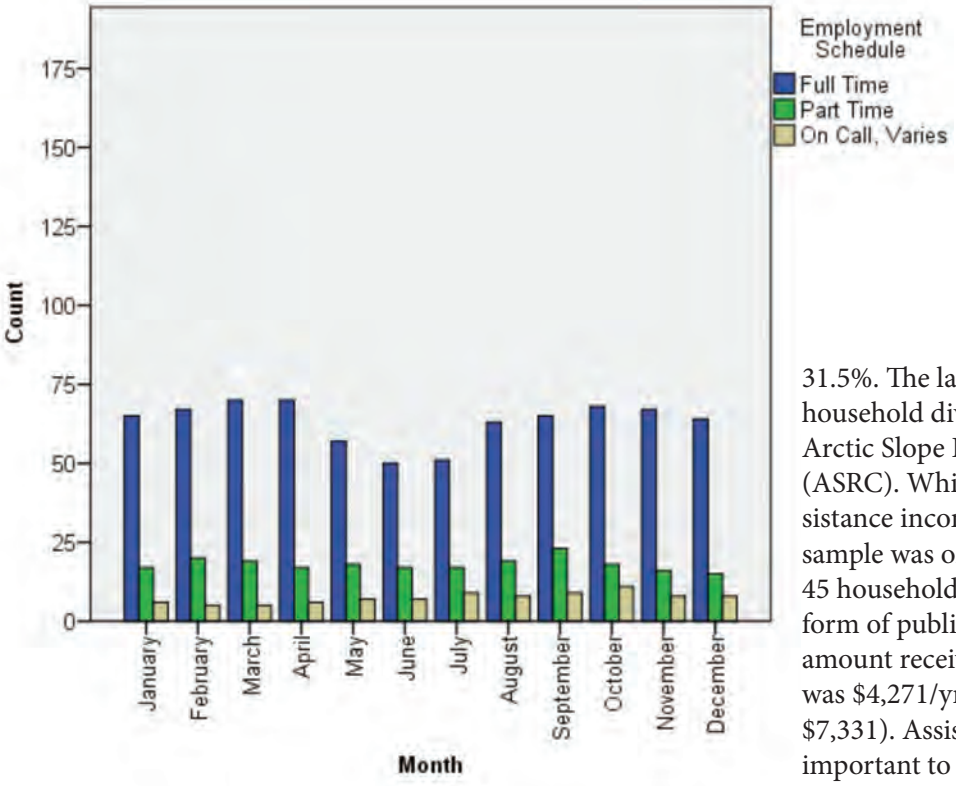
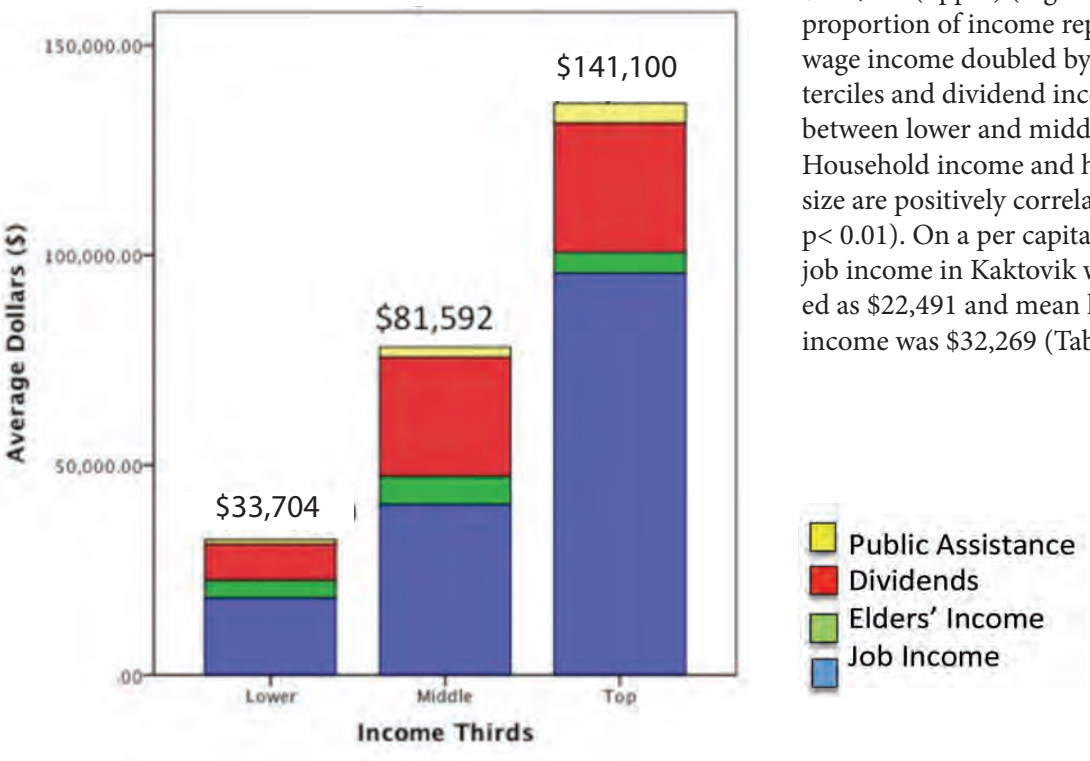


Figure 6.5. Income by tercile, Kaktovik.



31.5%. The largest component of household dividend income was the Arctic Slope Regional Corporation (ASRC). While mean household assistance income over the entire village sample was only $2,746 annually, 45 households were receiving some form of public assistance and average amount received by this subgroup was $4,271/yr (Median: $550.0; SD: $7,331). Assistance funds are thus important to those receiving them (Table 6.10). Mean household income by tercile categories was $33,704 (lower); $81,592 (middle); and $141,100 (upper) (Figure 6.5). The proportion of income represented by wage income doubled by consecutive terciles and dividend income tripled between lower and middle terciles. Household income and household size are positively correlated (r = .557; $p < 0.01$). On a per capita basis, mean job income in Kaktovik was calculated as $22,491 and mean household income was $32,269 (Table 6.7).

Table 6.10. Categories of cash inflows into households, Kaktovik.

	Mean with zero values $ (No.)	Mean without zero values $ (No.)	Standard Deviation without zero values	Median without zero values	Minimum without zero values	Maximum without zero values	No. of HHs Missing
Wage Income							
Wage Income without imputed values	52,437.53 (51)	62,193.35 (43)	43,859.16	55,500.00	1,600.00	175,000.00	1
Wage Income with imputed values[a]	51,789.77 (69)	59,558.24 (60)	47,108.99	47,500.00	1,600.00	230,000.00	1
Dividend Income							
Permanent Fund Dividend	3,644.10 (69)	4,055.53 (62)	2,791.23	3,047.00	1,281.00	12,811.00	1
Village Corporate Dividend[b]	1,573.52 (69)	2,261.94 (48)	1,821.18	2,000.00	200.00	8,696.00	1
Regional Corporate Dividend[c]	17,570.05 (69)	22,450.62 (54)	14,271.31	21,183.50	100.00	67,301.00	1
Other Dividend Income[d]	104.29 (69)	811.11 (60)	682.72	600.00	200.00	2,400.00	1
Total Dividend Income	22,893.40 (69)	24,681.94 (64)	18,761.78	21,517.50	1,281.00	87,344.00	1
Assistance Income							
Elder Income	5,299.49 (70)	20.609.11 (18)	16,168.00	16,740.00	92.00	70,800.00	0
Other Income[e]	1,634.01 (70)	3,010.03 (38)	8,245.68	550.00	225.00	45,550.00	0
Assistance[f]	1,111.94 (70)	4,324.22 (18)	4,367.30	2,280.00	500.00	13,600.00	0
Total Assistance Income	2,745.96 (70)	4,271.49 (45)	8,750.80	600.00	413.00	45,550.00	0
Total Gross HH Income	86,189.81 (69)	86,189.81 (69)	48,639.41	88,127.00	2,960.00	235,262.00	1
Per capita income[g]	40,613.09 (69)	40,613.09 (69)	25,432.24	32,654.75	2,960.00	130,000.00	1

a. Wage income for 20 households was imputed based on reported job type and work schedule

b. Combines KIC with additional reported village corporation dividends for the HH

c. Arctic Slope Regional Corporation (ASRC)

d. Other dividend income refers to second regional corporate income or/and coop dividends

e. Energy, CITCO, Weatherization Funds, The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Food Stamps

f. Income from jobs programs (Unemployment, Workers' Compensation), child programs (Supplemental Security, Foster Care, Child Support) and public assistance programs (Adult Public Assistance, Temporary Assistance)

g. Per Capita income is calculated as Gross HH Income/Number of people within HH

Household Gear, Hunters and Harvest—Kaktovik

In Kaktovik 50% of households (103/146 households reporting) owned at least one snowmobile. Not all respondents provided complete gear use information, however clear patterns emerge from comparing use and ownership data. More than 78.0% of households reported that they used a snowmachine (Table 6.11). More than 31% of households stated they owned a boat, but many more (57%; 33/58 households reporting) used boats during the study period. Results suggest that some households borrow snowmachines and

Table 6.11. Subsistence gear, Kaktovik.

	Use Y/N % (No.)	Own Y/N[a] % (No.)	Purchase Y/N[a] % (No.)	Mean No. Owned[a] (S.D.)	Range of No. Own[a]	No. Purchased Mean[b] (S.D.)	Amount spent to buy[b] (S.D)	Amount spent to Repair[c] (S.D.)
Snowmobiles	Y: 35.6 (38) N: 64.4 (21)[d]	Y: 50.00 (35) N: 50.00 (35)	Y: 24.29 (17) N: 75.71 (53)	.90 (1.19)	0–5	1.06 (0.24)	6,777.65 (5,740.69)	915.54 (1,457.76)[e]
Boats	Y: 56.9 (33) N: 43.1 (25)[d]	Y: 31.43 (22) N: 68.57 (48)	Yes: 5.71 (4) No: 94.29 (66)	0.43 (0.69)	0–2	1.00 (0.00)	2,500.33 (2,499.50)[f]	80.88 (212.78)[g]
All-Terrain Vehicle	Y: 48.3 (31) N: 51.7 (29)[h]	Y: 37.14 (26) N: 61.43 (43) Don't Know: 1.43 (1)	Yes: 5.71 (4) No: 94.29 (66)	0.48 (0.68)	0–2	1.25 (0.50)	6,975.00 (1,678.04)	105.22 (224.60)[i]

a. Of all respondents

b. Of those who purchased

c. Of those who own

d. 11 missing data

e. 7 missing data

f. 1 missing data

g. N=17 (5 missing)

h. 10 missing data

i. N=23 (3 missing)

Table 6.12. Number of hunters and processors engaged in subsistence, and number of species harvested per household, Kaktovik.[a]

	Mean	Standard Deviation	Median	Minimum	Maximum	Percentage of Households with Zero % (No.)
No. of Hunters	2.46	2.10	2.00	0.00	8.00	17.14 (12)
No. of Processors	2.49	1.82	2.00	0.00	7.00	5.71 (4)[b]
No. of Species Hunted[a]	2.74	2.09	2.00	0.00	8.00	17.14 (12)

a. These calculations are only for the seven core species.

b. Four households report no hunters or processors.

boats from others. Similar household ownership and use patterns were found in the community for all-terrain vehicles. About 37% of households owned all-terrain vehicles, but 52% reported using an all-terrain vehicle during the study period (31/60 households reporting). Combining all types of equipment (snowmachines, boats, and all-terrain vehicles), mean number of equipment owned was 1.8, with a median of 1.0 and SD of 2.0. The average amount spent by Kaktovik households during the study period on snowmobile purchases was $6,777 (24% of households purchasing), on boats was $2,500 (6% purchasing), and on 4x4s was $6,975 (6% purchasing).

Across the 7 core species in Kaktovik (caribou, Dall sheep, bowhead whale, beluga whale, bearded seal, Dolly varden ["arctic char"], and

Table 6.13. Harvest and use – All species, Kaktovik.

	Percentage of households					Harvest weight (lb)			Harvest amount		95% confidence limit (±) harvest
Resource	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean household	Per capita	Total	Unit	
All Resources	100.0	95.7	94.3	100.0	84.3	202,957.7	2,387.7	707.2	13,138.0		15.2
Resource—Fish											
Fish	95.7	82.9	75.7	85.7	70.0	27,486.3	323.4	95.8	10,857.6		15.9
Salmon	18.6	7.1	5.7	14.3	8.6	287.9	3.4	1.0	58.6	Ind.	49.7
Chum Salmon	2.9	1.4	1.4	1.4	0.0	7.3	0.1	0.0	1.2	Ind.	83.8
Coho Salmon	4.3	1.4	1.4	2.9	2.9	47.4	0.6	0.2	9.1	Ind.	83.8
Chinook Salmon	5.7	1.4	1.4	4.3	1.4	15.1	0.2	0.1	1.2	Ind.	83.8
Pink Salmon	4.3	1.4	1.4	2.9	2.9	17.9	0.2	0.1	8.5	Ind.	83.8
Sockeye Salmon	2.9	1.4	1.4	1.4	1.4	78.9	0.9	0.3	18.4	Ind.	83.8
Unknown Salmon	7.1	2.9	1.4	7.1	1.4	121.4	1.4	0.4	20.2	Ind.	83.8
Non-Salmon Fish	95.7	82.9	75.7	84.3	68.6	27,198.4	320.0	94.8	10,799.0		15.9
Herring	1.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Smelt	2.9	0.0	0.0	2.9	1.4	0.0	0.0	0.0	0.0	Ind.	0.0
Rainbow Smelt	2.9	0.0	0.0	2.9	1.4	0.0	0.0	0.0	0.0	Ind.	0.0
Cod	11.4	15.7	11.4	1.4	4.3	54.6	0.6	0.2	261.1	Ind.	44.2
Arctic Cod	1.4	2.9	1.4	0.0	1.4	0.3	0.0	0.0	2.4	Ind.	83.8
Saffron Cod	11.4	15.7	11.4	1.4	2.9	54.3	0.6	0.2	258.6	Ind.	44.5
Halibut	10.0	1.4	1.4	8.6	2.9	364.3	4.3	1.3	364.3	Lbs.	83.8
Sculpin	2.9	2.9	2.9	0.0	1.4	30.6	0.4	0.1	145.7	Ind.	71.0
Burbot	5.8	1.4	1.4	4.3	1.4	121.4	1.4	0.4	28.9	Ind.	83.8
Char	94.3	80.0	75.7	78.6	64.3	21,174.4	249.1	73.8	6,401.8	Ind.	14.3
Dolly Varden	94.3	78.6	75.7	77.1	64.3	20,897.5	245.9	72.8	6,332.6	Ind.	14.3
Lake Trout	24.3	7.1	4.3	24.3	4.3	276.9	3.3	1.0	69.2	Ind.	55.5
Arctic Grayling	7.1	11.4	4.3	2.9	1.4	40.4	0.5	0.1	44.9	Ind.	53.9

Table 6.13. Harvest and use – All species, Kaktovik, continued.

	Percentage of households					Harvest weight (lb)			Harvest amount		95% confidence limit (±) harvest
Resource	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean household	Per capita	Total	Unit	
Trout	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Rainbow Trout	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Whitefishes	52.9	44.3	34.3	38.6	32.9	5,412.7	63.7	18.9	3,552.3	Ind.	27.6
Broad Whitefish	42.9	25.7	20.0	28.6	20.3	3,729.4	43.9	13.0	1,147.5	Ind.	48.2
Cisco	37.1	31.4	22.9	30.4	24.3	1,681.6	19.8	5.9	2,402.3	Ind.	35.2
Arctic Cisco	37.1	31.4	22.9	30.4	24.3	1,681.6	19.8	5.9	2,402.3	Ind.	35.2
Round Whitefish	1.4	1.4	1.4	0.0	0.0	1.7	0.0	0.0	2.4	Ind.	83.8
Resource—Land Mammals (large and small)											
Land Mammals	94.3	57.1	48.6	94.3	54.3	68,760.2	808.9	239.6	660.9	Ind.	28.9
Large Land Mammals	94.3	55.7	47.1	92.9	51.4	68,458.4	805.4	238.5	511.4	Ind.	25.4
Brown Bear	11.4	2.9	1.4	10.0	1.4	104.4	1.2	0.4	1.2	Ind.	83.8
Caribou	94.3	52.9	45.7	92.9	51.4	58,304.9	685.9	203.2	428.7	Ind.	24.5
Moose	15.7	8.6	4.3	12.9	4.3	1,959.9	23.1	6.8	3.6	Ind.	47.7
Muskox	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Dall Sheep	75.7	14.3	14.3	72.9	0.0	8,089.2	95.2	28.2	77.8	Ind.	41.4
Small Land Mammals	28.6	22.9	17.1	15.7	12.9	301.8	3.6	1.1	149.5	Ind.	53.7
Fox	7.1	5.7	5.7	1.4	4.3	0.0	0.0	0.0	12.3	Ind.	50.4
Arctic Fox	7.1	5.7	5.7	1.4	4.3	0.0	0.0	0.0	11.1	Ind.	54.2
Red Fox	1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0	1.2	Ind.	83.8
Hare	1.4	1.4	1.4	0.0	1.4	2.4	0.0	0.0	1.2	Ind.	83.8
Snowshoe Hare	1.4	1.4	1.4	0.0	1.4	2.4	0.0	0.0	1.2	Ind.	83.8
Land Otter	1.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Marmot	1.4	2.9	1.4	0.0	0.0	242.9	2.9	0.8	48.6	Ind.	83.8
Mink	2.9	2.9	2.9	0.0	2.9	0.0	0.0	0.0	2.4	Ind.	58.8
Porcupine	5.7	4.3	4.3	1.4	1.4	29.1	0.3	0.1	3.6	Ind.	47.7
Squirrel	14.3	12.9	8.6	7.1	5.7	27.3	0.3	0.1	54.6	Ind.	45.3

Table 6.13. Harvest and use – All species, Kaktovik, continued.

	Percentage of households					Harvest weight (lb)			Harvest amount		95% confidence limit (±) harvest
Resource	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean household	Per capita	Total	Unit	
Parka Squirrel (ground)	14.3	12.9	8.6	7.1	5.7	27.3	0.3	0.1	54.6	Ind.	45.3
Weasel	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Wolf	12.9	8.6	7.1	5.7	5.7	0.0	0.0	0.0	19.4	Ind.	46.1
Wolverine	8.6	7.1	5.7	2.9	5.7	0.0	0.0	0.0	7.3	Ind.	47.7
Marine Mammals											
Marine Mammals	98.6	91.4	88.6	97.1	68.6	103,107.7	1,213.0	359.3	58.7	Ind.	21.9
Polar Bear	1.4	1.4	1.4	0.0	1.4	903.4	10.6	3.1	2.4	Ind.	83.8
Seal	57.1	30.0	17.1	54.3	24.3	11,354.8	133.6	39.6	36.3	Ind.	33.2
Bearded Seal	57.1	27.5	17.1	54.3	24.3	10,164.8	119.6	35.4	24.2	Ind.	33.3
Ringed Seal	4.3	5.7	0.0	4.3	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Spotted Seal	8.6	7.1	5.7	4.3	4.3	1,190.0	14.0	4.1	12.1	Ind.	48.2
Walrus	20.0	2.9	2.9	17.1	7.1	1,870.0	22.0	6.5	2.4	Ind.	58.8
Whale	98.6	90.0	88.6	97.1	65.7	88,979.5	1,046.8	310.0	17.5	Ind.	21.9
Beluga	75.7	30.0	25.7	74.3	30.0	10,317.8	121.4	36.0	14.7	Ind.	25.5
Bowhead	97.1	90.0	88.6	94.3	60.0	78,661.6	925.4	274.1	2.7	Ind.	20.0
Birds and Eggs											
Birds and Eggs	84.3	55.7	47.1	78.6	50.0	3,261.7	38.4	11.4	1,505.5	Ind.	23.6
Migratory Birds	72.9	51.4	40.0	67.1	40.0	2,546.8	30.0	8.9	787.8	Ind.	28.9
Ducks	30.9	20.6	11.4	25.0	11.8	258.8	3.0	0.9	84.3	Ind.	46.1
Eider	23.5	19.1	11.4	16.2	8.8	213.1	2.5	0.7	60.0	Ind.	46.4
Common Eider	22.1	19.1	11.4	14.7	8.8	148.3	1.7	0.5	35.7	Ind.	36.6
King Eider	11.8	13.2	2.9	10.3	4.4	64.8	0.8	0.2	24.3	Ind.	66.0
Unknown Ducks	15.2	7.6	4.3	12.1	4.5	45.7	0.5	0.2	24.3	Ind.	52.1
Geese	70.0	48.6	40.0	60.0	37.1	2,271.6	26.7	7.9	701.1	Ind.	27.3
Unknown Geese	70.0	48.6	40.0	60.0	37.1	2,271.6	26.7	7.9	701.1	Ind.	27.3
Swan	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	Ind.	0.0

Table 6.13. Harvest and use – All species, Kaktovik, continued.

	Percentage of households					Harvest weight (lb)			Harvest amount		95% confidence limit (±) harvest
Resource	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean household	Per capita	Total	Unit	
Tundra Swan (whistling)	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Crane	2.9	1.5	1.4	1.5	1.5	16.4	0.2	0.1	2.4	Ind.	83.8
Sandhill Crane	2.9	1.5	1.4	1.5	1.5	16.4	0.2	0.1	2.4	Ind.	83.8
Other Birds	60.0	42.9	37.1	40.0	28.6	710.4	8.4	2.5	710.4	Ind.	23.0
Upland Game Birds	60.0	42.9	37.1	40.0	28.6	710.4	8.4	2.5	710.4	Ind.	23.0
Ptarmigan	60.0	42.9	37.1	40.0	28.6	710.4	8.4	2.5	710.4	Ind.	23.0
Bird Eggs	1.4	1.4	1.4	0.0	1.4	4.6	0.1	0.0	7.3	Ind.	83.8
Swan Eggs	1.4	1.4	1.4	0.0	1.4	4.6	0.1	0.0	7.3	Ind.	83.8
Tundra Swan Eggs	1.4	1.4	1.4	0.0	1.4	4.6	0.1	0.0	7.3	Ind.	83.8
Marine Invertebrates											
Marine Invertebrates	1.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Clams	1.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Vegetation and Fungi											
Vegetation	45.7	28.6	18.6	41.4	21.4	341.8	4.0	1.2	55.4	Gal.	30.6
Berries	44.3	25.7	15.7	41.4	18.6	312.6	3.7	1.1	48.1	Gal.	33.5
Blueberry	27.5	20.3	12.9	21.7	13.0	109.1	1.3	0.4	16.8	Gal.	44.4
Low Bush Cranberry	21.7	17.4	10.0	19.1	8.7	79.1	0.9	0.3	12.2	Gal.	52.9
Crowberry	5.7	4.3	2.9	4.3	2.9	9.9	0.1	0.0	1.5	Gal.	68.8
Cloud Berry	37.1	21.4	8.6	32.9	14.3	110.6	1.3	0.4	17.0	Gal.	39.4
Raspberry	1.4	1.4	1.4	1.4	0.0	4.0	0.0	0.0	0.6	Gal.	83.8
Plants/ Greens/ Mushrooms	4.3	4.3	4.3	0.0	2.9	29.1	0.3	0.1	7.3	Gal.	58.8
Wild Rhubarb	4.3	4.3	4.3	0.0	2.9	19.4	0.2	0.1	4.9	Gal.	50.7
Other Wild Greens	1.4	1.4	1.4	0.0	0.0	4.9	0.1	0.0	1.2	Gal.	83.8
Fungus	1.4	1.4	1.4	0.0	0.0	4.9	0.1	0.0	1.2	Gal.	83.8

Figure 6.6. Comparison of harvest by category of harvested resources, Kaktovik.

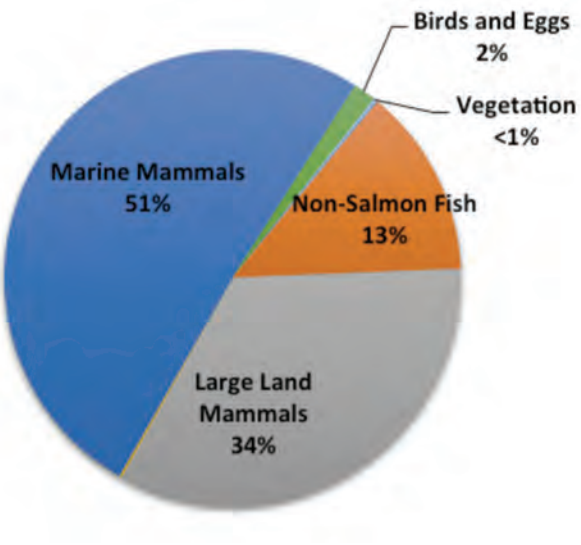


Table 6.14. Comparison of harvested pounds by category of resources, Kaktovik.

Resource	Harvest in pounds usable weight	
	Total	Per capita
Salmon	287.9	1.0
Non-Salmon Fish	27,198.4	94.8
Large Land Mammals	68,458.4	238.5
Small Land Mammals	301.8	1.1
Marine Mammals	103,107.7	359.3
Birds and Eggs	3,261.7	11.4
Vegetation	341.8	1.2

geese), an average of 2.46 individuals hunted and 2.49 individuals processed wild food per household in Kaktovik, with an SD of 2.1 and 1.82 respectively (Table 6.12). Only 4 households reported no hunters or processors for core species; 17% had no hunters; 6% had no processors; 17% did not hunt for core species. The mean number of core species harvested per household was 2.74, with a maximum of 7 and an SD of 2.09.

Using the standardized ADFG harvest reporting protocol and aggregating harvest across the community, Table 6.13 summarizes estimates of species used, attempted harvest, harvested, received and given species for all Kaktovik households. Sixty different species were reported as used and 57 species were harvested. Fifty-one percent of harvests consisted of marine mammals (103,108 total pounds; 359 lbs. per capita), 34% large land mammals (68,458 lbs; 239 lbs. per capita), and 13% non-salmon fish (27,198 lbs; 95 lbs. per capita), with the remainder (3%) accounted for by birds, eggs, and plants (Figure 6.6 and Table 6.14). Species that ranked highest in use during the reporting period were bowhead whale (97% households), Dolly varden (94% of households), caribou (94% of households), Dall sheep (76% of households) and beluga (76% of households). Per capita harvest across all species in Kaktovik was 707 lbs. One hundred percent of households reported using at least one species. The difference between attempted to harvest and harvested for most species is between 5–10%, suggesting that most hunters seeking to bring home wild foods were successful. However, the difference between attempted and harvested does not account for the number of tries before a hunter was successful (i.e., expended effort). The table also reflects the high percentage of households that gave and/or received wild foods. Overall, 84% of households gave food to others, and 100% received some harvested food from other households. This summary figure, however, does not account for the difference between sharing and shares, which is delineated and explained in the section on networks and cooperative relationships around subsistence.

Wainwright

Demographics and Education—Wainwright

We surveyed 95% of the households (146 out of 153) (Table 6.15) for a total of 552 residents in interviewed households. Households had a mean of 3.78 people (SD: 2.28; Median: 3.0) (Table 6.15). Of the households surveyed, the dependency ratio was 0.66, which is almost double the figure for Kaktovik (Dependency Ratio: 0.36). More than 86% of respondents (n = 127) self-identified their household members as of fully Alaska Native descent, while 9% of households (n = 13) self-described as composed of entirely non-Alaska

Table 6.15. Community demographics, Wainwright.

	Total	Standard Deviation	Median	Minimum	Maximum
No. of HHs surveyed[a]	146.00	-----	-----	-----	-----
No. of People[b]	552.00	-----	-----	-----	-----
	Mean				
No. of People per HH[b]	3.78	2.28	3.00	1.00	12.00
No. of Adults per HH[b, c]	2.08	1.30	2.00	0.00	6.00
No. of Elders per HH[b, d]	0.32	0.60	0.00	0.00	2.00
No. of Minors per HH[b, e]	1.40	1.65	1.00	0.00	9.00
Dependency Ratio[b, f]	0.66	0.86	0.40	0.00	4.50

a. 95% (146 of 153) of hhs were surveyed

b. Of households surveyed

c. Adults is defined as people between 18 and 59

d. Elders is defined as people 60 and over

e. Minors is defined as people 17 and younger

f. The dependency ratio is no. minors: no. of adults and elders within a HH

Table 6.16. Percentage of household members self-identified as Alaska Native, Wainwright.

	Percent	Total Number
100% Non-native HH	8.90	13
1-25% Alaska Native	0.00	0
26-50% Alaska Native	0.68	1
51-75% Alaska Native	2.05	3
76-99% Alaska Native	1.37	2
100% Alaska Native	86.99	127
Total	100.00	146

Native individuals. Six households (4.1%) composed of some level of mixed ethnicity (Table 6.16). Thirteen households in Wainwright (9%) were headed by non-Native teachers, the majority of whom lived in the community for the 9-month school year.

Similar to Kaktovik, a majority of Wainwright households were categorized as Mature households (49%), but there were more Developing households (27%) than Elder households (23%). However, rather than single individuals, the greatest number of Developing households consisted of Nuclear families (19/40 households) and Single parents with young children (11/40 households) (Table 6.17). Most Mature households were either Nuclear (23/72 households), Extended families (18/72), or Single Individuals (14/72). Elder-headed households were predominantly Extended families (14 of 34 households), Single Individuals (8 of 34 households) or Elder Parents with adult children (6/34 households). Single Individual households (including those living with unrelated individuals), Nuclear households, and Extended families combined represented almost 75% of all household types, with Single parents/children (mature or younger) representing an additional 17% of households. Size of households ranged from 1 to 12. The largest households were Nuclear families (Mean = 4.91 individuals), followed by Single parents with young children (Mean = 3.13 individuals). Extended families, however, had the highest median number of individuals (Median = 5.0 individuals) (Tables 6.17, 6.18, and Figure 6.7).

About 46 percent of households (N=68) named one adult head of household. Fifty-eight of these household heads (26 men and 32 women) had the equivalent of a high school degree. Almost 54% of households (N=77) named two household heads. Of these households, 70% (N=54) were led by a couple in which both individuals had a high school diploma (or the equivalent) or above. For 26% of couple households (N=20), one household

Table 6.17. Household type by household development stage, Wainwright.

	Developing[a] % (No.)	Mature[b] % (No.)	Elder[c] % (No.)	Total % (No.)
Single Individuals	1.37 (2)	9.59 (14)	5.48 (8)	16.44 (24)
Single Individuals + Unrelated Individuals	0.68 (1)	0.68 (1)	0.00 (0)	1.37 (2)
Single Parent with Young Children	7.53 (11)	3.42 (5)	0.00 (0)	10.96 (16)
Single Parent with Children >16	0.00 (0)	2.05 (3)	0.00 (0)	2.05 (3)
Single Elder Parent with Adult Child(ren)	0.00 (0)	0.00 (0)	4.11 (6)	4.11 (6)
Couple	2.05 (3)	5.48 (8)	0.68 (1)	8.22 (12)
Nuclear Family	13.01 (19)	15.75 (23)	3.42 (5)	32.19 (47)
Extended Family	2.74 (4)	12.33 (18)	9.59 (14)	24.66 (36)
Other[d]	0.00 (0)	0.00 (0)	0.00 (0)	0.00 (0)
Total	27.40 (40)	49.32 (72)	23.29 (34)	100.00 (146)

a. Developing refers to households where the head is under 40 years old.

b. Mature refers to households where the head is between 40 and 59 years old.

c. Elder refers to households where the head is over 59 years old.

d. "Other" refers to Kaktovik HH 70 which has a 48-year-old female, 38-year-old female colleague, 11-year-old nephew, and 11-year-old daughter.

Figure 6.7. Household size by household type, Wainwright.

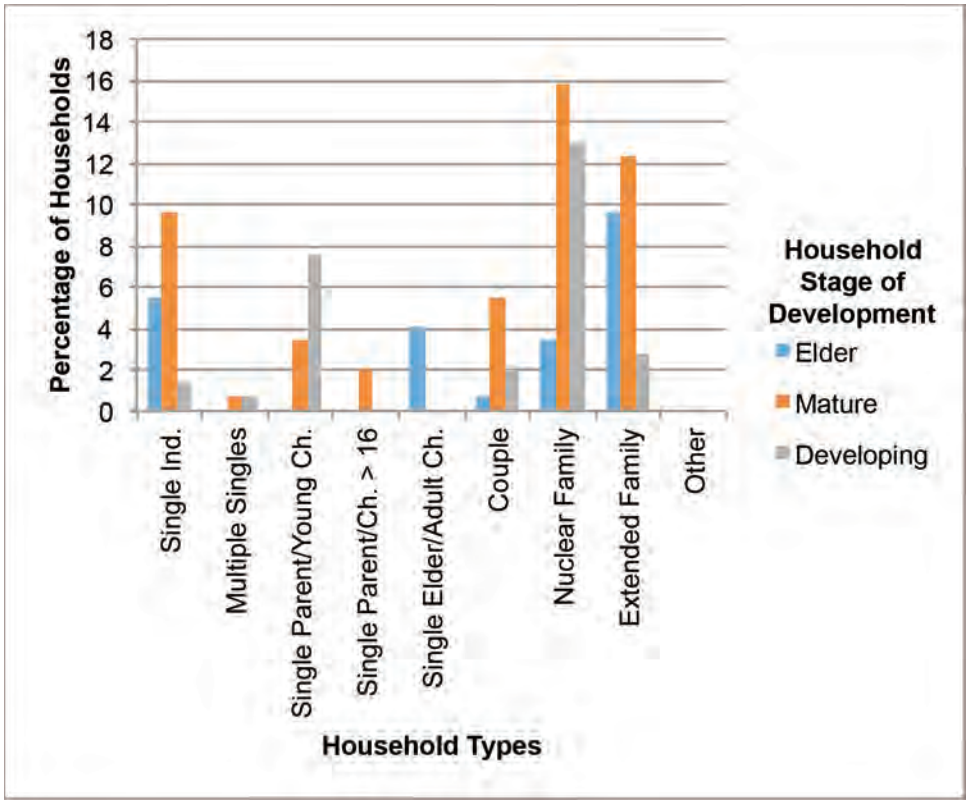


Table 6.18. Household size by household type, Wainwright.

	Mean	Standard Deviation	Median	Minimum	Maximum
Single Individuals	1.00	0.00	1.00	1.00	1.00
Single Individuals + Unrelated Individuals	2.00	0.00	2.00	2.00	2.00
Single Parent with Young Children	3.13	1.15	3.00	2.00	6.00
Single Parent with Children >16	3.00	0.00	3.00	3.00	3.00
Single Elder Parent with Adult Child(ren)	2.17	0.41	2.00	2.00	3.00
Couple	2.00	0.00	2.00	2.00	2.00
Nuclear Family	4.91	1.77	4.00	3.00	11.00
Extended Family	2.47	2.21	5.00	2.00	12.00
Other[a]	-----	-----	-----	-----	-----

a. "Other" refers to Kaktovik HH 70 which has a 48-year-old female, 38-year-old female colleague, 11-year-old nephew, and 11-year-old daughter.

head had a high school diploma or above. Children were present in 61% of households of households and 50% (N=78) of all households had children in school. Table 6.19 (A), presents education data for 144 individuals named as a primary head of household (household1) and an additional 77 individuals named as secondary heads of households (household2). Almost 62% of household1 and 75% of household2 individuals had a high school diploma or GED (compared with about 40% of Kaktovik individuals). However, about 13% of primary household heads had additional degrees or years in school beyond high school (5.6% with 1–2 years of higher education), compared to 26% for household1 individuals in Kaktovik. Approximately 4% of household2 heads held above a high school diploma, compared to 32% in Kaktovik. Wainwright has a larger proportion of individuals attaining an education only to a high school level, but Kaktovik has more individuals continuing on to education above high school. Looking at all adults in Wainwright (Table 6.19b), 68.1% had a maximum education of a high school degree, an additional 8% had additional schooling beyond secondary school, and 4% of individuals held a four-year or master's degree or beyond. This group was evenly split between men and women.

Employment and Household Cash Inputs—Wainwright

Almost 90 percent of households had at least one individual who was employed at least one month during the 12-month study period (131/146 households); the remaining 10% (n = 15 households) had no one in the household employed (Table 6.20). Adults who were employed (18 and over) were employed on average 8.2 mos. per year (Table 6.21). The average number of total months employed across all working individuals within households was 13.89 with a median of 12.0 and SD of 10.68 (Table 6.22). This figure is about 3 months less than that worked by Kaktovik individuals (Kaktovik 16.61 months). The mean number of jobs held per household (either full or part time or on-call) was 1.75 with a median of 2.0 and SD of 1.29. This figure could reflect individuals holding multiple jobs or multiple people employed within households.

More than half (55%) of the employment sources for Wainwright by category stem from local government, mostly based on jobs generated by the North Slope Borough (Table 6.23 and Figure 6.8). Retail trade accounted for 11% of jobs sources, with services (10%), finance (9%), construction (7%), mining (5%), transportation (2%), and federal government employment (1%) making up the difference. As illustrated in Figure 6.9 individuals hold a diversity of job types, with service occupations, teachers, counselors, and librarians, sales occupations, laborers, and equipment operators accounting for about 50% of jobs.

Reported counts of full-time and part-time

Table 6.19. Household heads and Adult/Elder Individuals' maximum education levels, Wainwright.

	Grade School % (No.)	Junior High School % (No.)	Some High School	High School Graduate or GED	1–2 years Higher Education % (No.)	Four-Year Degree % (No.)	Master's and Above % (No.)	Total % (No.)
Household Heads - Table 6.19 (A)								
Individ named as hh1	2.78 (4)	7.64 (11)	14.58 (21)	61.81 (89)	5.56 (8)	4.17 (6)	3.47 (5)	100.00 (144)a
Ind named as hh2b	1.30 (1)	3.90 (3)	15.58 (12)	75.32 (58)	1.30 (1)	1.30 (1)	1.30 (1)	100.00 (77)c
All Adult and Elder Individuals - Table 6.19 (B)								
All Men	2.33 (4)	3.49 (6)	19.77 (34)	66.28 (114)	4.07 (7)	2.91 (5)	1.16 (2)	100.00 (172)e
All Women	1.20 (2)	5.39 (9)	16.17 (27)	70.06 (117)	2.99 (5)	1.20 (2)	2.99 (5)	100.00 (167)e
All Adults	1.77 (6)	4.42 (15)	17.99 (61)	68.14 (231)	3.54 (12)	2.06 (7)	2.06 (7)	100.00 (339)e

a. Education values missing for 2 individuals.

b. 46.26% (68) households named one adult head of household.

c. 52.73% (77) of households named two household heads. One individual named as HH head; 2 were missing education values.

d. All adults and elders (individuals 18 years old and over), household heads and all other adults.

e. Education values missing for 8 adult and elder individuals (5 males: 3 females).

Table 6.20. Percentage (No.) HHs employed 2009, Wainwright.

	Percent	Total Number
HH Employed in 2009	89.73	131
HH Unemployed in 2009	10.27	15
Total	100.00	146

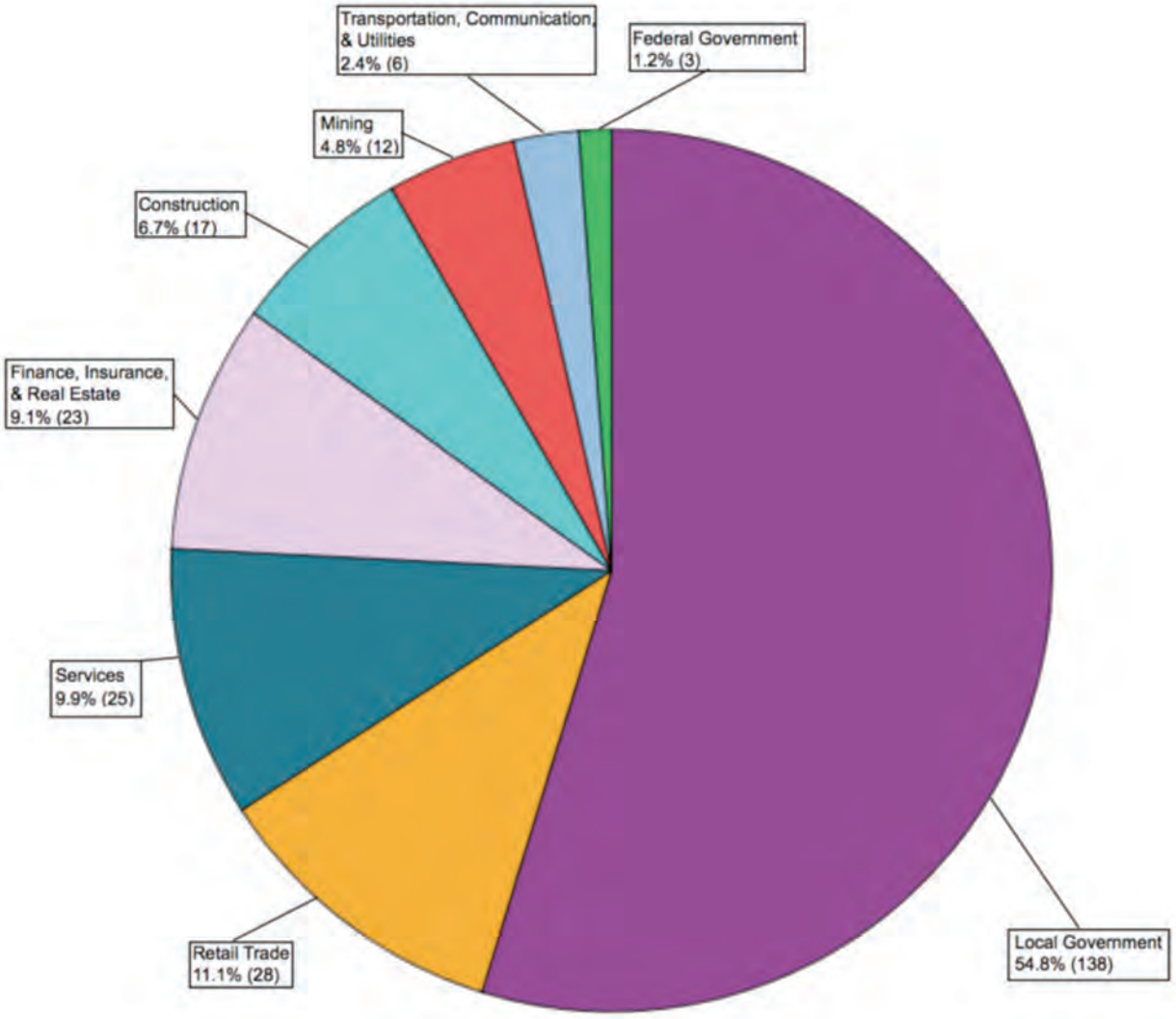
Table 6.21. Income and employment, Wainwright.

Income	
Per Capita Job Income	$ 24,130
Per Capita HH Income	$ 41,485
Employment	
Employment months per adult	8.2
No. jobs/Household	1.8

jobs showed some variability during the calendar year. Similar to Kaktovik, part-time jobs increased during the summer months, although the increase in Wainwright continued through the summer and into September and October (Figure 6.10). There was a corresponding decrease in full-time jobs during the same period. Counts of on-call jobs remained steady at low levels throughout the year.

The diversity of income flow into households is shown in Table 6.24. Mean household wage income with imputed values was $51,360.48. Mean household income was $91,191, but income variability was high (SD: $51,775). Mean household dividend income accounted for between zero and 99% of total household income. The mean proportion of income for all households represented by dividends was 37% (compared to about 31% in Kaktovik). The largest component of household dividend income was Arctic Slope Regional Corporate dividends (ASRC). While mean household assistance income over the entire village sample was only $1,365

Figure 6.8. Wainwright sources of employment.



annually, 120 households (82%) were receiving some form of public assistance and average amount received by this subgroup was $6,041/yr. Assistance funds are thus important to those receiving them. Median assistance received across all households (receiving and not receiving) was $550, with a standard deviation of $6,322. Mean household income by tercile categories was $36,781 (lower); $79,120 (middle); and $143,821 (upper) (Figure 6.11). The proportion of income represented by wage income tripled from lower to middle terciles and doubled from the middle to upper-income terciles. Dividend income also rose by tercile. Household size and income were positively correlated household (r = .656; $p < 0.01$). On a per capita basis, mean job income in Wainwright was calculated as $24,130 and mean household income was $41,485 (Table 6.21).

Household Gear, Hunters, and Harvest—Wainwright

Not all respondents provided complete gear ownership and use information; however, clear patterns emerge from comparing these data. In Wainwright, 19% of the households (146 households reporting) owned at least one snowmobile, but 79% reported that they used one (91/114 households reporting) (Table 6.25). Almost 60% of households (48/85 households reporting) stated they owned a boat, and a few more (59%; 67/114 households) used boats during the study period. These results suggest significant levels of borrowing of snowmachines and boats between households.

Figure 6.9. Types of employment, Wainwright.

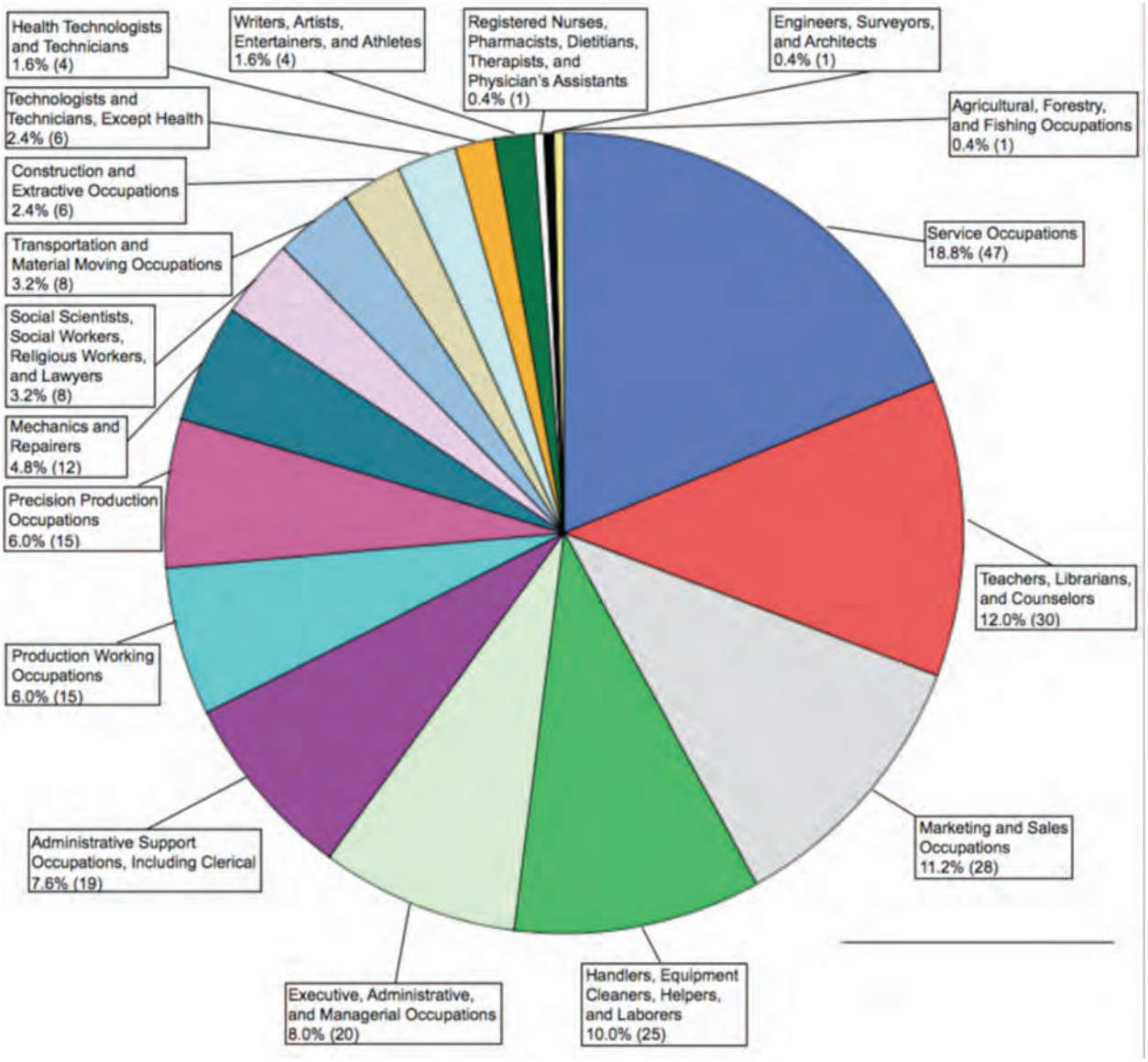


Table 6.22. Household (HH) level employment data, Wainwright.

	Mean	Standard Deviation	Median	Minimum	Maximum
HH Total Months Employed	13.89	10.68	12.00	0.00	55.00
HH Total No. of Jobs	1.75	1.26	2.00	0.00	6.00
No. of Full-Time Jobs within HH	1.29	1.01	1.00	0.00	5.00
No. of Part-Time Jobs within HH	0.27	0.57	0.00	0.00	3.00
No. of On-call Jobs within HH	0.11	0.36	0.00	0.00	2.00
Ratio of Jobs to adults within HH	0.80	0.63	0.75	0.00	4.00
Ratio of Full-Time Jobs to HH Size	0.40	0.34	0.33	0.00	1.50
Ratio of Part-Time Jobs to HH Size	0.08	0.19	0.00	0.00	1.00
Ratio of On-call Jobs to HH Size	0.03	0.14	0.00	0.00	1.00

Figure 6.10. Number of jobs of each employment type by month, Wainwright.

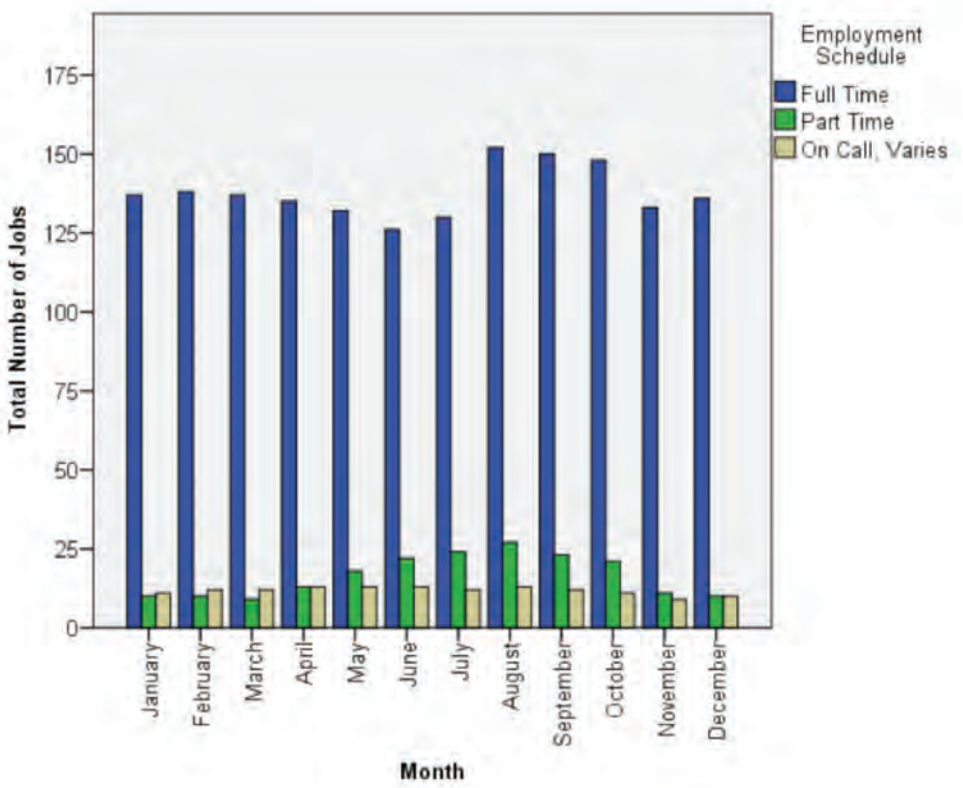


Figure 6.11. Household income in terciles, Wainwright.

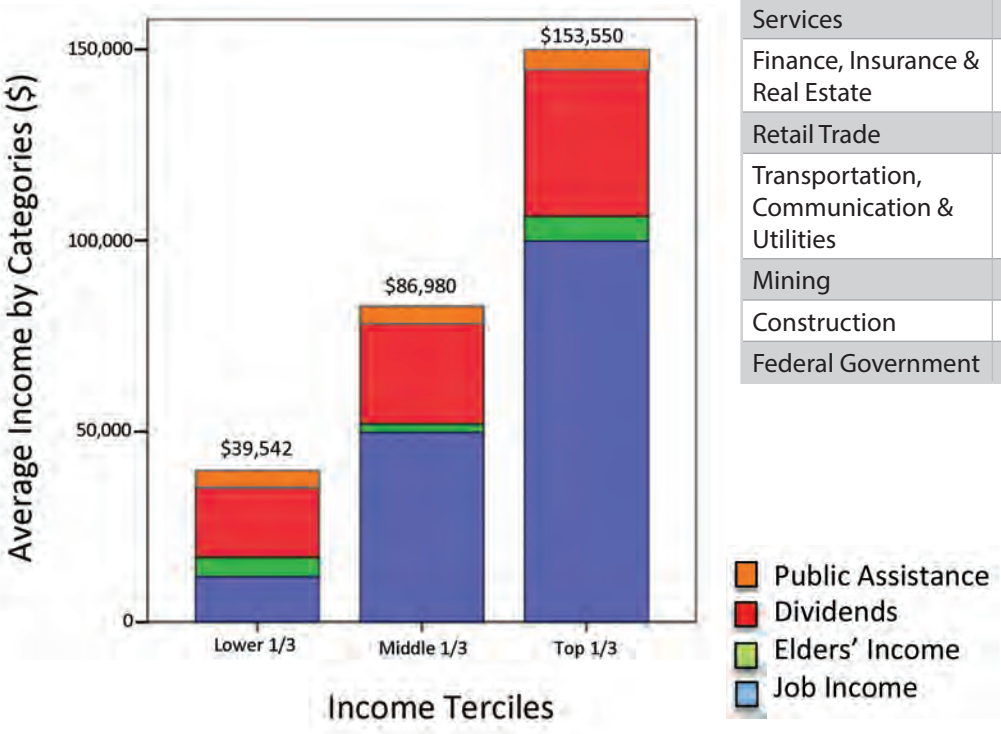


Table 6.23. Sources of employment, Wainwright.

JOB TYPE	PERCENT	NUMBER
Local Government	54.8	138
Services	9.9	25
Finance, Insurance & Real Estate	9.1	23
Retail Trade	11.1	28
Transportation, Communication & Utilities	2.4	6
Mining	4.8	12
Construction	6.7	17
Federal Government	1.2	3

Table 6.24. Categories of cash inflows into households, Wainwright.

Categories of cash inflows into households	Mean with zero values $ (No.)	Mean without zero values $ (No.)	Standard Deviation without zero values	Median without zero values	Minimum without zero values	Maximum without zero values	No. of HHs Missing
Wage Income							
Wage Income without imputed values	56,520.98 (127)	58,837.41 (122)	45,204.76	52,500.00	720.00	234,000.00	0
Wage Income with imputed values[a]	51,360.48 (146)	59,044.33 (127)	45,030.41	52,200.00	720.00	234,000.00	0
Dividend Income							
Permanent Fund Dividend	4,275.78 (146)	4,590.18 (136)	2,761.30	3,915.00	1,301.00	14,355.00	0
Village Corporate Dividend[b]	2,719.16 (146)	3,053.82 (130)	2,098.56	2,550.00	450.00	15,463.00	0
Regional Corporate Dividend[c]	20,120.75 (146)	22,254.77 (132)	12,493.73	21,755.50	1,000.00	66,845.00	0
Other Dividend Income[d]	35.28 (146)	160.97 (32)	249.03	75.00	10.00	1,000.00	0
Total Dividend Income	27,150.97 (146)	28,724.94 (138)	17,479.41	25,492.00	1,305.00	90,342.00	0
Assistance Income							
Elder Income	4,611.17 (146)	24,934.46 (27)	18,609.77	24,120.00	1,125.00	88,488.00	0
Other Income[e]	2,427.39 (146)	3,003.39 (118)	5,133.09	550.00	302.50	31,742.00	0
Assistance[f]	1,365.45 (146)	6,041.09 (33)	6,436.10	4,570.00	177.00	28,391.00	0
Total Assistance Income	3,792.85 (146)	4,614.63 (120)	6,699.07	550.00	177.00	31,742.00	0
Total Gross HH Income	91,191.25 (146)	91,191.25 (146)	51,774.67	84,699.50	8,896.00	275,009.00	0
Per capita income[g]	41,485.86 (146)	41,485.86 (146)	21,601.67	37,704.87	8,896.00	115,000.00	0

a. Wage income for X households was imputed based on reported job type and schedule.

b. Combines Olgoonik with additional reported village corporation dividends for the HH.

c. Arctic Slope Regional Corporation

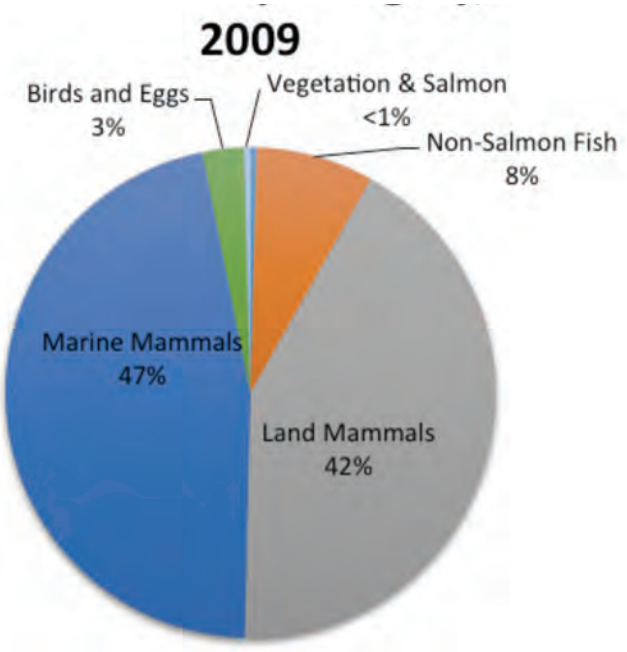
d. Other dividend income refers to second regional corporate income or/and coop dividends.

e. Energy, CITCO, Weatherization Funds, The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Food Stamps.

f. Income from jobs programs (Unemployment, Workers' Compensation), child programs (Supplemental Security, Foster Care, Child Support) and public assistance programs (Adult Public Assistance, Temporary Assistance).

g. Per Capita income is calculated as Gross HH Income/Number of people within HH.

Figure 6.12. Comparison of harvest by category, Wainwright.



Over 70% of households owned all-terrain vehicles (62/88 households reporting), and 60% reported using an all-terrain vehicle during the study period (66/110 households reporting), a comparison suggesting that less borrowing of all-terrain vehicles between households occurs. Combining all types of equipment (snowmachines, boats and all-terrain vehicles), the mean number of equipment owned per household was 2.10, with a median of 1.0 and SD of 2.5 pieces of equipment. The average amount spent by Wainwright households on snowmobile purchases was $7,763 (29% purchasing), on boats was $4,837 (5% purchasing), and on 4x4s was $5,251 (25% purchasing).

Across the 7 core species in Wainwright (caribou, bowhead whale, beluga whale, bearded seal, smelt, geese, and ducks), there was an average of 1.84 hunters and 2.21 processors per household, with an SD of 1.53 and 2.21 respectively (Table 6.26). Only 7 households reported no hunters or processors for core species; 19% had no hunters; 5% had no processors; 19% did not hunt for core species. The mean number of core species harvested per household was 3.25, with a maximum of 7 and an SD of 2.35.

Using the standardized ADFG harvest reporting protocol and aggregating harvest across the community, Table 6.27 summarizes estimates of use, attempted harvest, harvested, received and given species for all Wainwright households. Fifty-nine different species were reported as "used" and 46 species were harvested. Forty-seven percent of harvested species by weight were marine mammals (186,513 total pounds; 316 lbs. per capita), 42% large land mammals (169,270 total pounds; 287 lbs. per capita), and about 12% was represented by non-salmon fish,

Table 6.25. Subsistence gear, Wainwright.

	Use Y/N % (No.)	Own Y/N[a] % (No.)	Purchase Y/Na % (No.)	Mean No. Owned[a] (S.D.)	Range of No. Own[a]	No. Purchased Mean[b] (S.D.)	Amount spent to buy[b] (S.D)	Amount spent to Repair[c] (S.D.)
Snowmobiles	Y: (91) N: (23)	Y: (20) N: (83)	Y: (27) N: (66)	1.15 (1.44)	1–8	1.67 (1.94)	7,763.41 (5,321.68)[d]	926.22 (2,341.16)[e]
Boats	Y: (67) N: (47)	Y: (48) N: (37)	Yes: (4) No: (79)	0.47 (0.95)	1–3	1.00 (----)	4,837.50 (3,971.43)	67.82 (217.85)[f]
All-Terrain Vehicle	Y: (66) N: (44)	Y: (62) N: (26)	Yes: (23) No: (68)	0.68 (1.11)	1–5	1.17 (0.49)	5,251.83 (3,184.65)	375.19 (1,159.27)[g]

a. Of all respondents

b. Of those who purchased

c. Of those who own

d. 1 missing

e. 4 missing

f. 9 missing

g. 1 missing

birds, eggs, and vegetation (Figure 6.12 and Table 6.28). Species that ranked highest in use during the reporting period were caribou (97% of households), bowhead whale (96% households), beluga (84% of households), geese (77%) and smelt (77%). Per capita harvest in Wainwright was calculated as 680 lbs. Similar to Kaktovik, all but 1.4% of households reported using at least one species. The difference between attempted to harvest and harvested ranged between 0–8%, suggesting that most hunters seeking to bring home wild foods were successful. Differences were largest for bearded seal (38% tried vs. 32% succeeded), walrus (14% tried vs. 8% succeeded) and ducks (34% tried vs. 29% succeeded). However, this difference does not account for the number of tries before a hunter was successful (expended effort). Table 6.27 also reflects the high percentage of households that gave and/or received wild foods. Overall, 84% of households gave food to others, and 99% received some harvested food from other households. This summary figure does not account for the difference between sharing and shares, which is delineated and explained in the section on networks and cooperative relationships around subsistence.

Venetie

Demographics and Education—Venetie

We surveyed 94% of Venetie households (84 out of 89) (Table 6.29) and identified 243 residents in 84 surveyed households. Mean household size was 2.89 individuals (SD: 1.65; Median: 3.0). The average dependency ratio for Venetie households was 0.55, reflecting the number of household minors supported by adults and elders. This figure is between the calculated dependency ratio for Kaktovik and Wainwright. More than 90% of respondents (n = 76) self-identified their household members as of fully Alaska Native descent, while 2% of households (n = 2) self-described as composed of entirely non-Alaska Native individuals, with few households identified as mixed ethnicity (n = 6, 7%) (Table 6.30). Five households in Venetie (6%) were headed by non-Native teachers, the majority of whom lived in the community for the 9-month school year.

A majority of Venetie households were categorized as Developing households (44%), followed by Mature households (36%), and then Elder households (20%). About half of Developing households were Nuclear families (18/37), followed by Single Individuals (8/37), and then Couples (4/37) (Table 6.31). Most Mature households were Single Individuals (9/30) followed by Extended families (9/30) and Nuclear families (8/30 households). The most common household types among Elder-headed households were Single Individuals (6 of 17 households) or Extended families (4/17). Nuclear households, Single Individual households, and Extended families represented over 76% of all household types, with Couples representing an additional about 11% of households. No households exceeded 8 individuals (Table 6.32). The largest households were Nuclear families (x=4.31 individuals), followed by Extended families

Table 6.26. Number of hunters and processors engaged in subsistence, and number of species harvested per household, Wainwright.

	Mean	Standard Deviation	Median	Minimum	Maximum	Percentage of Households with Zero % (No.)
No. of Hunters[a]	1.84	1.53	2.00	0.00	7.00	19.18 (28)
No. of Processors[a]	2.21	1.31	2.00	0.00	5.00	5.48 (8)
No. of Species Hunted[b]	3.25	2.35	4.00	0.00	7.00	19.18 (28)

a. Seven households report no hunters or processors.

b. These calculations are for the five core species, not including beluga or bowhead whales.

Table 6.27. Estimated harvests and uses of fish, game, and plant resources, Wainwright.

Resource	Percentage of households					Harvest weight (lb)			Harvest amount		95% confidence limit (±) harvest
	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean household	Per capita	Total	Unit	
All Resources	98.6	96.6	96.6	98.6	83.6	401,254.8	2,572.1	680.1	160,250.9		13.1
Fish											
Fish	88.4	57.5	56.8	78.8	52.7	32,829.4	210.4	55.6	154,450.4		13.5
Salmon	33.6	12.3	11.0	28.1	10.3	1,690.8	10.8	2.9	287.4	Ind.	17.0
Chum Salmon	15.0	8.9	5.5	10.7	8.0	468.0	3.0	0.8	78.0	Ind.	23.7
Coho Salmon	21.6	8.7	6.2	17.4	7.8	583.4	3.8	1.0	112.2	Ind.	20.5
Chinook Salmon	16.1	7.2	4.1	12.6	0.9	463.7	3.0	0.8	37.4	Ind.	30.3
Pink Salmon	6.8	4.1	4.1	3.4	2.8	98.7	0.6	0.2	47.0	Ind.	26.8
Sockeye Salmon	2.7	0.0	0.0	2.7	0.7	0.0	0.0	0.0	0.0	Ind.	0.0
Unknown Salmon	1.4	0.7	0.7	0.7	0.0	76.9	0.5	0.1	12.8	Ind.	50.0
Non-Salmon Fish	87.7	56.8	56.2	76.7	52.1	31,138.6	199.6	52.8	154,163.0		13.6
Smelt	76.7	43.8	43.2	54.8	46.6	20,475.1	131.3	34.7	146,250.6	Ind.	13.7
Rainbow Smelt	76.7	43.8	43.2	54.8	46.6	20,475.1	131.3	34.7	146,250.6	Ind.	13.7
Cod	1.8	3.7	1.4	0.0	1.9	7.9	0.1	0.0	42.7	Ind.	39.5
Arctic Cod	0.9	1.9	0.7	0.0	0.9	1.2	0.0	0.0	10.7	Ind.	50.0
Saffron Cod	0.9	2.8	0.7	0.0	0.9	6.7	0.0	0.0	32.1	Ind.	50.0
Halibut	2.7	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	Lbs.	0.0
Burbot	13.1	8.3	7.5	8.3	6.2	692.8	4.4	1.2	165.0	Ind.	28.4
Char	5.5	4.6	2.7	4.6	0.9	400.9	2.6	0.7	143.2	Ind.	38.2
Dolly Varden	5.5	4.6	2.7	4.6	0.9	400.9	2.6	0.7	143.2	Ind.	38.2
Arctic Grayling	47.6	28.8	23.3	27.8	17.6	4,458.8	28.6	7.6	4,954.2	Ind.	20.5
Sheefish	1.4	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Trout	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Unknown Trout	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	Ind.	0.0

Table 6.27. Estimated harvests and uses of fish, game, and plant resources, Wainwright, continued.

Resource	Percentage of households					Harvest weight (lb)			Harvest amount		95% confidence limit (±) harvest
	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean household	Per capita	Total	Unit	
White-fishes	51.4	17.1	15.8	46.6	14.4	5,103.1	32.7	8.6	2,607.3	Ind.	22.2
Broad Whitefish	19.9	4.1	4.1	19.2	2.7	972.3	6.2	1.6	299.2	Ind.	36.5
Cisco	30.8	12.3	11.6	24.7	9.6	2,233.0	14.3	3.8	1,328.1	Ind.	32.9
Arctic Cisco	5.5	2.7	2.7	4.8	2.1	60.8	0.4	0.1	86.9	Ind.	38.0
Bering Cisco	1.4	0.7	0.0	1.4	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Least Cisco	30.2	12.0	10.3	23.2	10.4	2,172.2	13.9	3.7	1,241.2	Ind.	35.1
Humpback Whitefish	4.8	2.8	2.7	3.4	0.7	314.4	2.0	0.5	149.7	Ind.	31.6
Round Whitefish	0.7	0.7	0.7	0.0	0.7	80.1	0.5	0.1	114.5	Ind.	50.0
Unknown Whitefish	11.6	4.8	3.4	9.6	4.8	1,503.4	9.6	2.5	715.9	Ind.	44.9
Unknown Non-Salmon Fish	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Land Mammals											
Land Mammals	97.3	64.4	61.6	83.6	63.0	169,269.9	1,085.1	286.9	1,344.9	Ind.	7.1
Large Land Mammals	97.3	63.7	61.0	83.6	61.6	169,198.8	1,084.6	286.8	1,239.1	Ind.	7.1
Brown Bear	2.8	5.6	2.7	0.0	2.1	367.6	2.4	0.6	4.3	Ind.	24.8
Caribou	97.3	63.7	61.0	83.6	61.6	167,355.7	1,072.8	283.7	1,230.6	Ind.	7.1
Moose	3.5	2.1	2.1	2.8	2.1	1,150.8	7.4	2.0	2.1	Ind.	35.2
Muskox	2.8	1.4	1.4	2.1	0.7	324.8	2.1	0.6	2.1	Ind.	35.3
Dall Sheep	0.7	0.0	0.0	0.7	0.7	0.0	0.0	0.0	0.0	Ind.	0.0
Small Land Mammals	13.2	14.5	11.6	2.8	4.9	4.3	0.0	0.0	104.7	Ind.	20.2
Fox	4.3	4.3	4.1	0.0	2.2	0.0	0.0	0.0	55.6	Ind.	32.3
Arctic Fox	2.9	2.9	2.7	0.0	1.5	0.0	0.0	0.0	52.4	Ind.	34.3
Red Fox	1.4	1.4	1.4	0.0	0.7	0.0	0.0	0.0	3.2	Ind.	37.2
Hare	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Snowshoe Hare	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0

Table 6.27. Estimated harvests and uses of fish, game, and plant resources, Wainwright, continued.

Resource	Percentage of households					Harvest weight (lb)			Harvest amount		95% confidence limit (±) harvest
	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean household	Per capita	Total	Unit	
Lynx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Marmot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Marten	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Squirrel	0.7	1.4	0.7	0.0	0.0	4.3	0.0	0.0	8.5	Ind.	50.0
Parka Squirrel (ground)	0.7	1.4	0.7	0.0	0.0	4.3	0.0	0.0	8.5	Ind.	50.0
Wolf	6.3	7.7	5.5	2.1	1.4	0.0	0.0	0.0	21.4	Ind.	23.7
Wolverine	7.0	9.7	6.2	0.7	2.1	0.0	0.0	0.0	19.2	Ind.	18.9
Feral Animals	0.7	0.7	0.7	0.0	0.7	66.8	0.4	0.1	1.1	Ind.	50.0
Reindeer - Feral	0.7	0.7	0.7	0.0	0.7	66.8	0.4	0.1	1.1	Ind.	50.0
Marine Mammals											
Marine Mammals	95.9	93.2	93.2	95.9	64.4	186,512.7	1,195.6	316.1	164.1	Ind.	8.9
Polar Bear	2.2	0.7	0.7	2.2	1.5	397.5	2.5	0.7	1.1	Ind.	50.0
Seal	71.2	40.4	33.6	56.2	26.0	34,986.6	224.3	59.3	121.8	Ind.	10.1
Bearded Seal	69.2	38.4	31.5	54.8	25.3	30,941.3	198.3	52.4	73.7	Ind.	9.5
Ringed Seal	6.5	5.8	4.8	1.5	4.4	2,055.8	13.2	3.5	27.8	Ind.	26.0
Spotted Seal	5.8	5.0	4.1	3.6	3.6	1,989.5	12.8	3.4	20.3	Ind.	21.9
Walrus	38.2	13.9	7.5	31.5	12.7	14,809.3	94.9	25.1	19.2	Ind.	16.7
Whale	95.9	93.2	93.2	95.9	57.5	136,319.3	873.8	231.0	22.1	Ind.	5.9
Beluga	83.6	81.5	81.5	82.2	37.5	12,422.9	79.6	21.1	17.7	Ind.	6.9
Bowhead	95.9	92.5	92.5	95.9	48.6	123,896.4	794.2	210.0	4.3	Ind.	6.0
Birds and Eggs											
Birds and Eggs	82.9	54.1	47.3	67.8	46.6	10,950.1	70.2	18.6	4,031.0	Ind.	9.3
Migratory Birds	82.2	52.1	45.2	67.8	45.9	10,893.4	69.8	18.5	3,974.4	Ind.	9.4
Ducks	58.9	34.2	28.8	45.9	30.8	2,895.1	18.6	4.9	1,520.6	Ind.	13.6
Eider	0.7	0.7	0.7	0.7	0.7	66.5	0.4	0.1	16.0	Ind.	50.0
Unknown Eider	0.7	0.7	0.7	0.7	0.7	66.5	0.4	0.1	16.0	Ind.	50.0

Table 6.27. Estimated harvests and uses of fish, game, and plant resources, Wainwright, continued.

Resource	Percentage of households					Harvest weight (lb)			Harvest amount		95% confidence limit (±) harvest
	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean household	Per capita	Total	Unit	
Unknown Ducks	58.9	34.2	28.8	45.9	30.8	2,828.6	18.1	4.8	1,504.6	Ind.	13.7
Geese	76.7	45.2	41.1	58.2	40.4	7,907.3	50.7	13.4	2,445.3	Ind.	10.7
Brant	1.4	0.7	0.7	1.4	0.7	48.7	0.3	0.1	21.4	Ind.	50.0
White-fronted Geese	0.7	0.7	0.7	0.7	0.0	22.4	0.1	0.0	5.3	Ind.	50.0
Unknown Geese	76.7	45.2	41.1	58.2	40.4	7,836.1	50.2	13.3	2,418.6	Ind.	10.7
Swan	5.0	5.0	4.1	1.4	2.1	83.8	0.5	0.1	7.5	Ind.	21.1
Tundra Swan (whistling)	5.0	5.0	4.1	1.4	2.1	83.8	0.5	0.1	7.5	Ind.	21.1
Crane	1.4	1.4	0.7	0.7	0.7	7.2	0.0	0.0	1.1	Ind.	50.0
Sandhill Crane	1.4	1.4	0.7	0.7	0.7	7.2	0.0	0.0	1.1	Ind.	50.0
Other Birds	6.9	6.9	6.2	1.4	4.9	56.6	0.4	0.1	56.6	Ind.	23.7
Upland Game Birds	6.9	6.9	6.2	1.4	4.9	56.6	0.4	0.1	56.6	Ind.	23.7
Ptarmigan	6.9	6.9	6.2	1.4	4.9	56.6	0.4	0.1	56.6	Ind.	23.7
Vegetation											
Vegetation	74.0	63.7	62.3	30.1	29.5	1,692.7	10.9	2.9	260.4	Gal.	6.9
Berries	74.0	63.7	62.3	30.1	29.5	1,692.7	10.9	2.9	260.4	Gal.	6.9
Blueberry	15.8	16.0	12.3	2.5	3.4	55.6	0.4	0.1	8.5	Gal.	21.3
Low Bush Cranberry	11.9	11.0	8.9	1.7	3.4	42.6	0.3	0.1	6.6	Gal.	17.6
Crowberry	1.4	2.1	1.4	0.7	0.7	5.7	0.0	0.0	0.9	Gal.	46.3
Cloud Berry	73.3	62.8	61.0	30.3	28.3	1,588.9	10.2	2.7	244.4	Gal.	7.1

(x=3.73 individuals) (Table 6.32 and Figure 6.13).

Over 51% of households (n = 43) named one adult head of household. Of this total 39 household heads (26 men and 13 women) had the equivalent of a high school degree or above. Almost 48% of households (n = 39) named two household heads. Of these households, 92% (n = 36) were led by a couple in which both individuals had a high school diploma (or the equivalent) or above. For 5% of couple households (n = 2), at least one household head had a high school diploma or above. Children were present in 48% of households and 48% (n = 41) of all households had children in school. Table 6.33 (A), presents education data for 83 individuals named as a primary head of household

Table 6.28. Types of harvested resources, Wainwright.

Resource	Harvest in pounds usable weight	
	Total	Per capita
Salmon	1,690.8	2.9
Non-Salmon Fish	31,138.6	52.8
Land Mammals	169,269.9	286.9
Small Land Mammals	4.3	0.0
Marine Mammals	186,512.7	316.1
Birds and Eggs	10,950.1	18.6
Vegetation	1,692.7	2.9

(household1) and an additional 39 individuals named as secondary heads of households (household2). Forty-one percent of household1 and 46% of household2 individuals had a high school diploma or GED. Looking at all adults in Venetie (Table 6.33 (B)), 47% had a maximum education of a high school degree, an additional 8% had additional schooling beyond secondary school, and 3% of individuals held a 4-year, master's degree, or beyond (3 men and one woman). Venetie has a higher proportion of individuals attending some high school, but not graduating (38% compared to 18% in Wainwright and 11% in Kaktovik). Proportionally fewer individuals than Kaktovik or Wainwright had additional degrees or years in school beyond high school (8% with some degree of higher education), compared to 26% for household1 individuals in Kaktovik and about 13% in Wainwright.

Table 6.29. Community demographics, Venetie.

	Mean	Standard Deviation	Median	Minimum	Maximum
No. of HHs surveyed[a]	84.00	-----	-----	-----	-----
No. of People[b]	243.00	-----	-----	-----	-----
No. of People per HH[b]	2.89	1.65	3.00	1.00	8.00
No. of Adults per HH[b, c]	1.63	0.85	2.00	0.00	4.00
No. of Elders per HH[b, d]	0.24	0.48	0.00	0.00	2.00
No. of Minors per HH[b, e]	1.02	1.34	0.00	0.00	6.00
Dependency Ratio[b, f]	0.55	0.73	0.00	0.00	3.00

a. 94% (84 of 89) of hhs were surveyed

b. Of households surveyed

c. Adults is defined as people between 18 and 59

d. Elders is defined as people 60 and over

e. Minors is defined as people 17 and younger

f. The dependency ratio is no. minors: no. of adults and elders within a HH

Employment and Household Cash Inputs—Venetie

Ninety-two percent of Venetie households had at least one individual who was employed at least one month during the 12-month study period (77/84 households); the remaining 8% (n = 7 households) had no one in the household employed (Table 6.34). Adults who were employed (18 and over) were employed on average 6.1 mos. per year (compared to 8 mos per year for both Wainwright and Kaktovik households) (Comparing Tables 6.35, 6.21 and 6.7). Venetie households had a higher proportion of adults employed part-time than Kaktovik and Wainwright. The average number of total months employed across all working individuals within households was 11.21 with a median of 7.0 and a SD of 11.6 (Table 6.36). The mean number of jobs held per household (either full or part time or on-call) was 2.86 with a median of 3.0 and SD of 1.82. This figure could reflect individuals holding multiple jobs or multiple people employed within households. The ratio of jobs per adults within Venetie households was 1.62 (compared to 0.80 in Wainwright and 1.09 in Kaktovik). Overall Venetie adults held more jobs through the year, however wage income was significantly lower.

More than half (61%) of the employment sources for Venetie by industrial category stemmed from local government. This category describes funds that were routed to

Table 6.30. Percentage of household members self-identified as Alaska Native, Venetie.

	Percent	Total Number
100% Non-native HH	2.38	2
1-25% Alaska Native	0.00	0
26-50% Alaska Native	3.57	3
51-75% Alaska Native	1.19	1
76-99% Alaska Native	2.38	2
100% Alaska Native	90.48	76
Total	100.00	84

Table 6.31. Household type by household development stage, Venetie.

	Developing[a] % (No.)	Mature[b] % (No.)	Elder[c] % (No.)	Total % (No.)
Single Individuals	9.52 (8)	10.71 (9)	7.14 (6)	27.38 (23)
Single Individuals + Unrelated Individuals	2.38 (2)	0.00 (0)	0.00 (0)	2.38 (2)
Single Parent with Young Children	2.38 (2)	4.76 (4)	0.00 (0)	7.14 (6)
Single Parent with Children >16	0.00 (0)	0.00 (0)	0.00 (0)	2.38 (2)
Single Elder Parent with Adult Child(ren)	0.00 (0)	0.00 (0)	1.19 (1)	1.19 (1)
Couple	4.76 (4)	3.57 (3)	2.38 (2)	10.71 (9)
Nuclear Family	21.43 (18)	7.14 (6)	2.38 (2)	30.95 (26)
Extended Family	3.57 (3)	9.52 (8)	4.76 (4)	17.86 (15)
Other[d]	0.00 (0)	0.00 (0)	0.00 (0)	0.00 (0)
Total	44.05 (37)	35.71 (30)	20.24 (17)	100.00 (84)

a. Developing refers to households where the head is under 40 years old.

b. Mature refers to households where the head is between 40 and 59 years old.

c. Elder refers to households where the head is over 59 years old.

d. "Other" refers to Kaktovik HH 70 which has a 48-year-old female, 38-year-old female colleague, 11-year-old nephew, and 11-year-old daughter.

households through the Venetie Village Council. Another primary source of employment was the Federal Government (18%). Services accounted for 15% of job sources, with Retail Trade (3%), Transportation (1%), Construction (7%), State Government (0.4%), and Finance (0.4%) making up the difference (Table 6.37, Figure 6.14). As illustrated in Figure 6.15, individuals hold a diversity of jobs, with service occupations, laborers and equipment operators, construction, administrative support and Agricultural occupations (i.e. summer fire-fighting), and teachers accounting for about 72% of all jobs.

Reported counts of full-time jobs showed significant variability during the calendar year. Contrary to the patterns identified in Kaktovik and Wainwright, full-time jobs increased from April to July and then declined gradually to pre-April levels through October, while part-time and on-call employment job counts remained stable throughout the year (Figure 6.16). Full-time summer jobs were predominantly in firefighting, housing construction, and road building. At peak employment, the number of full-time jobs in Kaktovik and Venetie, the two communities of comparable size, were almost the same (n = about 75 full-time jobs); however, Kaktovik full-time jobs declined marginally during only 3 summer months before rebounding to pre-summer levels, while Venetie full-time jobs peaked at 75 jobs in only one summer month (July). Full-time employment remained between 25–30 jobs during 5 months of the year and rose above 50 only during 3 months (July–Sept). Counts of on-call jobs remained steady at low levels during the 12-month study period.

Mean household wage income with imputed values was $21,673 (Table 6.38). This figure is less than half the average annual wage income reported for Wainwright and Kaktovik ($51,360 and $51,389

Table 6.32. Household size by household type, Venetie.

	Mean	Standard Deviation	Median	Minimum	Maximum
Single Individuals	1.04	0.21	1.00	1.00	2.00
Single Individuals + Unrelated Individuals	2.00	0.00	2.00	2.00	2.00
Single Parent with Young Children	3.5	1.38	3.5	2.00	5.00
Single Parent with Children >16	3.00	1.41	3.00	2.00	4.00
Single Elder Parent with Adult Child(ren)	2.00	-----	2.00	2.00	2.00
Couple	2.00	0.00	2.00	2.00	2.00
Nuclear Family	4.31	1.32	4.00	3.00	8.00
Extended Family	3.73	1.10	3.00	2.00	6.00
Other[a]	-----	-----	-----	-----	-----

a. "Other" refers to Kaktovik HH 70 which has a 48-year-old female, 38-year-old female colleague, 11-year-old nephew, and 11-year-old daughter.

Figure 6.13. Household size by household type, Venetie.

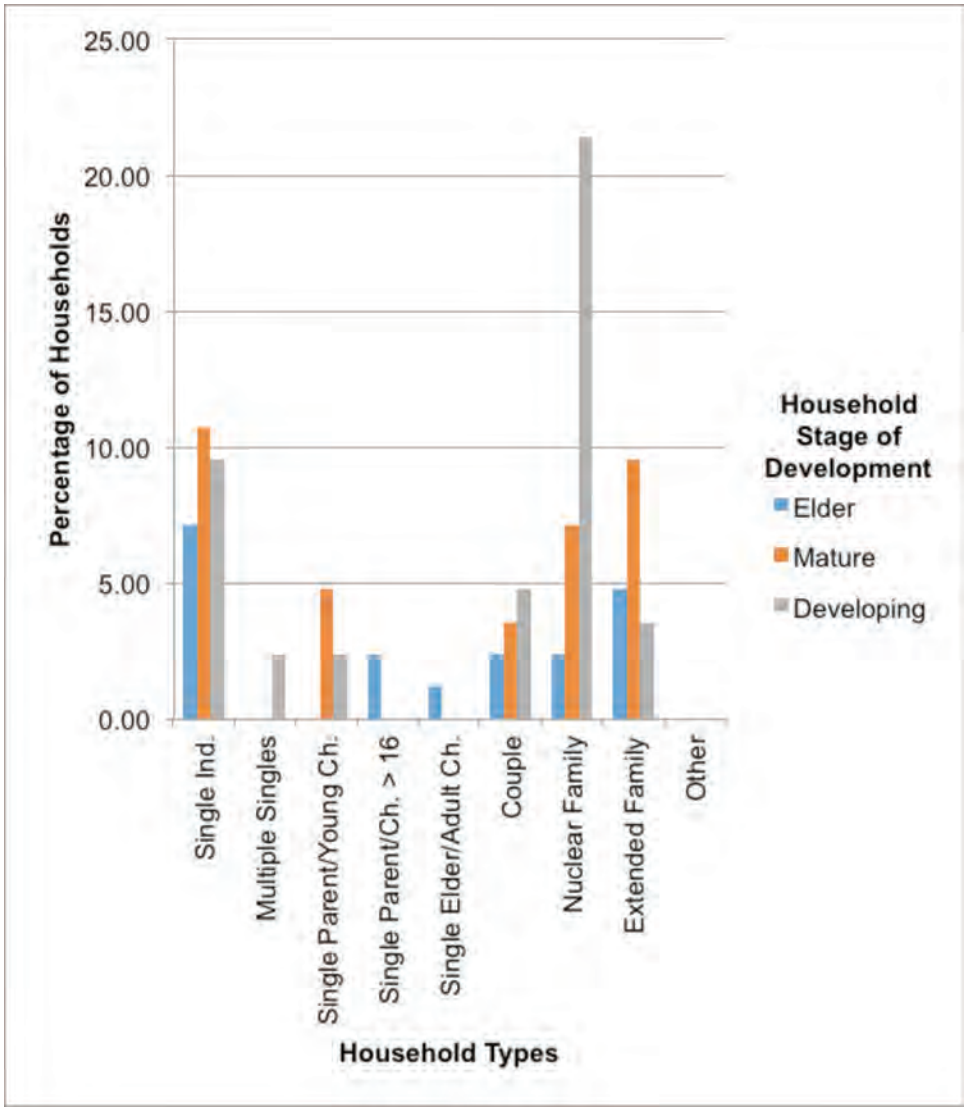
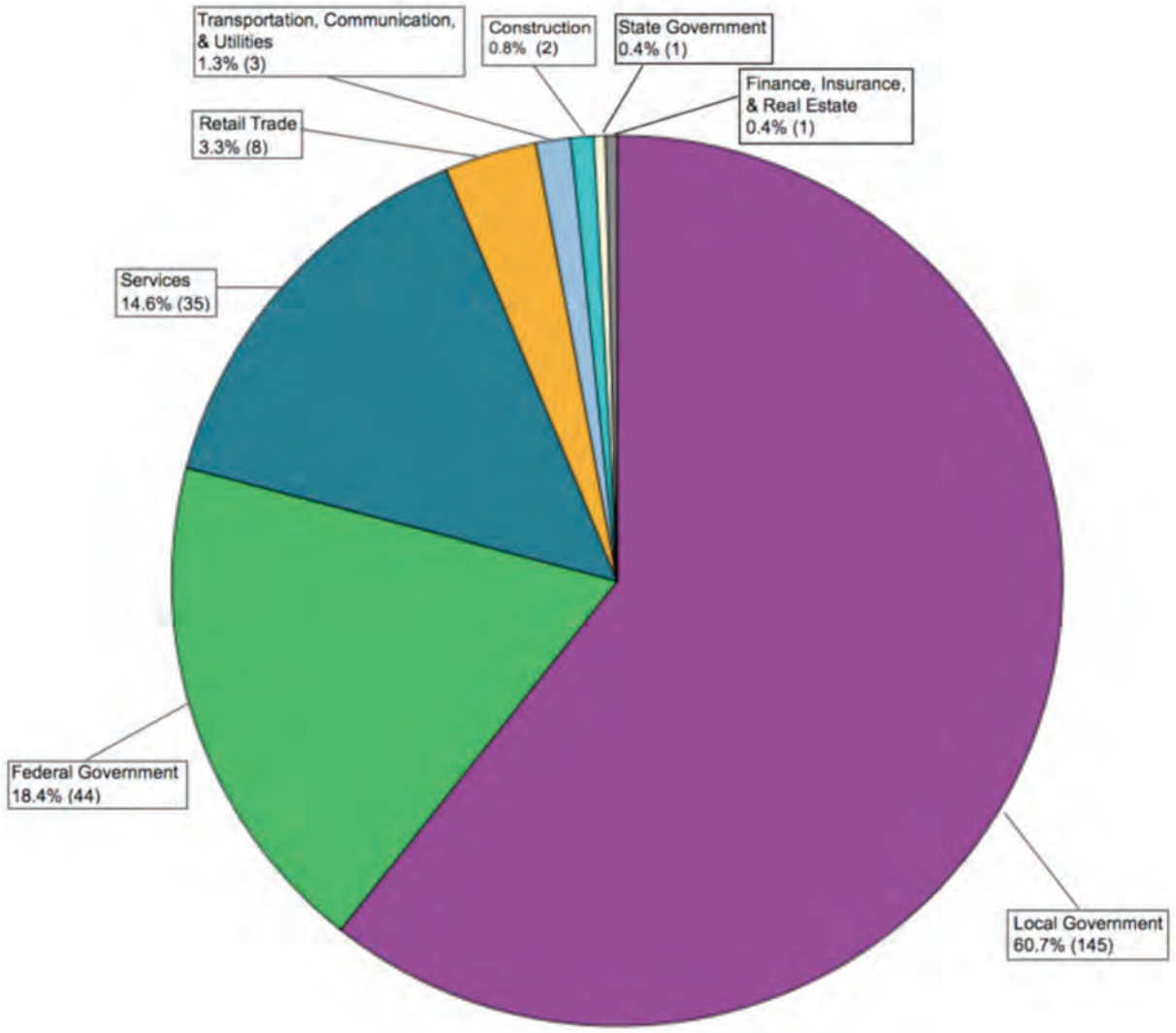
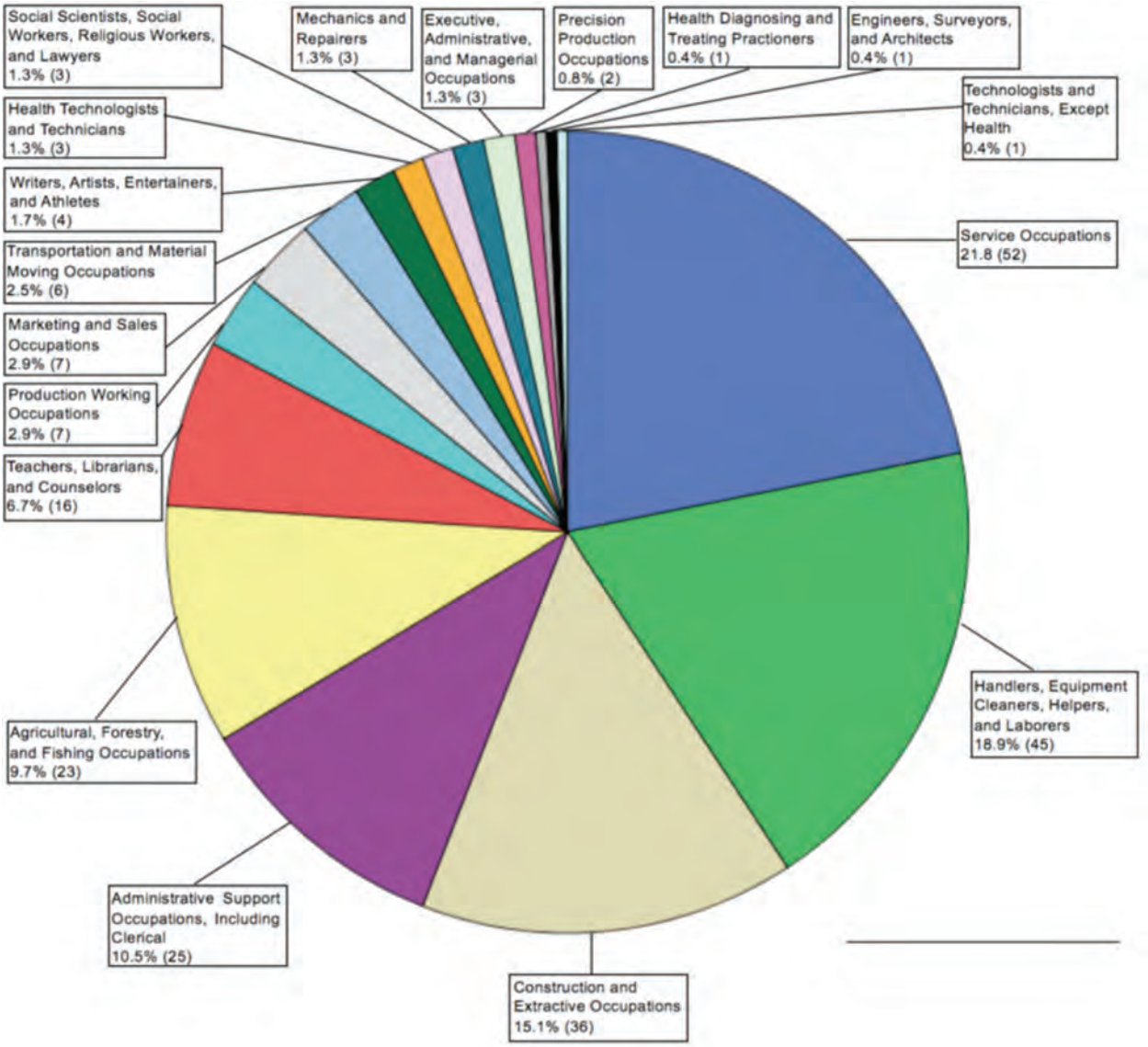


Figure 6.14. Sources of employment, Venetie.



respectively). Mean household income was $36,500, but income variability was high (SD: $25,124). Mean household dividend income accounted for between zero and 69% of total household income. The mean proportion of income for all households represented by dividends was 37%. This proportion is comparable to that documented for Kaktovik and Wainwright, however Venetie dividends are significantly lower than these two villages. This is another indicator of wide differences in household income between Coastal North Slope communities and Venetie. Venetie opted out of the village corporation arrangement of ANCSA, receiving fee simple ownership of land instead; thus most household dividend income comes from the Alaska Permanent Fund. Mean household assistance income over the entire village sample was $8,001 annually. Sixty-five households (77%) were receiving some form of public assistance and average amount received by this subgroup was $10,340/yr. Median assistance received across all households (receiving and not receiving) was $215, with a standard deviation of $9,256. While proportionally more households in Wainwright received some level of assistance, public assistance in Venetie represented a larger proportion on average of total household income than in Kaktovik or Wainwright. Mean household income by tercile categories was $11,919 (lower); $31,994 (middle); and $65,586 (upper) (Figure 6.17). The proportion of income represented by wage income doubled upward by consecutive terciles (moving from lower to upper income groups).

Figure 6.15. Types of employment, Venetie.



Average assistance similarly increased from lower to upper income terciles. Household income and household size are positively correlated (r = .587; $p < 0.01$). On a per capita basis, mean job income in Venetie was calculated as $11,441 and mean household income was $21,300 (Table 6.35).

Household Gear, Hunters, and Harvests—Venetie

Not all respondents provided complete gear use information; however, clear patterns emerge from comparing use and ownership data. In Venetie 50% of the households (84/84 households reporting) owned at least one snowmobile, but 59% reported that they used one (43/72 households reporting) (Table 6.39). Twenty-one percent of households (18/84 households reporting) stated they owned a boat, but significantly more (51%; 31/71 households reporting) used boats during the study period. These results suggest that some households borrow snowmachines and boats from others. Similar household ownership and use patterns were found in the community for all-terrain vehicles. Forty-five percent of households owned all-terrain vehicles (38/84 households reporting), but significantly 64.0% reported using an all-terrain vehicles during the study period (46/72 households

Table 6.33. Household heads and Adult/Elder individuals' maximum education levels, Venetie.

	Grade School % (No.)	Junior High School % (No.)	Some High School	High School Graduate or GED	1-2 years Higher Education % (No.)	Four-Year Degree % (No.)	Master's and Above % (No.)	Total % (No.)
Household Heads (A)								
Individ named as hh1	6.02 (5)	2.41 (2)	40.96 (34)	40.96 (34)	6.02 (5)	1.20 (1)	2.41 (2)	100.00 (83)[a]
Ind named as hh2[b]	2.86 (1)	2.86 (1)	42.86 (15)	45.71 (20)	5.71 (2)	0.00 (0)	0.00 (0)	100.00 (39)[c]
All Adult and Elder Individuals[d] (B)								
All Men	2.30 (2)	3.45 (3)	41.38 (36)	44.83 (39)	4.60 (4)	1.15 (1)	2.30 (2)	100.00 (87)[e]
All Women	6.56 (4)	3.28 (2)	32.79 (20)	49.18 (30)	6.56 (4)	0.00 (0)	1.64 (1)	100.00 (61)[e]
All Adults	4.05 (6)	3.38 (5)	37.84 (56)	46.62 (69)	5.41 (8)	0.68 (1)	2.03 (3)	100.00 (148)[e]

a. Education values missing for 1 individual.

b. 51.19% households named one adult head of household.

c. 47.62% of households named two household heads.

d. All adults and elders (individuals 18 years old and over), household heads and all other adults.

e. Education values missing for 6 adult and elder individuals (3 males: 3 females). Sex was missing for 3 individuals.

Table 6.34. Percentage (No.) HHs employed 2009, Venetie.

	Percent	Total Number
HH Employed in 2009	91.67	77
HH Unemployed in 2009	8.33	7
Total	100.00	84

Table 6.35. Income and Employment, Venetie.

Income	
Per Capita Job Income	$11,441
Per Capita HH Income	$ 21,300
Employment	
Employment months per adult	6.1
No. jobs/household	2.9

reporting). Combining all types of equipment (snowmachines, boats and all-terrain vehicles), mean number of equipment owned per household was 1.39, with a median of 1.0 and SD of 1.59 pieces of equipment. The average amount spent by Venetie households on snowmobile purchases was $3,875 (21% purchasing), on boats was $9,933 (4% purchasing), and on 4x4s was $5,094 (15% purchasing).

For moose, caribou, salmon, grayling, geese, ducks, and berries, Venetie's "core species," there was an average of 2.04 hunters and 1.74 processors per household, with an SD of 1.71 and 1.03 respectively (Table 6.40). Twenty-two point six two percent of Venetie's households had no hunters of core species; 10% had no processors. Seven percent of households (n = 6) had neither processors nor hunters. The mean number of core species hunted per household was 2.86, with a maximum of 6 and an SD of 2.28.

Using the standardized ADFG harvest reporting protocol and aggregating harvest across the community, Table 6.41 summarizes estimates of use, attempted harvest, harvested, received and given species for all Venetie households. Forty-seven different species were reported as "used" and 39 species were harvested. Fifty percent of harvested species by weight were large land mammals (36,977 total pounds; 136 lbs. per capita),

Figure 6.16. Number of jobs of each employment type by month, Venetie.

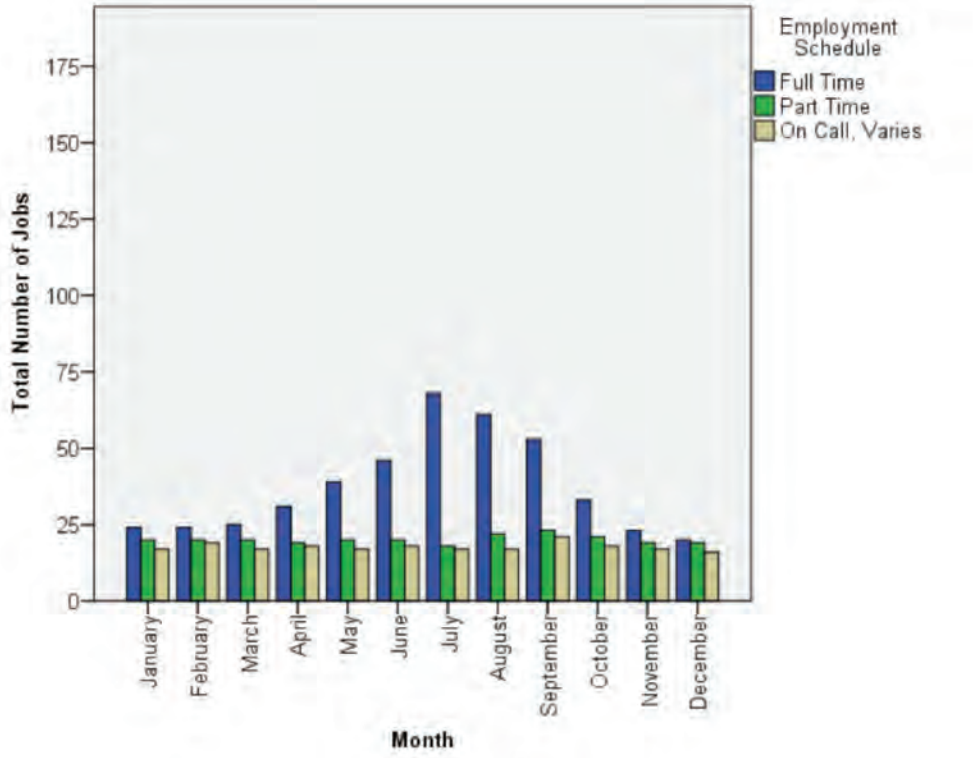


Figure 6.17. Income in terciles, Venetie.

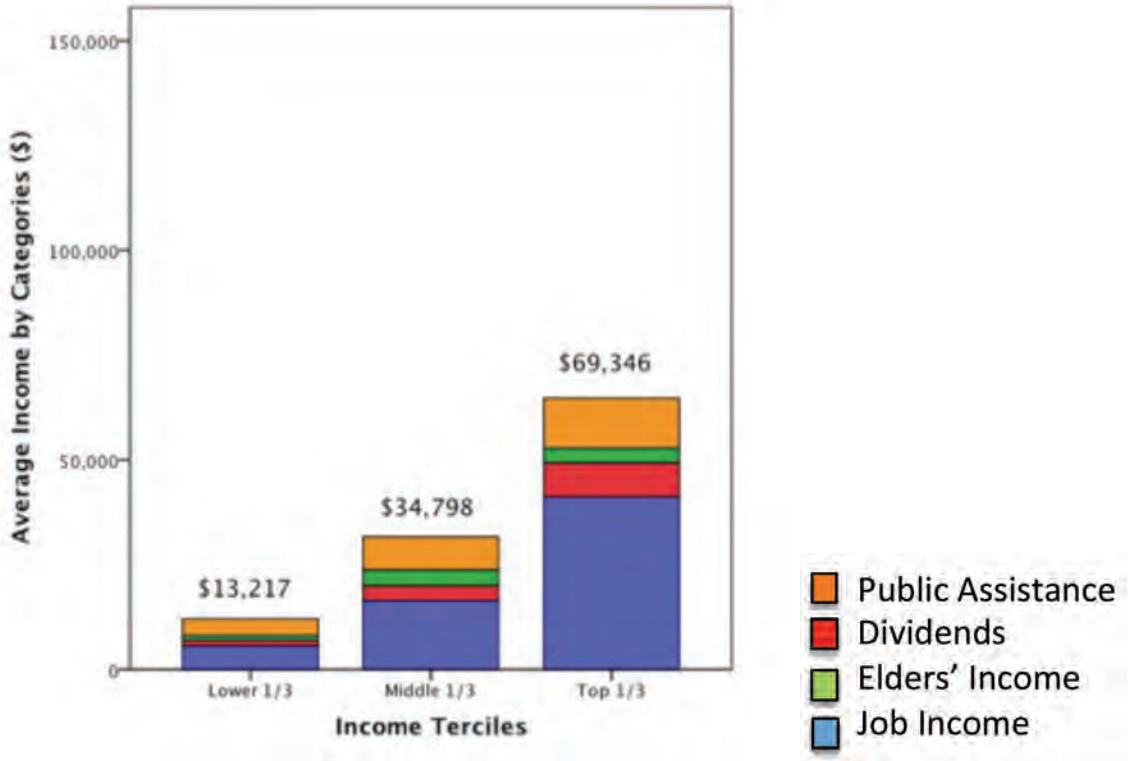


Figure 6.18. Comparison of harvest by category, Venetie.

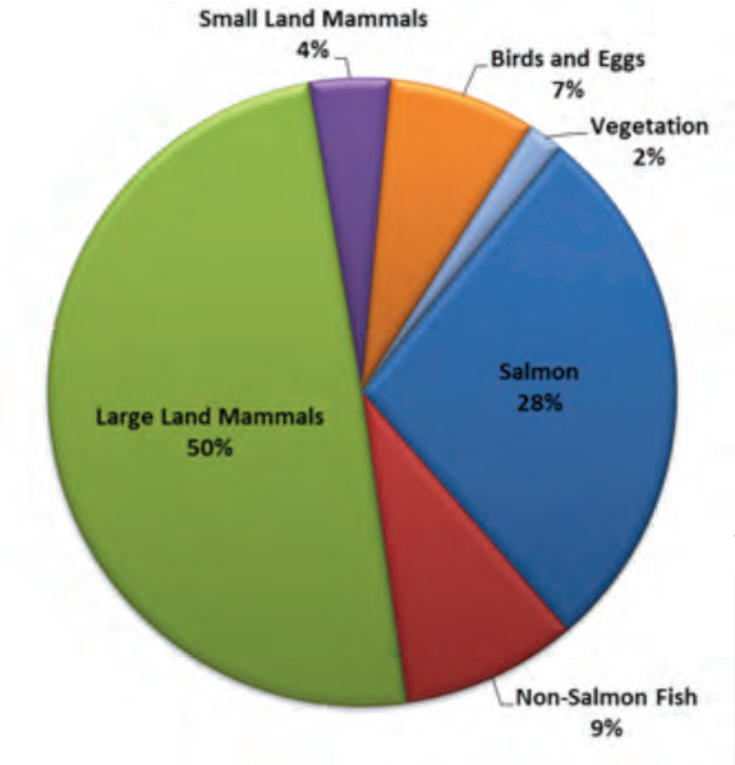


Table 6.37. Venetie sources of employment.

Job Type	Percent	Number of HHs
Local Government	60.7	145.0
Services	14.6	35.0
Finance, Insurance & Real Estate	0.4	1.0
Retail Trade	3.3	8.0
Transportation, Communication & Utilities	1.3	3.0
State government	0.4	1.0
Construction	0.8	2.0
Federal Government	18.4	44.0

Table 6.36. Household level employment data, Venetie.

	Mean	Standard Deviation	Median	Minimum	Maximum
HH Total Months Employed	11.21	11.60	7.00	0.00	54.00
HH Total No. of Jobs	2.86	1.82	3.00	0.00	9.00
No. of Full Time Jobs within HH	1.74	1.34	2.00	0.00	5.00
No. of Part Time Jobs within HH	0.54	0.98	0.00	0.00	5.00
No. of On-call Jobs within HH	0.38	0.86	0.00	0.00	5.00
Ratio of Jobs to adults within HH	1.62	0.95	1.67	0.00	4.00
Ratio of Full Time Jobs to HH Size	0.73	0.74	0.50	0.00	4.00
Ratio of Part Time Jobs to HH Size	0.23	0.42	0.00	0.00	2.00
Ratio of On-call Jobs to HH Size	0.14	0.37	0.00	0.00	2.50

Table 6.38. Categories of cash inflows into households, Venetie.

Categories of cash inflows into households	Mean with zero values $ (No.)	Mean without zero values $ (No.)	Standard Deviation without zero values	Median without zero values	Minimum without zero values	Maximum without zero values	No. of HHs Missing
Wage Income							
Wage Income without imputed values	22,673.72 (78)	23,270.39 (76)	21,172.50	15,100.00	300.00	93,000.00	0
Wage Income with imputed values[a]	21,316.32 (84)	23,254.17 (77)	21,033.23	15,200.00	300.00	93,000.00	0
Dividend Income							
Permanent Fund Dividend	3,031.90 (84)	3,488.77 (73)	2,115.28	2,610.00	1,305.00	10,440.00	0
Village Corporate Dividend[b]	29.05 (84)	203.33 (12)	176.49	116.50	20.00	500.00	0
Regional Corporate Dividend – ASRC[c]	1,314.13 (84)	2,983.44 (37)	10,411.90	495.00	50.00	62,000.00	0
Other Dividend Income[d]	15.54 (84)	1,305.00 (1)	----	1,305.00	1,305.00	1,305.00	0
Total Dividend Income	4,390.62 (84)	4,983.95 (74)	8,308.85	3,441.00	454.00	69,830.00	0
Assistance Income							
Elder Income	2,791.64 (84)	15,633.20 (15)	12,509.62	11,928.00	1,600.00	53,400.00	0
Other Income[e]	4,568.32 (84)	6,290.80 (61)	5,423.59	5,100.00	300.00	24,747.00	0
Assistance[f]	3,433.49 (84)	6,866.98 (42)	8,342.50	3,846.00	430.00	48,000.00	0
Total Assistance Income	8,001.81 (84)	10,340.80 (65)	9,303.30	7,900.00	300.00	48,000.00	0
Total Gross HH Income	39,532.30 (84)	39,532.30 (84)	26,484.91	36,924.50	2,000.00	124,541.00	0
Per capita income[g]	21,300.42 (84)	21,300.42 (84)	13,144.77	18,114.25	2,000.00	65,000.00	0

a. Wage income for X households was imputed based on reported job type and schedule

b. Combines reported village corporation dividends if reported for the HH

c. Arctic Slope Regional Corporation

d. Other dividend income refers to second regional corporate income or/and coop dividends

e. Energy, CITCO, Weatherization Funds, The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Food Stamps

f. Income from jobs programs (Unemployment, Workers' Compensation), child programs (Supplemental Security, Foster Care, Child Support) and public assistance programs (Adult Public Assistance, Temporary Assistance)

g. Per Capita income is calculated as Gross HH Income/Number of people within HH

Table 6.39. Subsistence gear, Venetie.

	Use Y/N % (No.)	Own Y/Na % (No.)	Purchase Y/Na % (No.)	Mean No. Owned[a] (S.D.)	Range of No. Own[a]	No. Purchased Meanb (S.D.)	Amount spent to buy[b] (S.D)	Amount spent to Repair[c] (S.D.)
Snowmachines	Y: 43 N: (29)[d]	Y: (42) N: (42)	Y: (18) N: (66)	0.63 (0.76)	1–3	1.08 (0.29)	3,875.00 (3,440.96)	530.73 (607.96)[e]
Boats	Y: (31) N: (40)[f]	Y: (18) N: (66)	Yes: (3) No: (81)	0.23 (0.45)	1–2	1.00 (----)	9,933.33 (1,1351.80)	937.50 (989.42)[g]
All-Terrain Vehicle	Y: (46) N: (26)[h]	Y: (38) N: (46)	Yes: (13) No: (71)	0.54 (0.65)	1–2	1.00 (----)	5,094.69 (3,632.43)	370.50 (557.14)[i]

a. Of all respondents
b. Of those who purchased
c. Of those who own
d. 12 missing data
e. 16 missing data
f. 13 missing data
g. n=18 (14 missing)
h. 12 missing data
i. n=38 (18 missing)

Forty-seven percent of were marine mammals (186,513 total pounds; 316 lbs. per capita), 28% were salmon (20,775 lbs; 76 lbs. per capita) and 9% were non-salmon fish (6,745 lbs; 25 lbs. per capita). Birds and eggs accounted for 7% (5619 lbs; 25 lbs. per capita), small mammals (3126 lbs; 12 lbs. per capita) and vegetation (berries) 2% (1360 lbs; 5 lbs. per capita). (Figure 6.18 and Table 6.42). Species that ranked highest in use during the reporting period were moose (93% of households), caribou (86% of households), graying (80% of households), ducks (70% of households), geese (68% of households), and berries (67% of households). Per capita harvest was calculated as 274 lbs. Similar to Kaktovik and Wainwright, all but 1.2% of households reported using at least one species. As well, the difference between attempted to harvest and harvested is again small (86% of households vs. 81% of households, respectively), suggesting that most hunters seeking to bring home wild foods were successful. Exceptions were caribou, where 23% attempted and 14% harvested, and chinook salmon, where 27% of households attempted but only 16% harvested. Again, these differences between attempted and successful harvest do not account for the number of tries before a hunter was successful (expended effort). Table 6.41 also reflects the high percentage of households that gave and/or received wild foods. Overall, 82% of households gave food to others, and 95% received some harvested food from other households. This summary figure does not account for the difference between sharing and shares, which is delineated and explained in the section on networks and cooperative relationships around subsistence.

Table 6.40. Number of hunters and processors engaged in subsistence, and number of species harvested per household, Venetie.

	Mean	Standard Deviation	Median	Minimum	Maximum	Percentage of Households with Zero % (No.)
No. of Hunters[a]	2.04	1.71	2.00	0.00	7.00	22.62 (19)
No. of Processors[a]	1.74	1.03	2.00	0.00	6.00	9.52 (8)
No. of Species Hunted[b]	2.89	2.28	3.00	0.00	7.00	22.62 (19)

a. Six households report no hunters or processors.
b. These calculations are only for the 6 core species.

Table 6.41. All species used, attempted, harvested, received and given, Venetie.

Estimated harvests and uses of fish, game, and plant resources, Venetie, Alaska, 2009.											
Resource	**Percentage of households**					**Harvest weight (lb)**			**Harvest amount**		**95% confidence limit (±) harvest**
	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean house-hold	Per capita	Total	Unit	
All Resources	98.8	85.7	81.0	95.2	82.1	74,602.0	793.6	274.3	13,344.1		13.3
Fish											
Fish	86.9	69.0	64.3	75.0	58.3	27,519.5	292.8	101.2	9,090.6	Ind.	14.6
Salmon	76.2	36.9	26.2	69.0	33.3	20,774.7	221.0	76.4	2,742.2	Ind.	26.1
Chum Salmon	42.2	26.8	20.2	30.1	12.0	12,394.6	131.9	45.6	2,065.8	Ind.	31.5
Coho Salmon	2.4	1.2	1.2	1.2	0.0	5.8	0.1	0.0	1.1	Ind.	64.9
Chinook Salmon	69.0	27.4	15.5	61.9	26.2	8,374.3	89.1	30.8	675.3	Ind.	33.6
Sockeye Salmon	1.2	0.0	0.0	1.2	1.2	0.0	0.0	0.0	0.0	Ind.	0.0
Non-Salmon Fish	81.0	66.7	63.1	61.9	47.6	6,744.8	71.8	24.8	6,348.4	Ind.	15.1
Arctic Grayling	79.8	65.5	61.9	48.8	44.0	4,943.1	52.6	18.2	5,492.3	Ind.	13.9
Northern Pike	2.4	1.2	1.2	1.2	0.0	11.1	0.1	0.0	3.4	Ind.	64.9
Sheefish	1.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Whitefishes	41.0	13.3	8.3	39.8	12.0	1,790.7	19.1	6.6	852.7	Ind.	45.8
Unknown Whitefish	41.0	13.3	8.3	39.8	12.0	1,790.7	19.1	6.6	852.7	Ind.	45.8
Land Mammals											
Land Mammals	96.4	67.9	54.8	91.7	70.2	40,103.1	426.6	147.4	1,790.7	Ind.	23.5
Large Land Mammals	94.0	63.1	33.3	91.7	65.5	36,976.7	393.4	135.9	159.1	Ind.	19.0
Black Bear	19.0	16.7	8.3	11.9	6.0	886.3	9.4	3.3	10.1	Ind.	27.2
Brown Bear	3.6	8.3	3.6	0.0	2.4	385.0	4.1	1.4	4.5	Ind.	39.3
Caribou	85.7	22.6	14.3	84.5	49.4	14,229.8	151.4	52.3	104.6	Ind.	25.4
Deer	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Moose	92.9	60.7	29.8	86.9	60.2	21,475.6	228.5	79.0	39.9	Ind.	15.6
Dall Sheep	2.4	0.0	0.0	2.4	1.2	0.0	0.0	0.0	0.0	Ind.	0.0

Table 6.41. All species used, attempted, harvested, received and given, Venetie, continued.

Resource	Percentage of households					Harvest weight (lb)			Harvest amount		95% confidence limit (±) harvest
	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean household	Per capita	Total	Unit	
Small Land Mammals	56.0	44.0	42.9	28.6	29.8	3,126.4	33.3	11.5	1,631.6	Ind.	25.1
Beaver	25.6	14.8	14.3	14.8	13.6	1,298.1	13.8	4.8	64.9	Ind.	24.4
Fox	3.7	3.7	3.6	1.2	3.7	0.0	0.0	0.0	118.6	Ind.	61.2
Arctic Fox	1.2	1.2	1.2	1.2	0.0	0.0	0.0	0.0	56.0	Ind.	64.9
Red Fox	3.7	3.7	3.6	1.2	3.7	0.0	0.0	0.0	62.7	Ind.	58.1
Hare	43.4	36.1	34.5	15.7	20.5	1,148.1	12.2	4.2	574.1	Ind.	23.5
Snowshoe Hare	43.4	36.1	34.5	15.7	20.5	1,148.1	12.2	4.2	574.1	Ind.	23.5
Lynx	7.3	4.9	4.8	3.7	3.7	0.0	0.0	0.0	135.4	Ind.	42.5
Marmot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Marten	6.0	4.9	4.8	2.4	3.7	0.0	0.0	0.0	174.6	Ind.	36.8
Muskrat	18.3	11.1	9.5	9.9	11.1	384.7	4.1	1.4	213.7	Ind.	29.7
Porcupine	1.2	1.2	1.2	1.2	1.2	134.3	1.4	0.5	16.8	Ind.	64.9
Squirrel	16.9	9.9	8.3	12.3	8.5	161.1	1.7	0.6	322.3	Ind.	47.1
Parka Squirrel (ground)	16.9	9.9	8.3	12.3	8.5	161.1	1.7	0.6	322.3	Ind.	47.1
Wolf	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Wolverine	2.4	2.5	2.4	0.0	0.0	0.0	0.0	0.0	11.2	Ind.	49.2
Marine Mammals											
Marine Mammals	18.1	0.0	0.0	18.1	7.2	0.0	0.0	0.0	0.0	Ind.	0.0
Seal	14.5	0.0	0.0	14.5	7.2	0.0	0.0	0.0	0.0	Ind.	0.0
Bearded Seal	14.5	0.0	0.0	14.5	7.2	0.0	0.0	0.0	0.0	Ind.	0.0
Whale	15.7	0.0	0.0	15.7	4.8	0.0	0.0	0.0	0.0	Ind.	0.0
Beluga	6.0	0.0	0.0	6.0	2.4	0.0	0.0	0.0	0.0	Ind.	0.0
Bowhead	14.5	0.0	0.0	14.5	4.8	0.0	0.0	0.0	0.0	Ind.	0.0
Birds and Eggs											
Birds and Eggs	81.0	60.7	58.3	65.5	57.1	5,619.4	59.8	20.7	2,252.7	Ind.	13.0
Migratory Birds	78.6	57.1	54.8	64.3	54.8	5,500.8	58.5	20.2	2,134.1	Ind.	13.4
Ducks	70.2	51.2	46.4	50.0	42.9	2,130.1	22.7	7.8	1,133.0	Ind.	16.2
Eider	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0

Table 6.41. All species used, attempted, harvested, received and given, Venetie, continued.

Resource	Percentage of households					Harvest weight (lb)			Harvest amount		95% confidence limit (±) harvest
	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean house-hold	Per capita	Total	Unit	
Common Eider	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
King Eider	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Unknown Ducks	70.2	51.2	46.4	50.0	42.9	2,130.1	22.7	7.8	1,133.0	Ind.	16.2
Geese	67.9	45.2	36.9	56.0	35.7	3,141.6	33.4	11.6	968.6	Ind.	17.2
Snow Geese	1.2	2.4	0.0	1.2	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
White-fronted Geese	1.2	1.2	1.2	1.2	0.0	14.1	0.2	0.1	3.4	Ind.	64.9
Unknown Geese	67.9	45.2	36.9	56.0	35.7	3,127.5	33.3	11.5	965.3	Ind.	17.3
Swan	1.2	1.2	1.2	1.2	1.2	25.1	0.3	0.1	2.2	Ind.	64.9
Tundra Swan (whistling)	1.2	1.3	1.2	1.3	1.3	25.1	0.3	0.1	2.2	Ind.	64.9
Unknown Swan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ind.	0.0
Crane	3.7	2.5	2.4	2.5	1.3	203.9	2.2	0.7	30.2	Ind.	60.2
Sandhill Crane	3.7	2.5	2.4	2.5	1.3	203.9	2.2	0.7	30.2	Ind.	60.2
Other Birds	20.2	31.0	15.5	8.3	8.3	118.6	1.3	0.4	118.6	Ind.	27.4
Upland Game Birds	20.2	31.0	15.5	8.3	8.3	118.6	1.3	0.4	118.6	Ind.	27.4
Grouse	6.0	7.1	3.6	2.4	1.2	13.4	0.1	0.0	13.4	Ind.	54.5
Ptarmigan	15.9	27.2	11.9	7.5	7.4	105.2	1.1	0.4	105.2	Ind.	30.3
Vegetation and Fungi											
Vegetation	66.7	46.4	42.9	52.4	27.4	1,360.1	14.5	5.0	210.1	Gal.	14.6
Berries	66.7	46.4	42.9	52.4	27.4	1,351.1	14.4	5.0	207.9	Gal.	14.8
Blueberry	64.3	40.5	36.9	48.8	20.2	686.9	7.3	2.5	105.7	Gal.	15.6
Low Bush Cranberry	46.4	34.5	29.8	30.1	22.6	602.6	6.4	2.2	92.7	Gal.	15.4
Crowberry	1.2	1.2	1.2	0.0	0.0	14.5	0.2	0.1	2.2	Gal.	64.9
Cloud Berry	3.7	2.5	2.4	1.2	0.0	3.4	0.0	0.0	0.5	Gal.	48.1
Raspberry	1.2	1.2	1.2	1.2	1.2	21.8	0.2	0.1	3.4	Gal.	64.9
Strawberry	1.2	1.2	1.2	1.2	1.2	21.8	0.2	0.1	3.4	Gal.	64.9

Table 6.41. All species used, attempted, harvested, received and given, Venetie, continued.

Resource	Percentage of households					Harvest weight (lb)			Harvest amount		95% confidence limit (±) harvest
	Use %	Attempt %	Harvest %	Receive %	Give %	Total	Mean household	Per capita	Total	Unit	
Plants/ Greens/ Mushrooms	1.2	1.2	1.2	0.0	0.0	9.0	0.1	0.0	2.2	Gal.	64.9
Wild Rose Hips	1.2	1.2	1.2	0.0	0.0	9.0	0.1	0.0	2.2	Gal.	64.9

Table 6.42. Types of harvested resources, Venetie.

Resource	Harvest in pounds usable weight	
	Total	Per capita
Salmon	20,774.7	76.4
Non-Salmon Fish	6,744.8	24.8
Large Land Mammals	36,976.7	135.9
Small Land Mammals	3,126.4	11.5
Marine Mammals	0.0	0.0
Birds and Eggs	5,619.4	24.8
Vegetation	1,360.1	5.0

Correlations between Socio-economic and Harvest Variables—All Three Communities

Spearman Correlations were run on a subset of socio-economic and harvest variables discussed in the previous sections. The Spearman statistic is ideal for data that is either not normally distributed or includes rank ordered variables. Correlation results are presented in two ways: first, including teacher Households and second, without teacher Households included. The socio-economic and harvest characteristics of teachers and local Households emerge as quite different. All results appear in Tables 4.43 through 4.49 in the following order; With Teachers included Kaktovik: Table 4.43; Wainwright, Table 4.45 and Venetie, Table 4.47; Without Teachers Kaktovik Table 4.44, Wainwright: Tables 4.46, and Venetie, Table 4.48.

Household size

Katovik: With teacher Households included, results indicate positive, strong, and significant correlations between Wage (r=.264; p< .05) and Household Income (r=.587; p< .01), as well as Total Household Harvest (r=.572; p< .01) and Total Inflow to Households (r=.484; p< .01). The strength of each correlation increases significantly when teacher Households are excluded from correlations. Removing small teacher Households with higher wage incomes and Household gross incomes as well as low harvests and inflows increases correlations and Household Size.

Wainwright: Categorization as a teacher Household is negatively correlated with Household Size in Wainwright (r=-.373; p< .01). Also with teacher Households included, results indicate positive, strong, and significant correlations between Household Size and both Wage (r=.213; p< .05) and Household Income (r=.557; p< .01), Total Household Harvest (r=.410; p<.01) and Total Inflow to Households (r=.391; p< .01). The strength of the correlation between Wage and Household Income increases when teacher Households are excluded from the analysis. Removing small teacher Households with higher wage incomes and Household gross incomes strengthens the correlation. In contrast, the strength of the correlation between Household Size and Harvest and Inflow declined without teachers included (i.e. suggesting the presence of small, but highly productive,

Table 6.43. Correlations between socio-economic and harvest variables with non-Native teacher households, Kaktovik (n = 70).

Variables	HH Size (No. Individuals)	HH Development Stage (D, M, E)[a]	Teacher HH (Yes/No)	Wage Income ($)	HH Income ($)	Total Harvest (Lbs)[b]	Total Inflow (Lbs)[c]
HH Size	1.00	N.S.	N.S.	.264*	.587**	.572**	.484**
Development Stage		1.00	N.S.	-.285*	N.S.	.236*	.370**
Teacher HH			1.00	.357**	.264*	-.268*	-.320**
Wage Income				1.00	.784**	N.S.	N.S.
HH Income					1.00	N.S.	N.S.
Total Harvest						1.00	.949**
Total Inflow							1.00

* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

a. HH development stage; D=Developing, M=Mature, E=Elder

b. Total harvest combines own harvest and cooperative harvest shares across all core species

c. Total Inflow includes food flowing into HHs from non-harvest social relationships (sharing and shares) for core species.

Table 6.44. Correlations between socio-economic and harvest variables without non-Native teacher households, Kaktovik (n = 65).

Variables	HH Size (No. Individuals)	HH Development Stage (D, M, E)a	Wage Income ($)	HH Income ($)	Total Harvest (Lbs)[b]	Total Inflow (Lbs)[c]
HH Size	1.00	N.S.	.312*	.665**	.618**	.533**
Development Stage		1.00	-.296*	N.S.	N.S.	.324**
Wage Income			1.00	.756**	N.S.	N.S.
HH Income				1.00	.302*	.252*
Total Harvest					1.00	.950**
Total Inflow						1.00

* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

a. HH development stage; D=Developing, M=Mature, E=Elder

b. Total harvest combines own harvest and cooperative harvest shares across all core species.

c. Total Inflow includes food flowing into HHs from non-harvest social relationships (sharing and shares) for core species.

local Households that mediate the relationships between Household Size, and Household Harvest and Total Inflows in Wainwright).

Venetie: With teacher Households included, Household Size was positively and strongly correlated with both Wage (r=.425; p< .01) and Household Income (r=.656; p< .01), as well as Total Household Harvest (r=.480; p< .01) and Total Inflow to Households (r=.503; p< .01). Similar to patterns identified for Kaktovik, the strength of each correlation increased when teacher Households were excluded from analysis.

Development Stage:

Kaktovik: Household Development stage is negatively and significantly correlated to Wage

Table 6.45. Correlations between socio-economic and harvest variables with non-Native teacher households, Wainwright (n = 146).

Variables	HH Size (No. Individuals)	HH Development Stage (D, M, E)[a]	Teacher HH (Yes/No)	Wage Income ($)	HH Income ($)	Total Harvest (Lbs)[b]	Total Inflow (Lbs)[c]
HH Size	1.00	N.S.	-.373**	.213*	.557**	.410**	.391**
Development Stage		1.00	N.S.	N.S.	N.S.	-.203*	.186*
Teacher HH			1.00	.302**	N.S.	-.488**	-.486**
Wage Income				1.00	.847**	N.S.	N.S.
HH Income					1.00	.183*	.190*
Total Harvest						1.00	.930**
Total Inflow							1.00

* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

a. HH development stage; D=Developing, M=Mature, E=Elder

b. Total harvest combines own harvest and cooperative harvest shares across all core species

c. Total Inflow includes food flowing into HHs from non-harvest social relationships (sharing and shares) for core species.

Table 6.46. Correlations between socio-economic and harvest variables without non-Native teacher households, Wainwright (n = 133).

Variables	HH Size (No. Individuals)	HH Development Stage (D, M, E) [a]	Wage Income ($)	HH Income ($)	Total Harvest (Lbs) [b]	Total Inflow (Lbs) [c]
HH Size	1.00	N.S.	.361**	.662**	.282**	.254**
Development Stage		1.00	N.S.	N.S.	-.236**	.210**
Wage Income			1.00	.847**	.245**	.246**
HH Income				1.00	.290**	.294**
Total Harvest					1.00	.908**
Total Inflow						1.00

*Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

a. HH development stage; D=Developing, M=Mature, E=Elder

b. Total harvest combines own harvest and cooperative harvest shares across all core species.

c. Total Inflow includes food flowing into HHs from non-harvest social relationships (sharing and shares) for core species.

Income (r=-.285; p< .05) with teachers included. Wage Income tends to increase with development stage. Development stage has a positive and significant relationship with Total Harvest (r=.236; p< .05) and Total Inflow (r=.370; p< .01). Without teachers included, the negative correlation between Development Stage and Wage Income strengthens marginally (r=-.296; p< .05), the relationship with Total Inflow declines marginally (r=.324; p< .01), and the correlation with Total Harvest becomes insignificant.

Wainwright: With teachers included, Household Development Stage is negatively correlated with Total Harvest (r=.203; p< .05) and positively, but weakly correlated with Total Inflow (r=.186; p< .05). Contrary to both Kaktovik and Venetie, there is no correlation between

Table 6.47. Correlations between socio-economic and harvest variables with non-Native teacher households, Venetie (n = 84).

Variables	HH Size (No. Individuals)	HH Development Stage (D, M, E)[a]	Teacher HH (Yes/No)	Wage Income ($)	HH Income ($)	Total Harvest (Lbs)[b]	Total Inflow (Lbs)[c]
HH Size	1.00	N.S.	N.S.	.425**	.656**	.480**	.503**
Development Stage		1.00	N.S.	-.237*	N.S.	N.S.	N.S.
Teacher HH			1.00	.318**	.304**	-.244*	-.320**
Wage Income				1.00	.815**	.344**	.229*
HH Income					1.00	.364**	.372**
Total Harvest						1.00	.835**
Total Inflow							1.00

* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

a. HH development stage; D=Developing, M=Mature, E=Elder

b. Total harvest combines own harvest and cooperative harvest shares across all core species.

c. Total Inflow includes food flowing into HHs from non-harvest social relationships (sharing and shares) for core species.

Table 6.48. Correlations between socio-economic and harvest variables without non-Native teacher households, Venetie (n = 80).

Variables	HH Size (No. Individuals)	HH Development Stage (D, M, E) [a]	Wage Income ($)	HH Income ($)	Total Harvest (Lbs) [b]	Total Inflow (Lbs) [c]
HH Size	1.00	N.S.	.489**	.728**	.482**	.514**
Development Stage		1.00	-.313**	N.S.	-.236**	.229*
Wage Income			1.00	.792**	.453**	.361**
HH Income				1.00	.475**	.519**
Total Harvest					1.00	.827**
Total Inflow						1.00

* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

a. HH development stage; D=Developing, M=Mature, E=Elder

b. Total harvest combines own harvest and cooperative harvest shares across all core species.

c. Total Inflow includes food flowing into HHs from non-harvest social relationships (sharing and shares) for core species.

Development stage and Income. Without teachers, the level of significance and strength of both correlations for Total Harvest (r=-.236; p< .01) and Total Inflow increased (r=.210; p< .01). .

Venetie: Similar to Kaktovik and Wainwright, there is a significant negative correlation between Household Development Stage and Wage Income (r=-.237; p=<.05), but no other correlations were significant. Without teachers included, the negative correlation with Wage Income strengthens and increases in significance level (r=-.313; p< .01). Wage Income tends to increase with Development Stage. The correlation between Development Stage and Total Harvest becomes significant without teachers and is negative (r=-.236; p<.01), while the Wage x Inflow correlation (r=.229; p< .05) becomes significant,

but is positive. The difference here between Total Harvest and Inflow may reflect that while younger Households may have lower harvests, total inflow additionally reflects food flowing into Households from social relationships (e.g. sharing, helper shares) so overall flows to younger Households may be positive even as harvests are low.

Teacher Households:

Kaktovik: Being a non-local teacher Household was positively and strongly correlated with wage income (r=.357; p< .01), less strongly correlated with Household income (r=.264; p< .05), and negatively correlated with both Household Harvest (r=-.268; p< .05) and Total Inflow (r=-.320; p< .01).

Wainwright: Being a non-local teacher Household was strongly and positively correlated with wage income (r=.302; p< .01), but not correlated to Household income. Being a teacher Household was negatively correlated with both Household Harvest (r=-.488; p< .01) and Total Inflow (r=-.486; p< .01).

Venetie: Patterns for Kaktovik and Venetie were similar. Being a non-local teacher Household was positively and strongly correlated with wage income (r=.318; p< .01), less strongly correlated with Household income (r=.304; p< .05), and negatively correlated with both Household Harvest (r=-.244; p< .01) and Total Inflow (r=-.320; p< .01).

Wage Income

Kaktovik: Household Wage Income with teachers included was strongly and positively related to Household Income (r=.784; p< .01). Without teachers the strength of this relationship decreased marginally (r=.756; p< .01).

Wainwright: Household Wage Income with teachers included was strongly and positively related to Household Income (r=.784; p< .01). The strength of this relationship stayed the same when teachers were excluded from the test. Without teachers, correlations between Wage Income and harvest variables became significant (Total harvest, r=.245; p< .01, Total Inflow, r=.246; p< .01).

Venetie: Household Wage Income with teachers included was strongly and positively related to Household Income (r=.815; p< .01). Including teachers, correlations between Wage Income and harvest variables were significant (Total harvest, r=.344; p< .01, Total Inflow, r=.229; p< .05). Without teachers the correlation between Wage Income and Total Income declined in strength (r=.792; p< .01). However, correlations between Wage Income and harvest variables strengthened significantly (Total harvest, r=.475; p< .01, Total Inflow, r=.519; p< .01).

Household Income

Kaktovik: Correlations between Household Income and Harvest variables were insignificant when teachers were included in the analyses. However, correlations became positive and significant when teachers were removed (Total harvest, r=.302; p< .05, Total Inflow, r=.252; p< .05).

Wainwright: Correlations between Household Income and Harvest variables were positive and significant when teachers were included in the analyses, albeit the relationships were not strong (Total harvest, r=.184; p< .05, Total Inflow, r=.190; p< .05). However, the correlations strengthened and increased in significance when teachers were removed (Total harvest, r=.290; p< .01, Total Inflow, r=.294; p< .01).

Venetie: Correlations between Household Income and Harvest variables were positive and significant when teachers were included in the analyses, and relationships were the strongest of the three communities (Total harvest, r=..344; p< .01, Total Inflow, r=.229; p< .01). The correlations again increased in strength when teachers were removed (Total harvest, r=.475; p< .01, Total Inflow, r=.519; p< .01).

Total Harvest

Kaktovik: As one might expect, the correlation between Total Harvest and Total Inflow is strong, positive, and significant both with and without teachers present (r=.949; p< .01 compared to r=.950; p< .01). The correlation is not perfect however, emphasizing that Household inflows stem from food flowing in from other non-hunting relationships.

Wainwright: Similar to Kaktovik, the correlation between Total Harvest and Total Inflow is positive and significant with teachers present (r=.930; p< .01). The strength of this relationship declines marginally without teachers (r=.908; p< .01).

Venetie: Similar to Kaktovik and Wainwright, the correlation between Total Harvest and Total Inflow is positive and significant with teachers present (r=.835; p< .01). The strength of this relationship declines marginally without teachers (r=.827; p< .01).

Chapter 7 - Cooperation and Social Networks within Subsistence Livelihoods

This chapter focuses on cooperation and social networks of the mixed subsistence-cash livelihoods in our three study communities. Results primarily focus on flows of core species, the 7–10 species identified as of primary importance to subsistence and hunting activities by local community members and harvest surveys (See Chapter 3 – Methods). Because of the high response rate of households to the survey, our findings captured significant portions of the cooperation and sharing occurring within communities for the one-year period documented by the study. Sharing with individuals outside the study community is included by examining household gifting to others, and does not capture details of inflows documented, such as magnitude of flows. The study does not capture day-to-day meal sharing and sharing related to holiday feasts (e.g., Christmas and Thanksgiving).

As noted in Chapter 2 on Theory, we measured wild food inflows to households, including:

1) own harvest by a single household, gained through harvesting by one or more household members;

2) cooperative harvest, which includes portions of a harvest received through being on a hunt or for fishing;

3) helping shares for wild foods received through a contribution to the hunting of others, such as contributing equipment, ammunition, gas, or labor;

4) sharing, a gift received independent of immediate reciprocated exchange; and

5) bartered and purchased wild food, received through post-harvest exchanges.

Some data capture outflows to households and to other communities.

Kaktovik and Wainwright engaged in bowhead and beluga whaling and Venetie did not. Social relationships in these two whaling communities were further elaborated to distinguish the role of feasts, community household shares and crew relations (crew shares, towing shares, and captains' shares) around bowhead and beluga whaling as sources of wild food for households. Venetie households, however, did receive marine species from other communities, and results report these flows of food. Results are reported both with and without whale flows to households in order to highlight the highly structured case of bowhead, and the ritualized social organization around harvesting and wild food distribution for core species.

Results primarily reflect food and other resources flowing into and between interviewed households. However, some entities that were not interviewed (e.g., non-local households, local organizations and businesses) do appear in network diagrams, as they were reported by interviewed household heads as contributing or giving wild food or making contributions to them. Similarly, unsurveyed local households may also appear in networks as they were cited as givers of food to respondent households. However, households not interviewed or other entities, such as whaling crews, appear only as sources of food or contributions and not as part of the two-way

distribution system, even though food and equipment, etc., may have moved in both directions.

Following descriptive results on cooperation and sharing patterns, a series of figures representing flows of food and contributions through networks are presented for core species for each of the three study communities. The first series of network graphs represents flows by species, whereby flows through all social relationships are aggregated by unique species (e.g., beluga, caribou, ducks). The second series of network graphs represents flows by social relationships, in which flows of all species are aggregated by types of social relationships (e.g., sharing, cooperative hunting). A final series of graphs represents gifts given by households to others. This part of the survey switched the perspective on giving and receiving and asked Wainwright households to name households they gave to by categories related to food. Categories included fish, marine mammals, land mammals, and equipment.

Findings on gender and sharing are presented for all communities at the end of the chapter. These are first presented by examining level of sharing among households with male, female, and couple heads. It is followed by findings on sharing and gender for all resources.

Flows of food and contributions through networks are summarized in two ways: 1) contributions are count data that represent the number of contributions of different types provided by one household or entity to another (e.g., gas provided and equipment provided by household 1 to household 2 would be reflected as a count of 2 contribution "ties"); and 2) flows of food are summarized as pounds and represent the magnitude of flow between households. The magnitude of flows and counts of other resources moving between households is represented by the thickness of ties between households. Results are presented in both formats in the following sections.

Textbox 7.1. Definitions of network statistics.

Components: Groups of connected households. Households are in the same (weak) component if any flow occurs among them. Households are in the same strong component if flows are reciprocal. Component values range between 1 (where all nodes are connected) to *n*, where *n* is the total number of households in the network.

Degree: The number of connections between one household and all other households in the network. Mean degree is the average number of connections per household. Degree values range between 0 and *n*.

Density: The ratio of actual connections to total possible connections. Density values range from 0 (no households are connected) to 1 (every household is connected to every other household).

Distance: The length of a path from one household to another is the number of ties it contains. The distance between two households is the length of the shortest path between them. Mean distance for the network is the mean shortest path length.

Compactness: Compactness is the harmonic mean of all distances (that is, the normalized sum of the reciprocal of all the distances). Compactness varies from 0 (when no households are connected) to 1 (when all households are connected).

Diameter: Diameter is the longest of all the calculated shortest paths in a network. In other words, once the shortest path length from every node to all other nodes is calculated, the diameter is the longest of all the calculated shortest path lengths. The diameter is representative of the linear size of a network.

Clustering coefficient: The clustering coefficient of a household is the density of its open neighborhood. The overall clustering coefficient is the mean of the clustering coefficient of all the households in the network. A high clustering coefficient for a network is an indication of a small world in which nodes are separated by relatively short distances.

Reciprocity: The proportion of directed flows that are reciprocated. Reciprocity values range from 0 (no flows are reciprocal) to 1 (all flows are reciprocal).

A table of summary statistics for resources and social relationships is presented for each community (Tables 7.8, 7.16, and 7.23). Definitions of network statistical terms described in the results appear in Textbox 7.1, with summary network statistics attached to each network graph. The network graphs were created in Netdraw (Version 6) using a Spring-embedded, node repulsion, equal-edge algorithm, by which successive iterations calculate the repulsive and attractive forces acting on all nodes, and nodes that are more connected are pulled to the center of the visualized network. Nodes that are weakly connected fall near the edges of the visualized networks.

About network graphs

Network graphs contain nodes and ties (vertices). Nodes in all figures represent households or other entities (as described above). Node color indicates maturity of the household head (i.e., developing, mature, and elder categories). Node shape denotes the marriage status of household head(s) (i.e., couple, single female household head, single male household head categories) and type of entity if not a local household (e.g., organization, crew, unsurveyed household or household in another community). Node size is scaled by the total inflow of wild foods into each household (inclusive of a household's own production).

Ties (or vertices) in all figures represent the presence or absence of a flow of either food (lbs) or contributions (counts) between nodes. Arrowheads denote the direction of the flow—a double arrow is indicative of a reciprocal tie between households or entities. Line thickness in all network diagrams reflects the relative magnitude of reported flows. Textbox 1 defines technical measures of social network analysis used in this report.

Kaktovik

Network data were collected for 7 core species in Kaktovik—bowhead whale, beluga whale, bearded seal, caribou, Dall sheep, Dolly varden (arctic char), and geese. Almost 93% of Kaktovik households harvested core species with a mean weight of 2,573.99 lbs per household (Median = 1,176.4 lbs) (Table 7.1). More than 94% of households harvested both core and non-core species. Total harvest for core species was 180,179 lbs, while total food flowing between all Kaktovik households was documented as 223,615 lbs. The difference between harvest and inflow (43,436 lbs) represents harvested wild foods that were redistributed between Kaktovik households, a clear indication of the role of social relationships—primarily sharing and shares—in supporting Kaktovik households within the mixed subsistence-cash economy.

Table 7.2 indicates the total flow of edible pounds by core species for Kaktovik. These figures include mean replacement values. Bowhead whale accounted for 84,616 lbs of the 223,615 lbs of food flowing between village households.

Table 7.1. Core species vs. non-core species harvested by households, Kaktovik.

	Households with Reported Harvest % (No.)	Mean (lbs/HH)	Standard Deviation (lbs/HH)	Median (lbs/HH)	Minimum (lbs/HH)	Maximum (lbs/HH)
Core Species[a]	92.9 (65)	2,573.99	4,240.12	1,080.58	0.00	25,052.12
Non-Core[b] Species	54.3 (38)	167.50	463.17	7.26	0.00	2,937.00
Core and Non-Core Species	94.3 (66)	2,741.48	4,441.21	1,176.40	0.00	25,482.12

a. Kaktovik core hunted species were Bowhead Whale, Beluga Whale, Bearded Seal, Dolly Varden, Caribou, Dall Sheep, and Geese.

b. Chum Salmon, Coho Salmon, Chinook Salmon, Pink Salmon, Sockeye Salmon, Unknown Salmon, Herring, Smelt, Rainbow Smelt, Arctic Cod, Saffron Cod, Halibut, Sculpin, Burbot, Dolly Varden, Lake Trout, Arctic Grayling, Rainbow trout, Broad Whitefish, Arctic Cisco, Round Whitefish, Brown Bear, Moose, Muskox, Dall Sheep, Arctic Fox, Red Fox, Snowshoe Hare, Marmot, Mink, Porcupine, Parka Squirrel, Weasel, Wolf, Wolverine, Polar Bear, Ringed Seal, Spotted Seal, Walrus, Eider, Common Eider, King Eider, unknown ducks, Tundra Swan, Sandhill Crane, Ptarmigan, Tundra Swan Eggs, Clams, Blueberry, Low-bush Cranberry, Crowberry, Cloudberry, Raspberry, Wild Rubarb, Other Wild Greens and Fungi.

Table 7.2. Core resource flows, Kaktovik.

Resource	N of Flow Reports	Sum		Mean/flow		Median/flow		Std. Dev.s	
Caribou	394	72,448.7	lb	183.9	lb	68.0	lb	365.3	lb
Dall Sheep	133	12,975.1		97.6		30.5		152.8	
Geese	210	3,009.2		14.3		9.7		19.0	
Dolly Varden	398	21,606.8		54.3		26.4		100.6	
Bearded Seal	114	10,927.8		95.9		21.0		222.7	
Beluga	88	18,032.0		204.9		101.8		314.6	
Bowhead	450	84,615.7		188.0		40.0		342.6	
All Resources	1,787	223,615.1		125.1		30.9		274.9	

Caribou was the second-ranked core species (72,449 lbs), followed by Dolly varden (21,607 lbs), beluga whale (18,032 lbs), Dall sheep (12,975 lbs), bearded seal (10,928 lbs), and geese (3,009 lbs).

Kaktovik Subsistence Cooperation

Figure 7.1 illustrates that only 21.4% of total inflows of wild food to Kaktovik households are from households' own harvest (47,812.6 lbs). The remainder, 78.6%, is the result of different kinds of social relationships between households—a key finding of the study. Cooperative harvesting accounted for 52,141.0 lbs (23.3%), helper shares (non-whale) 10,340.1 lbs (4.6%), and sharing 32,386.7 lbs (14.5%) (See Table 7.3 for a breakdown by species, and then specific social relationships). Table 7.4 (a), breaks down the proportion of flows of wild food into households represented by all social relationships. Of the total flow of food (223,615 lbs), 45% (102,648 lbs) is represented by combined pounds of meat and *maqtaaq* associated with bowhead and beluga whaling. More than 22% percent of total flow (50,108 lbs) was received by members of bowhead whaling crews (Table 7.4, Part b).

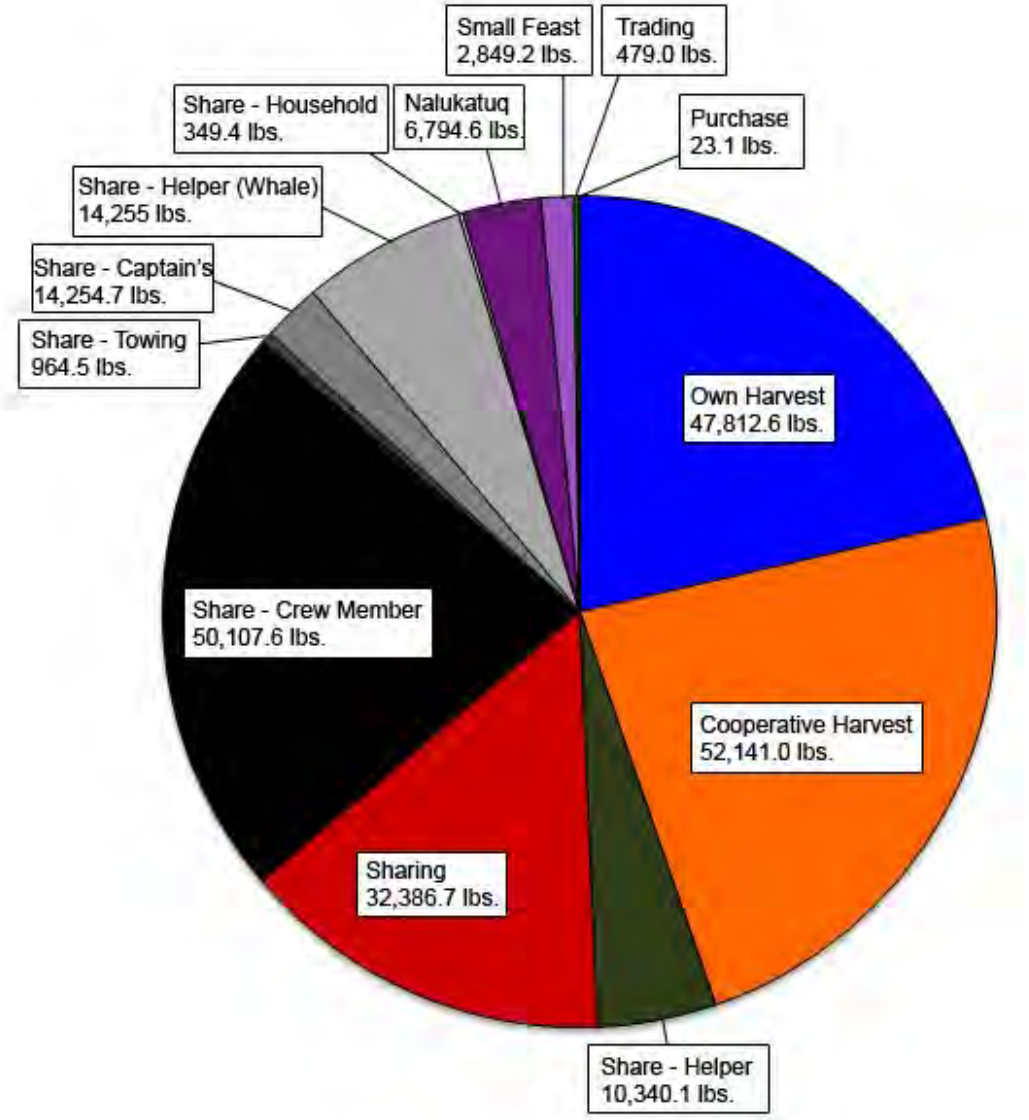
Many other resources flowed between households in addition to wild foods. Table 7.3 (all relations contribution ties) highlights a total of 948 ties between households. These relations represent

- help with processing for core species (496 ties),
- general lending of equipment (109 ties),
- provision of labor to repair equipment (53 ties),
- contributions to communal beluga hunting (processing and spotting labor), and
- other contributions to the hunting efforts of households.

Other contributions included households receiving shares of hunted meat or fish (for, e.g., labor (114 ties), fuel (38 ties), supplies (34 ties), equipment (28 ties), ammunition (19 ties), cash (6 ties) and an "other" category that included, for example, contributions such as cooking for whaling crews). These contribution ties are by definition reciprocal as they represent harvested food received by a household in return for contributions to the hunting effort.

During the study period, three bowhead whales were successfully landed and harvested in fall of 2009 by 3 of 7 active whaling crews in Kaktovik. Only one of the 3 successful whaling captains agreed to be interviewed, so the whaling flows and contributions to 2 successful whaling crews are not fully captured in this dataset. Therefore, reported results significantly underrepresent contributions received by whaling crews and the flow of captain and towing shares for the other 2 landed bowhead whales, as these data were collected based on interviews with whaling captains. Table 7.5 parts (a) and (b) present a detailed account of bowhead and beluga contributions and associated flows of whale (*maqtaaq* and meat) to Kaktovik households through specific kinds of social relationships unique to both kinds of whaling effort. Table 7.5 parts (a) and (b) also describe characteristics of crew membership.

Figure 7.1. Flows of wild food through social relationships in Kaktovik.



We documented a total of 57 crew members across 33 households that reported household members as being on a bowhead whaling crew for the 2009 fall whaling season (Table 7.5). Crew members received more than 50,107 lbs of *maqtaaq* and meat as crew shares, captain's shares (14,255 lbs), and towing shares (965 lbs) (Table 7.3). These 3 sources of shares average to 2,308.5 lbs of meat/*maq taaq* received by 33 Kaktovik households. Towing shares were distributed to members of whaling crews who helped to tow the whales of the three successful crews. There were 253 household contributions to the 7 crews made by 59 households, businesses, or organizations. An average of 8.1 individuals were named as active hunters on whaling crews. Note: This number refers to the number of individuals with a captain out on the water. It does not include spouses, or helpers to crews who are central to all activities associated with preparing for feasts. This number therefore underestimates the number of people who might locally be defined as members of whaling crews. Whaling crew members contributed their labor and sometimes equipment. Whaling captains contributed equipment (e.g., boat, snowmachines, sleds, tarps, fuel, oil, ropes, ammunition, bombs) as well as food and other supplies.

Figure 7.2. Ranked household inflows, Kaktovik.

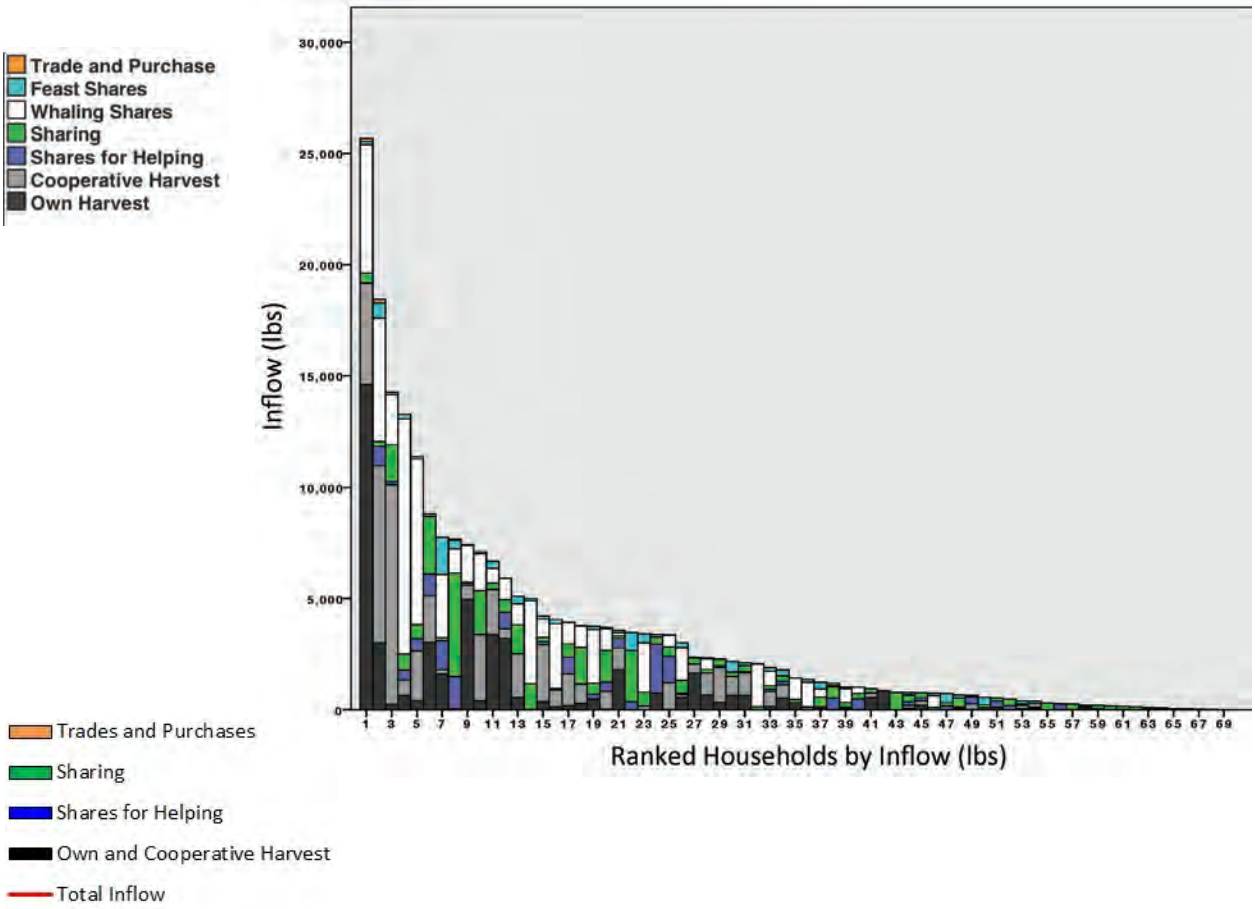


Figure 7.3. Proportion of food by relationships flowing to households, Kaktovik.

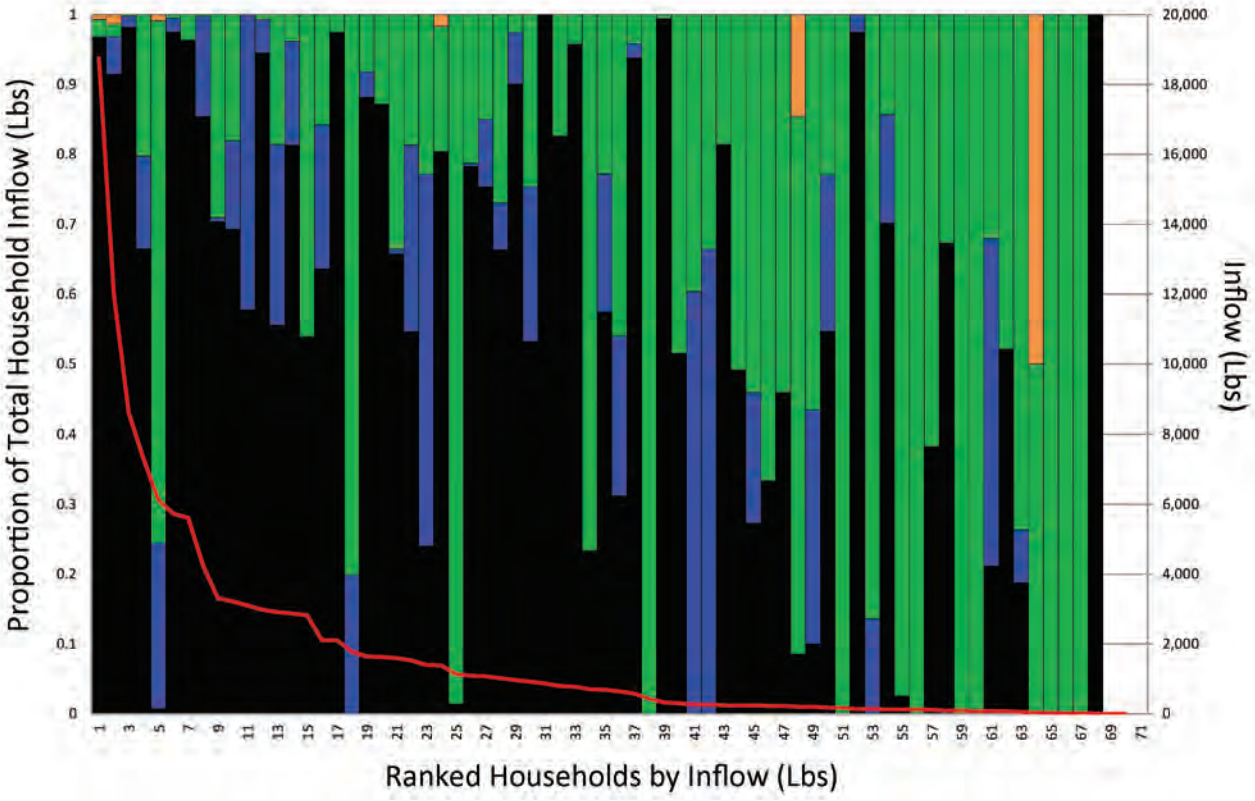


Table 7.3. Core resource flows by resource and relation, Kaktovik.

		Flows (edible pounds with mean replacements)							
Resource & Relation Combinations	No. of Reported Ties	Sum		Mean per flow		Median per flow		Std. Dev.	
Caribou Relations									
Own Harvest	67 ties	27,037.2	lbs	403.5	lbs	226.7	lbs	533.9	lbs
Share - Cooperative Harvest	144	24,778.8		172.1		81.6		223.1	
Share - Helper	42	7,441.5		177.2		136.0		196.1	
Sharing	138	13,005.1		94.2		33.5		386.9	
Trading	3	186.0		62.0		30.0		64.3	
Own HH Processing	91								
Other HH Processing	179								
Contribution for Share - Total	66								
Ammunition	13								
Cash	2								
Equipment	11								
Fuel	18								
Labor	18								
Supplies	4								
Total	730	72,448.7		183.9		68.0		365.3	
Dall Sheep									
Own Harvest	11	5,033.6		457.6		457.6		204.2	
Share - Cooperative Harvest	31	4,373.7		141.1		69.3		131.8	
Share - Helper	13	1,295.1		99.6		104.0		133.0	
Sharing	78	2,272.7		29.1		16.4		32.8	
Own HH Processing	39								
Other HH Processing	74								
Contribution for Share - Total	24								
Ammunition	7								
Equipment	2								
Fuel	8								
Labor	3								
Supplies	4								
Total	270	12,975.1		183.9		68.0		365.3	
Geese Relations									
Own Harvest	64	1,353.1		21.1		15.3		27.0	
Share - Cooperative Harvest	77	920.2		12.0		6.8		13.9	
Share - Helper	14	304.1		21.7		17.0		21.7	
Sharing	54	424.9		7.9		6.8		5.7	
Trading	1	6.8		6.8		6.8		.-	
Own HH Processing	71								

Table 7.3. Core resource flows by resource and relation, Kaktovik, continued.

		Flows (edible pounds with mean replacements)			
Resource & Relation Combinations	No. of Reported Ties	Sum	Mean per flow	Median per flow	Std. Dev.
Geese Relations, continued					
Other HH Processing	49				
Contribution for Share - Total	28				
Ammunition	9				
Cash	2				
Equipment	3				
Fuel	5				
Labor	6				
Supplies	3				
Total	358	3,009.2	14.3	9.7	19.0
Dolly Varden Relations					
Own Harvest	159	9,348.7	58.8	26.4	112.0
Share - Cooperative Harvest	157	8,886.4	56.6	30.9	105.5
Share - Helper	11	880.0	80.0	23.1	100.1
Sharing	63	2,280.5	36.2	20.0	51.2
Trading	6	188.1	31.4	33.0	4.0
Purchase	2	23.1	11.6	11.6	11.7
Own HH Processing	93				
Other HH Processing	69				
Contribution for Share - Total	15				
Equipment	4				
Fuel	1				
Labor	7				
Supplies	3				
Total	575	21,606.8	54.3	26.4	100.6
Bearded Seal Relations					
Own Harvest	20	5,040.0	252.0	210.0	461.8
Share - Cooperative Harvest	46	3,482.4	75.7	79.9	69.7
Share - Helper	8	419.4	52.4	20.7	73.1
Sharing	38	1,960.4	51.6	10.0	136.2
Trading	2	25.6	12.8	12.8	1.1
Own HH Processing	37				
Other HH Processing	118				
Contribution for Share - Total	10				
Ammunition	2				
Fuel	2				
Labor	6				
Total	279	10,927.8	95.9	21.0	222.7

Table 7.3. Core resource flows by resource and relation, Kaktovik, continued.

		Flows (edible pounds with mean replacements)			
Resource & Relation Combinations	No. of Reported Ties	Sum	Mean per flow	Median per flow	Std. Dev.
Beluga Relations					
Share - Cooperative Harvest	25	9,699.5	388.0	388.0	341.3
Share - Helper	2	207.4	103.7	103.7	0.0
Sharing	59	7,775.7	131.8	36.4	282.8
Share - Household	2	349.4	174.7	174.7	51.6
Contribution to Communal Hunt	48				
Boat	6				
Hunt	14				
Labor (Processing, Spotting, Other)	28				
Total	136	18,032.0	204.9	101.8	314.6
Bowhead Relations					
Sharing	43	4,667.4	108.5	40.0	197.4
Trading	3	72.5	24.2	10.0	31.3
Nalukatuq	49	6,794.6	138.7	105.6	169.4
Small Feast	160	2,849.2	17.8	8.0	62.4
Share - Crew Member	156	50,107.6	321.2	313.2	360.0
Share - Towing	3	964.5	321.5	315.1	12.8
Share - Helper	21	4,905.3	233.6	100.0	462.5
Share - Captain's	15	14,254.7	950.3	950.0	757.3
Own HH Processing	3				
Other HH Processing	7				
Contribution for Share - Total	112				
Ammunition	1				
Cash	2				
Equipment	8				
Fuel	4				
Labor	74				
Supplies	20				
Other (food)	3				
Total	572	84,615.7	188.0	40.0	342.6
Lending Relations					
Lending Equipment					
Boat	25				
Equipment	84				
Total	109				

Table 7.3. Core resource flows by resource and relation, Kaktovik, continued.

				Flows (edible pounds with mean replacements)							
Resource & Relation Combinations		No. of Reported Ties		Sum		Mean per flow		Median per flow		Std. Dev.	
Repairing Relations											
Repair Equipment		53									
	Total	53									
All Resources											
All Relations											
	Own Harvest	321		47,812.6		148.9		34.0		322.3	
	Share - Cooperative Harvest	480		52,141.0		108.6		37.5		183.7	
	Share - Helper	88		10,340.1		117.2		68.0		159.5	
	Sharing	473		32,386.7		68.5		21.4		245.8	
	Share - Crew Member	156		50,107.6		321.2		313.2		360.0	
	Share - Towing	3		964.5		321.5		315.1		12.8	
	Share - Helper (Whale)	23		5,112.6		233.6		100.0		462.5	
	Share - Captain's	15		14,254.7		950.3		950.0		757.3	
	Share - Household	2		349.4		174.7		174.7		51.6	
	Nalukatuq	49		6,794.6		138.7		105.6		169.4	
	Small Feast	160		2,849.2		17.8		8.0		62.4	
	Trading	15		479.0		31.9		30.0		32.3	
	Purchase	2		23.1		11.6		11.6		11.7	
	All Relations Flows of Food	1,787	ties	223,615.1	lbs	125.1	lbs	30.9	lbs	274.9	lbs
	Own HH Processing	334	ties								
	Other HH Processing	496		223,615.1							
	Contribution for Share - Total	242									
Ammunition		19									
Cash		6									
Equipment		28									
Fuel		38									
Labor		114									
Supplies		34									

Table 7.3. Core resource flows by resource and relation, Kaktovik, continued.

			Flows (edible pounds with mean replacements)							
Resource & Relation Combinations	No. of Reported Ties		Sum		Mean per flow		Median per flow		Std. Dev.	
All Resources										
Other	3									
Contribution to Communal Hunt	48									
Lending Equipment	109									
Repair Equipment	53									
All Relations Contribution Ties	1,282	ties								
All Relations Flows and Contribution Ties	**3,069**	**ties**	**223,615.1**	**lbs**	**125.1**	**lbs**	**30.9**	**lbs**	**274.9**	**lbs**

Table 7.4. Summary of wild food inflows by relationships, Kaktovik.

a. All relations/All Species	% of Total Flow	Lbs
Own Harvest	21.4	47,812.6
Cooperative Harvest	23.3	52,141.0
Shares Help	4.62	10,340.1
Sharing	14.5	32,386.7
Share – Crew member	22.4	50,107.6
Share – towing	0.4	964.5
Share – Helper (Whaling)	2.3	5,112.6
Share - Captain	6.4	14,254.7
Share – Household	0.2	349.4
Nalukataq	3.0	6,794.6
Small Feast	1.3	2,849.2
Trading	0.2	479.0
Purchase	0.01	23.1
TOTAL	100.0	223,615.1
b. Whaling Relations Only	**% of Total Flow**	**Lbs.**
Share - Cooperative Harvest (Beluga)	4.3	9,699.5
Share - Helper	2.3	5,112.6
Sharing	5.6	12,443.0
Share - Household	0.2	349.4
Trading	0.03	72.5
Nalukataq	3.0	6,794.6
Small Feast	1.3	2,849.2
Share - Crew Member	22.4	50,107.6
Share - Towing	0.4	964.5
Share - Captain	6.4	14,254.7
TOTAL - All whaling relations	45.9	102,647.6

Non-crew "helpers" also were the source of significant contributions to crews (e.g., cooking labor, processing labor, fuel, equipment and other supplies) for which they received shares of the landed whale (non-crew shares are referred to here as Helper lbs). More than 4,600 lbs of *maqtaaq*/meat were received by Wainwright households in the form of "sharing" from one household to another.

There were 3 "Captain's Feasts" or "small feasts" held after the fall 2009 whaling season, associated with the 3 harvested whales. The Captain's Feasts are held at the whaling captain's home. The timing of the feast is announced by radio and the parading of the successful captain's boat through town. Once people are assembled, the feast begins with a prayer of thanks for the successful hunt, the safety of the crews, and a safe and healthy coming year for the community. All community members are invited to attend, eat, and take small shares of food (*migiak*—whale meat fermented in blood), duck and *maqtaaq* soup, jello, fruit salad, biscuits, etc.) home with them. Households may take home shares of food for each household member regardless of any individual's presence

Table 7.5. Bowhead and beluga whaling efforts: Contributions and flows, Kaktovik.

	a. Bowhead Whaling	
	Contributions to hunt	
	No. active crews	7
	No. HHs with crew members	33
	Total crew members (across all HHs)	57
	All Contribution ties (No.)	253
	Average no. of individuals on a crew[a]	8.1
	No. HHs/org's contributing to bowhead whaling	59
Flows to HHs		
	No. HHs receiving crew shares[b]	33
	Average lbs flowing into HHs[b] from Towing, Captain's and Crew Shares	2,308.5
	Total lbs flowing into HHs	102,647.6
	No. HHs receiving small feast shares per whale	Small Feast 1: 51 Small Feast 2: 53 Small Feast 3: 43
	Average Size of Small feast Share/HH (lbs)	40.7
	Total lbs small feasts (all)	2,849.2
	No. HHs receiving Nalukataq shares	49
	Average Size of Nalukataq Share/HH (lbs)	97.1
	Total lbs flowing from Nalukataq	6,794.6
	Average lbs flowing from bowhead Helper - Shares/Sharing into HHs	255.8
	b. Beluga Whaling	
Contributions to beluga hunt	Total No. Individuals (Hunters/spotters/boat providers)	Hunters = 14 Spotter = 1 Boats = 6
	No. HHs contributing to beluga hunts	18
Flows to HHs	No. HHs receiving beluga	54
	Avg. size of beluga share (lbs)	308.3
	Total lbs flowing from beluga hunts	18,808.0

a. This number refers to the number of individuals with a captain out on the ice. It does not include spouses, or helpers to crews who are actively involved with preparing for feasts.

b. Captain's Share, Household crew member, Towing share

c. Average calculated only based on those HHs receiving some combination of Tow, Crew, and/or Captain's Shares (n=33).

at the feast itself. Fifty-one, 53, and 43 households, respectively, reported receiving shares at each of the feasts. The average combined shares reported across the three small feasts was 40.7 lbs, and a total pounds of 2,849.2 lbs was reported received by households from all three small feasts. Average flows from Helper Shares and Sharing combined into each Kaktovik household was 255.8 lbs.

Kaktovik is a fall (autumn) whaling community. One combined *Nalukataq* is held in June of the following year to which all successful whaling crews contribute. Because data were collected in Kaktovik in May 2010, the 2010 *Nalukataq* had not yet occurred, so households were asked to report how much food they received at the previous year's *Nalukataq* (June 2009). Forty-nine households attended that *Nalukataq* feast,

and households reported taking an average of 97.1 lbs home from the feast. Almost 6,800 lbs of food were distributed to households through the spring 2009 *Nalukataq* in Kaktovik.

Beluga hunting took place in Kaktovik (Table 7.5b) in two ways. One beluga was landed by hunters, and other animals were successfully taken in a communal hunt. This larger hunt required considerable cooperation among community members in first spotting animals passing by the village, hunting the pod with boats, retrieving hunted animals, and processing the meat. Six boats participated in the successful group beluga harvest, with another 12 households contributing time and labor as harvesters, processors, or spotters. Fifty-four total households received beluga meat and *maqtaaq*, averaging 308.3 lbs per household, for a total of 18,808.0 lbs distributed to community households from the hunting effort.

Cooperative hunting activity between households was reported for all 7 core species. The number of households involved in hunting or fishing for core species other than bowhead and beluga averaged from 2.9 to 2.4 households. Bearded seal hunting groups incorporated the most households on average. Mean size of cooperative hunting groups varied from 3.1 individuals (Dall sheep) to a high of 5.33. The largest recorded group was for fishing of Dolly varden, with a maximum of 13 people, followed by 9 people for a caribou hunting group (Table 7.6).

The work of Wolfe (1987) highlighted a broad pattern of subsistence hunting in Alaska villages, the so-called 30:70 rule, whereby 30% of households are responsible for 70% of village harvests. Figure 7.2 provides detail on this pattern for Kaktovik, ranking households by total inflow (high to low, left to right on the X axis), but also indicating the different social relationships responsible for flows of food into individual households. The pattern represented by the black portions of the bars is suggestive of Wolfe's 30:70 rule (own and cooperative hunting), but also highlights that households along the spectrum of inflow receive food from a range of social mechanisms. When looking only at harvested food for core species (own hunting, cooperative hunting, and whaling harvest relationships), 30% of Kaktovik households are responsible for 81% of total harvested food. For those households with low inflow (Figure 7.2), it is clear that the source of most of their wild food is predominantly social in nature (Shares Help, Sharing, and Whaling). Figure 7.3 highlights this pattern for inflows associated with the 5 non-whale core species. Households are again ranked by total inflow on the X axis and total inflow on the Z axis (red line). The proportion of total household inflow from sharing and Shares for Helping relationships (Y axis) is inversely related to total inflow. Households with lower inflow overall depend more on social relationships of Sharing (green color), some Shares for Helping (blue color) and Trading/Purchase (orange color) as sources of wild food.

Kaktovik households reported giving and receiving an average of 3.1 and 4.5 core species, respectively (Table 7.7). Households gave an average of 2.9 non-food contributions (Median

Table 7.6. Average size of cooperative hunting groups[a] - Core species without whales, Kaktovik.

Species	Mean number of HHs within cooperative hunting groups (No. HHs)	Cooperative Hunting Group/ Crew Size (No. Hunters)	Standard Deviation	Median	Minimum	Maximum
Caribou	2.55	3.92	1.89	4.00	2.00	9.00
Dall Sheep	2.42	3.06	1.53	2.00	2.00	6.00
Geese	2.50	4.43	2.12	4.00	2.00	7.00
Dolly Varden	2.67	5.33	3.19	4.00	2.00	13.00
Bearded Seal	2.92	4.39	1.58	4.00	2.00	7.00

a. Data calculated based on no. individuals hunting together only for the "Cooperative hunting" relation.

= 2.0) and received an average of 2.7 contributions from other households (Median = 2.0). Households received from an average of 7.1 other households (Median = 6.0) and gave to 6.2 households on average (Median = 4.0). All households received from, and gave to at least one other entity or household. Mean degree for Kaktovik households was 44.6 (Median = 30.0), meaning households had an average of 44.6 ties (across all resources and relations) with other households. Kaktovik degree was higher than Wainwright (32.6 ties) and Venetie (29.2 ties). For households giving/receiving from few sources, attending and receiving food at a small Captain's Feast or *Nalukataq* were the most common sources of food. Variability across households was high (Table 7.7). One household received foods from 26 different households and another gave to 47 different households. Household Degree ranged from 2 to 271.

Table 7.7. Giving/Receiving of core resources, Kaktovik.

Core Resources	Mean	Standard Deviation	Median	Minimum	Maximum
Giving					
No. Core Food Resources Given Per HH[a]	3.08	1.75	2.50	1.00	7.00
No. Other Contributions[b] Given Per HH	2.87	2.11	2.00	1.00	9.00
No. of HHs that HHs are Giving to[c]	6.21	7.60	4.00	1.00	47.00
Receiving					
No. Core Food Resources Received Per HH[a]	4.53	1.75	5.00	1.00	7.00
No. Other Contributions					
Received per HH	2.69	2.06	2.00	1.00	8.00
No. HHs that HHs are Receiving From	7.08	5.53	6.00	1.00	26.00
HH Degree	44.64	49.46	30.00	2	271

a. List core resources

b. Processing, Equipment, Ammunition, etc.

c. Sharing, Shares, Trading, Purchasing

Kaktovik Networks

Results within this section are drawn from network diagrams and Table 7.8. Figure 7.3 represents all community flows of core resources for all social relationships for the one-year study period. The 3 successful whaling crews and the *Nalukataq* feast are central to the network, reflecting their greater connectedness (indegree and outdegree ties) relative to other nodes of the network. Figure 7.3 includes local and non-local nodes in the network, to illustrate the extent to which food or contributions were received by local households from local households and others outside the village. There are few ties to non-local households which are reciprocal (n = 12) and these represent shares of food received by Kaktovik households in return for contributions made to non-local household hunting efforts. There were 121 non-local ties (3.9%) across 62 non-local households from 14 different communities. There were 3,069 ties in total (Table 7.3).

All but one of the 7 households closest to the center of the Kaktovik complete network (Figure 7.4 and Figure 7.5) are "Elder households" (household heads >59 years old). The remaining highly connected household is a "Mature" aged household. These households are the most connected, although they are not the households with the greatest total flow (i.e., these nodes are not the largest nodes pictured in the diagram).

The caribou network (Table 7.8 and Figure 7.6) is the densest (0.011), with the greatest number of ties and greatest pounds of flows of all core species in Kaktovik. Reciprocity within the

network is the highest of all core species (0.217). The network also has the largest number of strong components (n = 28), suggesting that the network is both dense and distributed across many active households. The network has a total of 297 food ties (730 ties inclusive of contributions and processing) and 45,411 lbs of flow (Note: pounds of flow in this section does not include flows of food from own harvesting). Mean degree (1.8 ties per household) is also the highest across the core species. Caribou processing ties between households totaled 179 contributions (Table 7.3). Two households from France contributed to caribou hunting and one non-USA household received caribou from 2 sources. The mean flow per tie for the caribou network is highest among all core species (351 lbs), and mean flow per node is the second highest of all species (277 lbs) behind bowhead.

Bowhead, a critically important source of food in Kaktovik, accounts for the second most pounds of flow and number of ties. Figure 7.7 illustrates how households (local and non-local) and other local entities contribute to active whaling crews (green diamonds). Contributions to bowhead crews summed to 112 ties, including ammunition, cash, equipment, labor, supplies, and other actions such as cooking. The network diagram illustrates these contributions to whaling crews. Crews who were successful in landing a whale are at the center of the network. These crews are the source of towing shares (given both to crew members and members of other crews who helped to tow the whale to

Table 7.8. Network summary measures, core resources, Kaktovik, 2010.

	All Core Resources	Caribou	Bowhead Whale	Beluga Whale	Bearded Seal	Geese	Dall Sheep	Dolly Varden
Network Size								
Total # of Nodes	164	164	164	164	164	164	164	164
Number of Ties	790	297	264	76	132	125	128	201
Flows (edible lbs)								
Total Flow among nodes	176,577	45,411	84,616	18,808	5,888	7,941	1,654	12,258
Minimum Flow	0	0	0	0	0	0	0	0
Maximum Flow	6,236	2,672	4,236	432	652	236	426	4,929
Mean Flow/Node	1,077	277	516	115	36	48	10	75
Mean Flow/Tie	406	351	318	247	223	139	206	204
Components (connected nodes)								
Number of Components	122	136	164	161	157	157	160	148
Largest Strong Component	42	28	0	3	7	7	4	16
Network Statistics								
Mean Degree	4.817	1.811	1.610	0.463	0.805	0.762	0.780	1.226
Density	0.030	0.011	0.010	0.003	0.005	0.005	0.005	0.008
Mean Distance	2.804	3.066	1.093	1.959	2.010	2.355	1.954	3.436
Compactness	0.117	0.044	0.010	0.004	0.007	0.006	0.008	0.018
Diameter	7	7	3	5	5	6	4	8
Clustering Coefficient	0.225	0.21	0.084	0.062	0.258	0.104	0.314	0.12
Reciprocity	0.165	0.217	0.000	0.057	0.185	0.145	0.080	0.140

NOTES: Number of households includes sampled local households, unsampled local households, and unsampled non-local households. Flows do not include households' production for itself. Networks are disconnected. Distance-based measures are calculated within components. Total number of components includes isolates. Caribou, bowhead whale, beluga whale, bearded seal, and geese were included in all three study communities. Dall sheep and Dolly Varden were included in Kaktovik only.

shore), crew shares and shares for households who helped crews in their whaling effort. Successful crews initially stage a Captain's Feast, and then store a portion of the whale until the following June when captains and their crews contribute to *Nalukataq* (See Table 7.3 for flows associated with these relationships). These linked social relationships explain the star pattern emanating from each successful whaling crew and then the community *Nalukataq*. Note: Active whaling crews with no contributions do not reflect a lack of connectedness. Rather, this is indicative that they were not interviewed by the survey teams. The mean flow per tie for the bowhead network is second highest among all core species (318 lbs), but mean flow per node is the highest of all species (516 lbs).

Beluga hunting in Kaktovik was undertaken both with a large community hunt and a couple of small group hunts, as illustrated in Figure 7.8. Because of the nature of beluga hunting, cooperation among several parties (several boats) is needed to direct and herd beluga in shallow areas were harvesting is possible. Once beluga were landed, individual hunters took animals back to their homes where processing occurred. This is the explanation for the distribution structure illustrated network diagram. Core hunters/processors became the source of reported beluga flowing to other households. There were 3 strong components in the beluga network (Table 7.8) and mean flow per tie was 318 lbs. Mean flow/node within the network was 115 lbs. Note: This core hunter(s) pattern is very different from the hunting/processing pattern documented in Wainwright, where all animals taken during the community hunt were processed on the beach and then distributed directly to households as "community shares." The Kaktovik beluga network includes 136 ties (Table 7.3), of which 25 ties were categorized as shares from cooperative harvesting. Other households received shares based on providing boats, hunting (labor/skill), and other labor such as processing and initially spotting animals as they swam by the village. Total flow of meat and *maqtaaq* in this network came to 18,032 lbs. Kaktovik has close kinship ties with the Inuvialuit of Aklavik, Canada, where beluga hunting is a key element of subsistence harvesting. We documented 3 contributions from the Northwest Territories, Canada.

The bearded seal network has a low density of ties relative to other species networks, and has the second-highest clustering coefficient of all networks (i.e., it is focused around groups of tightly connected nodes). The network is not compact, however, with few of all active nodes connected to each other. The network contains 279 ties in total, 118 of which are processing ties between households. Figure 7.9 illustrates the prominent role of key households as both producers and receivers in the bearded seal network. High producers appear in the network as sources of bearded seal for other households and were either mature or elder households.

The geese network (Figure 7.10) includes 157 ties and has 7 strong components. Four households are isolates. Network density is low in comparison to caribou and bowhead, but similar to beluga, bearded seal, and Dall sheep. The clustering coefficient metric is relatively low and network diameter is moderately high indicating the network is large, but nodes are not tightly connected.

The Dall sheep network in Kaktovik (Figure 7.11) illustrates the importance of three key hunters who travel extensively to find sheep. They were reported as sources of most of the Dall sheep within the Kaktovik network. Network diameter is low (3), but clustering coefficient is highest of all core species networks (0.314). The distribution of Dall sheep, including sharing and the distribution from feast events, is explained by the active hunting of members of these three households. The mean flow per tie was lowest of all species (10 lbs), but mean flow per tie was significant (204 lbs), suggesting that these key hunters distribute their harvest widely and in small amounts. Reciprocity in this network is also lowest after bowhead and beluga. The absence of inputs to feasts in the network is an artifact of the survey asking what households received.

The Dolly varden ("arctic char") network (Figure 7.12) includes several high-producing households and a significant number of ties (third highest after caribou and bowhead, Table 7.3). Mean flow per tie was 204 lbs and mean

flow per node was 75 lbs, the highest among core species after bowhead and beluga. Four households were isolates in the network. Network distance is the highest of all core species, (i.e., the mean of the shortest path between households is high) suggesting that many nodes are linked together in paths. Similarly, the network diameter is the highest of all core species. Younger couples, and male- and female-headed households, are the most central in this network and more so than in any other species network.

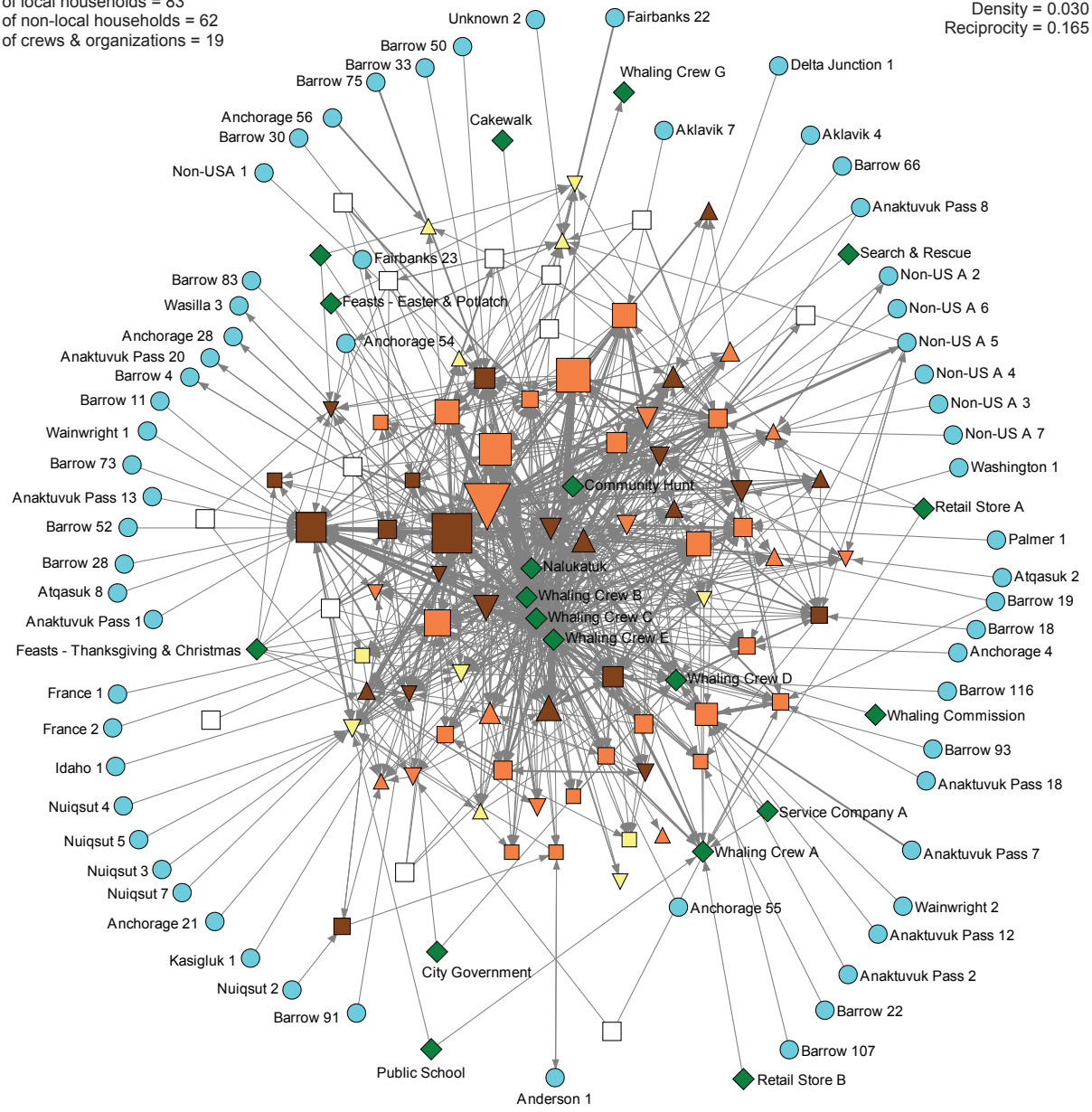
Figures 7.13 through 7.19 visualize ties and flows between households according to relationship type. These figures provide visual context for Table 7.3 (see final table section entitled "All Resources - Flows of Food and Contributions") and illustrate the network structures behind flows of food and contributions for specific resources. Processing (Figure 7.18), Cooperative Hunting (Figure 7.13), and Sharing (Figure 7.15) are the densest networks, (496 ties, 480 ties, and 473 ties, respectively). Shares relations (whaling and non-whaling combined in Figure 7.14) are clearly focused around provision of contributions to whaling crews, although shares move between households independent of whaling as well. The mirror image of shares is contributions (Figure 7.19), instances when households contributed (supplies, cash, ammunition, labor, equipment, etc.) to the hunting/fishing of other households in return for shares (452 ties). Figure 7.16 visualizes feast shares, illustrating the distinctive star pattern associated with wide distribution of feast shares from whaling crews to community households (209 ties). Figure 7.17 illustrates the very sparse trading and purchase network for Kaktovik. Across all species, trading and purchase contains 17 ties (Table 7.3).

Figure 7.20 visualizes gifting flows by categories of resources between Kaktovik households and from Kaktovik households to other non-local households. In total, 201 nodes are represented in this network (70 local and 131 non-local). A total of 760 ties are represented, 475 between Kaktovik households and 285 to non-local households spread across 22 other Alaska communities, two Canadian villages, 8 other US states and 3 other countries. Sixty-three of 131 non-local households (48%) were with other North Slope Borough households. The two largest recipient towns were Barrow (50 households) and Fairbanks (46 households), followed by Anchorage (29 households). Twenty-nine households in Canada received food or equipment from Kaktovik households, reflecting the many kinship relationships between Kaktovik and Inuvik and Aklavik, Northwest Territories. The most common category of food given was land mammals (n = 269), followed by fish (n = 241), marine mammals (n = 216) and equipment (n = 34). Results clearly show that sharing relationships extend beyond the village and beyond the North Slope Borough.

Figure 7.4
All resources, all documented relations, Kaktovik

NODE SUMMARY
Total N of nodes = 164
N of local households = 83
N of non-local households = 62
N of crews & organizations = 19

NETWORK STATISTICS
Mean Clustering coefficient = 0.225
Mean Degree = 4.817
Density = 0.030
Reciprocity = 0.165



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

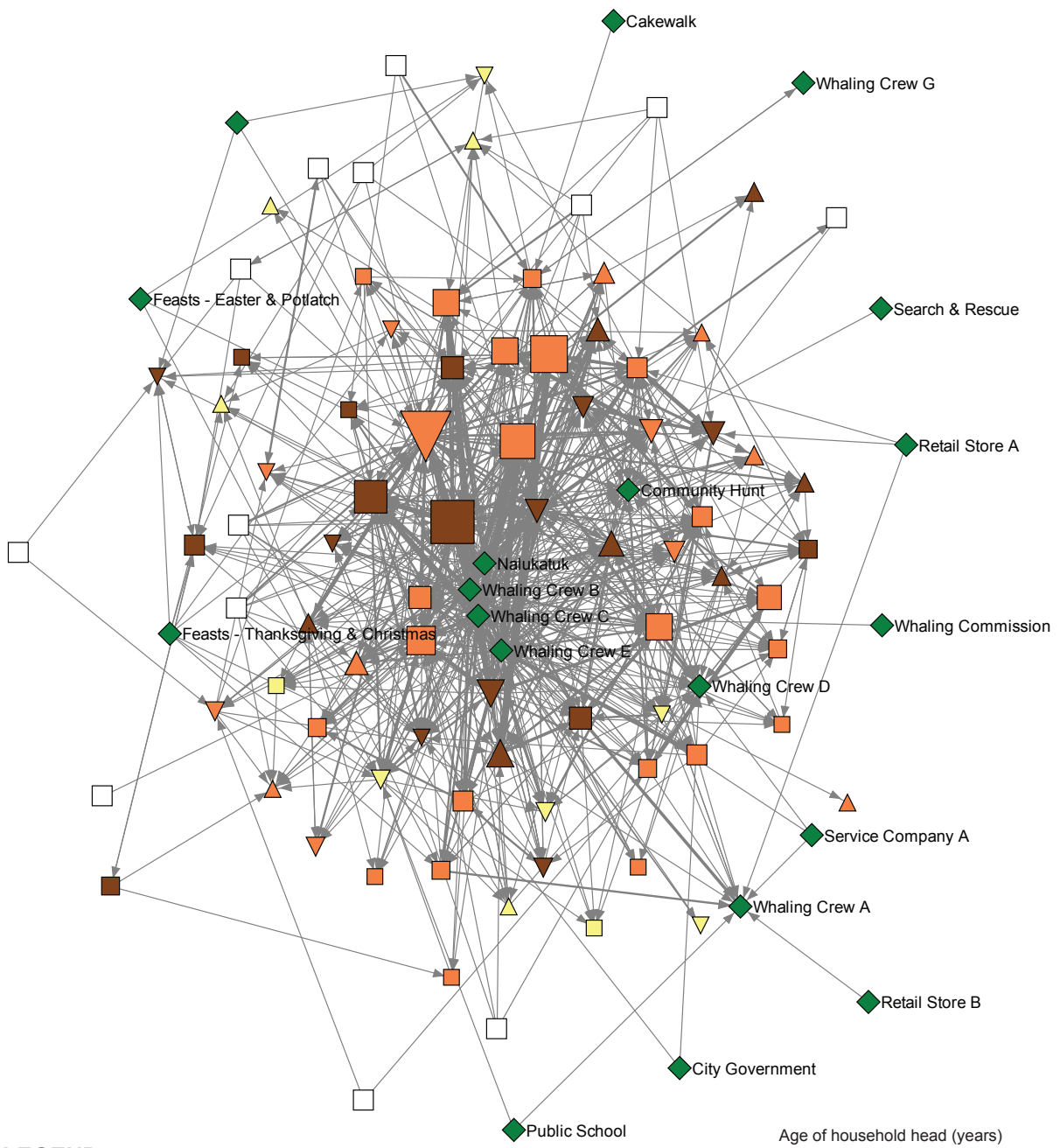
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	□	□	□	□
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◇			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.5
All resources, local relations only, Kaktovik



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

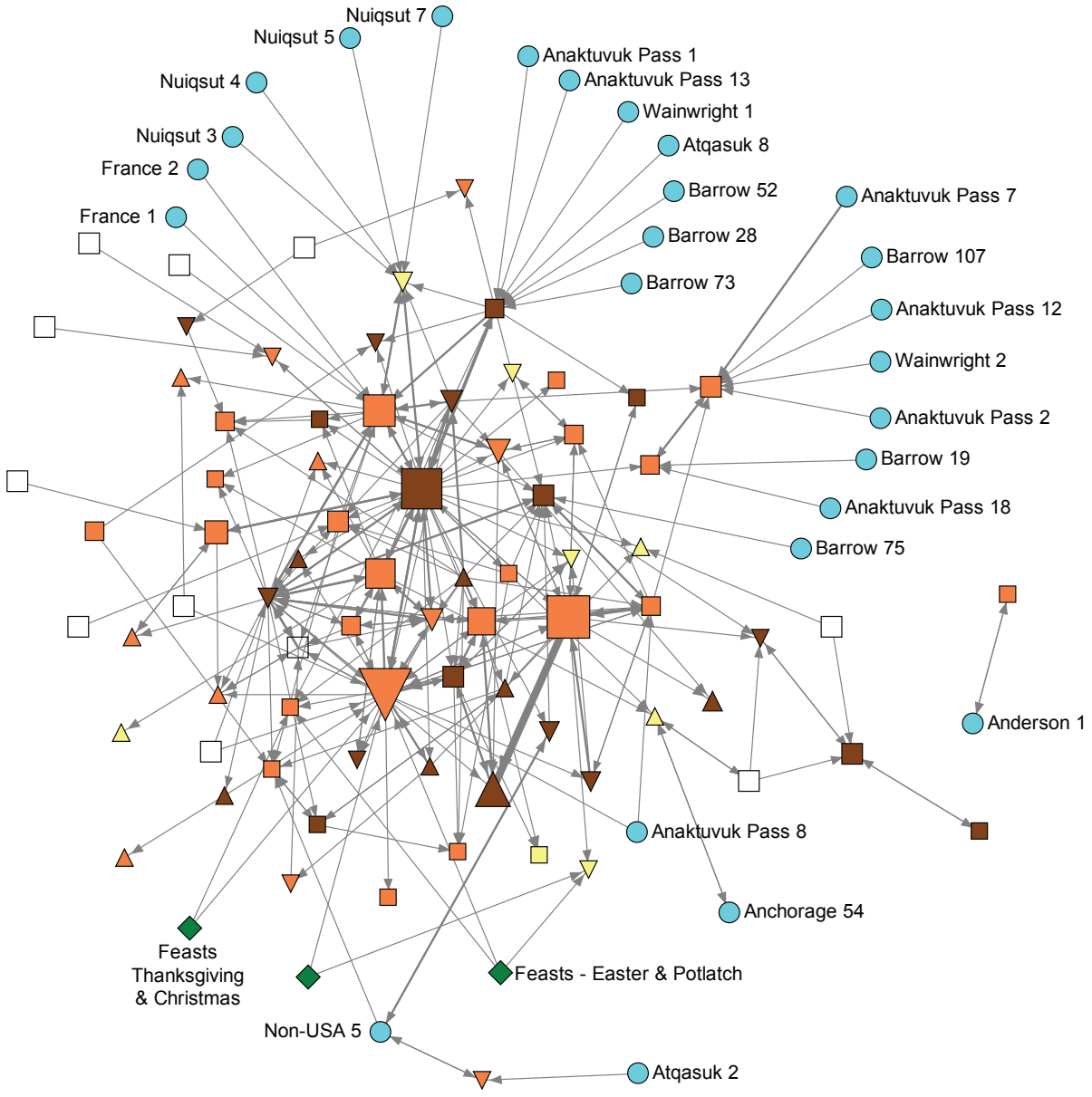
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.6
All caribou relations, Kaktovik



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

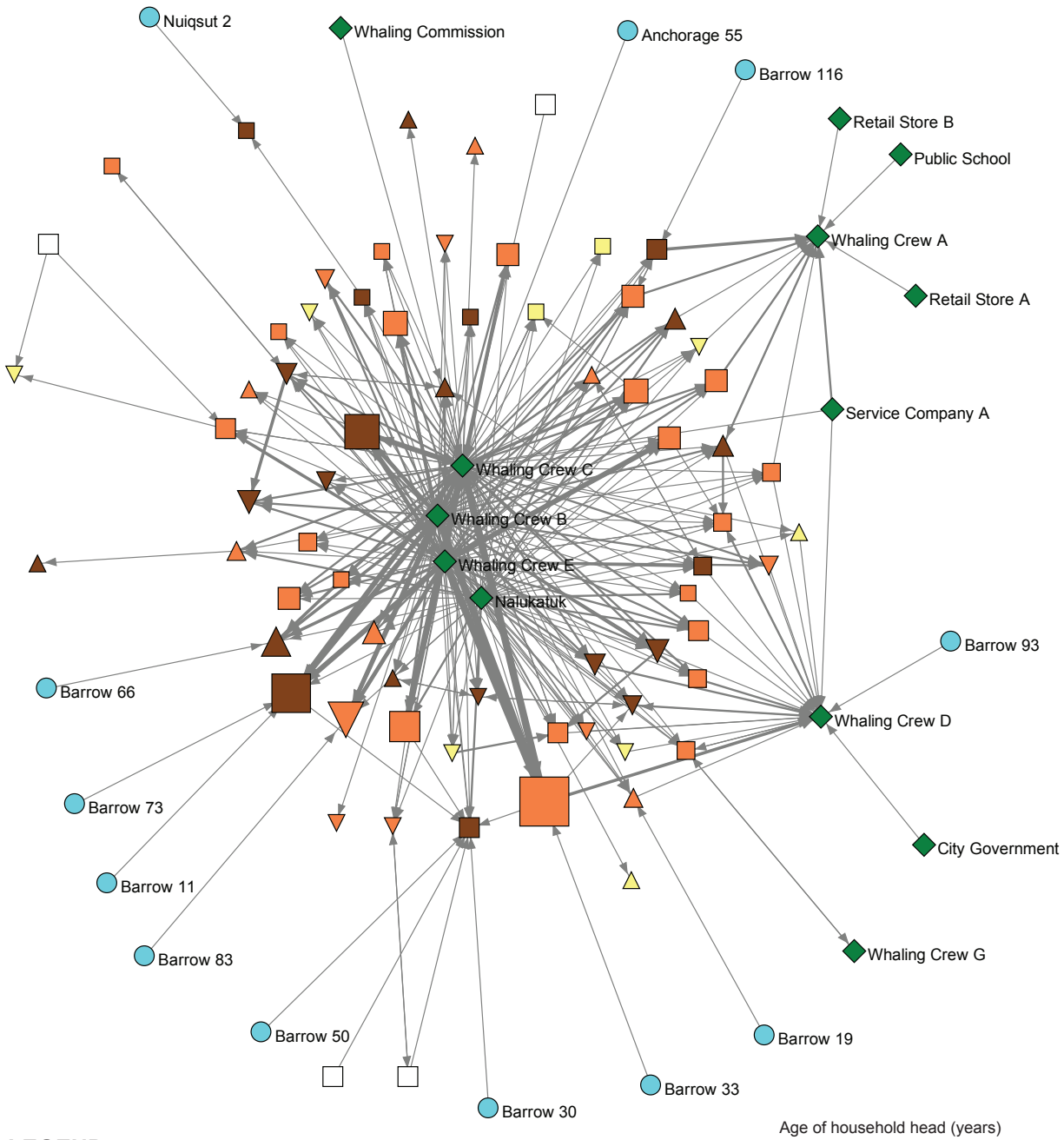
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	☐	☐	☐	☐
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	☐			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.7
All bowhead whale relations, Kaktovik



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.8
All beluga whale relations, Kaktovik

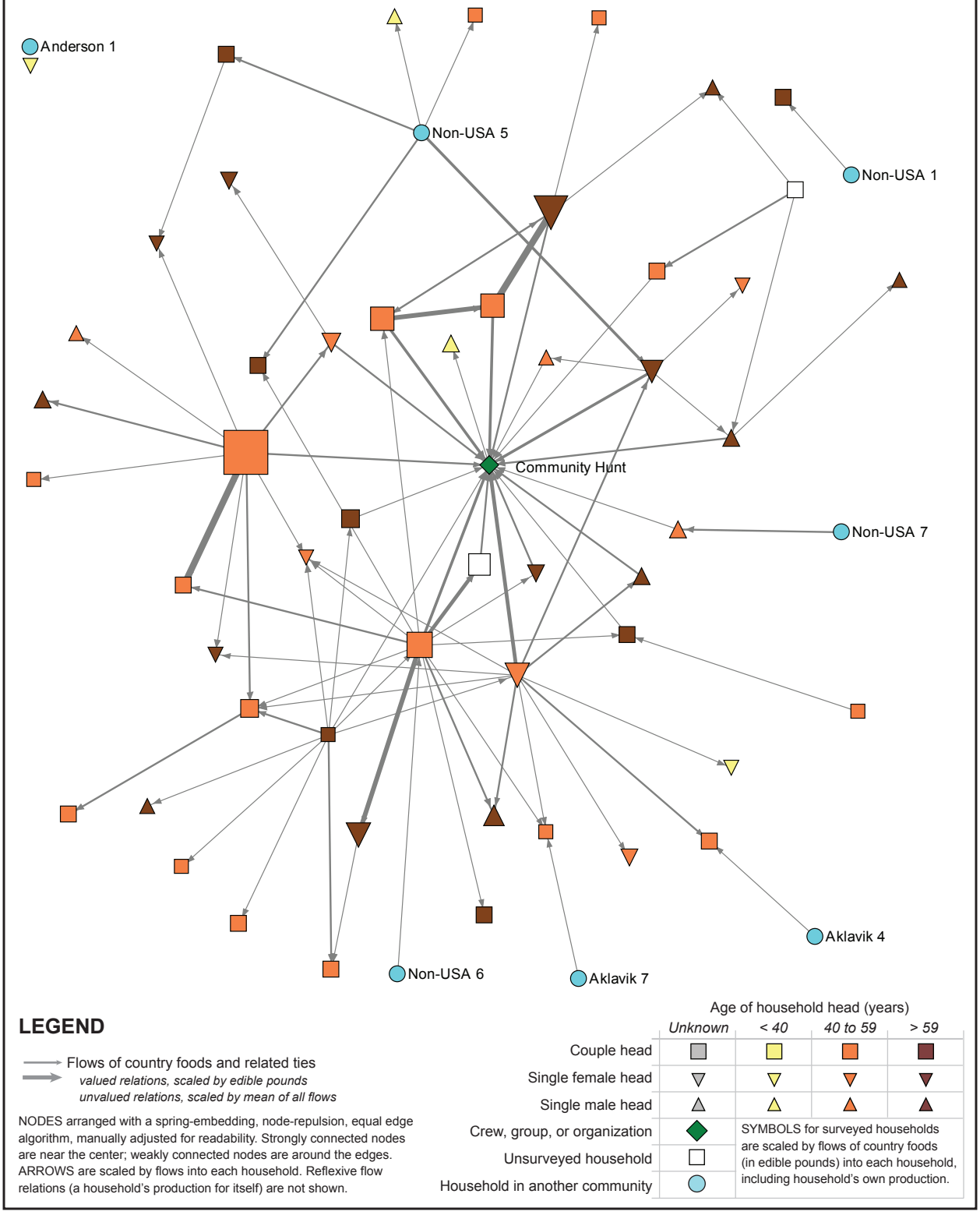
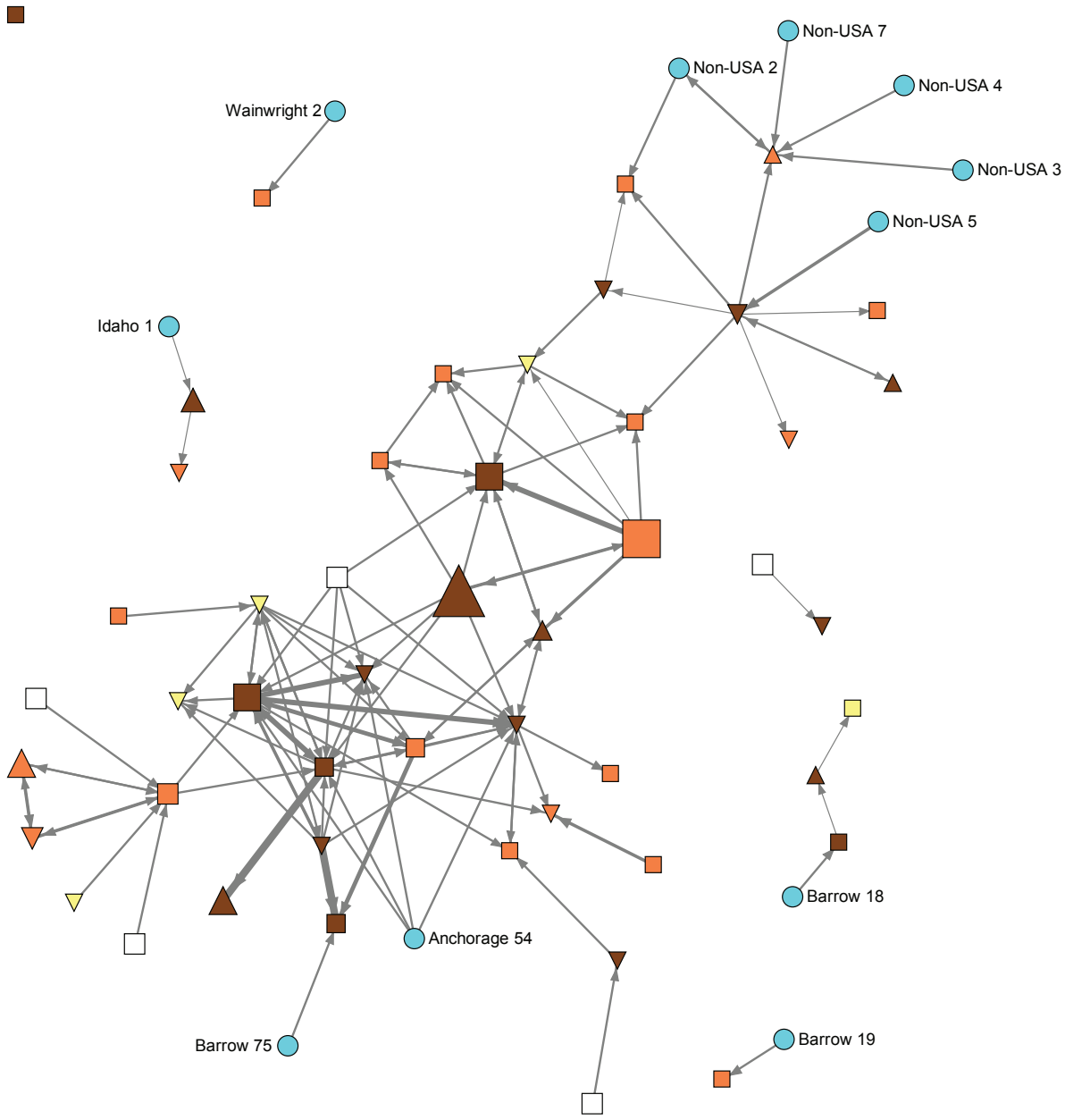


Figure 7.9
All bearded seal relations, Kaktovik



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head				
Single female head				
Single male head				
Crew, group, or organization				
Unsurveyed household				
Household in another community				

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.10
All geese relations, Kaktovik

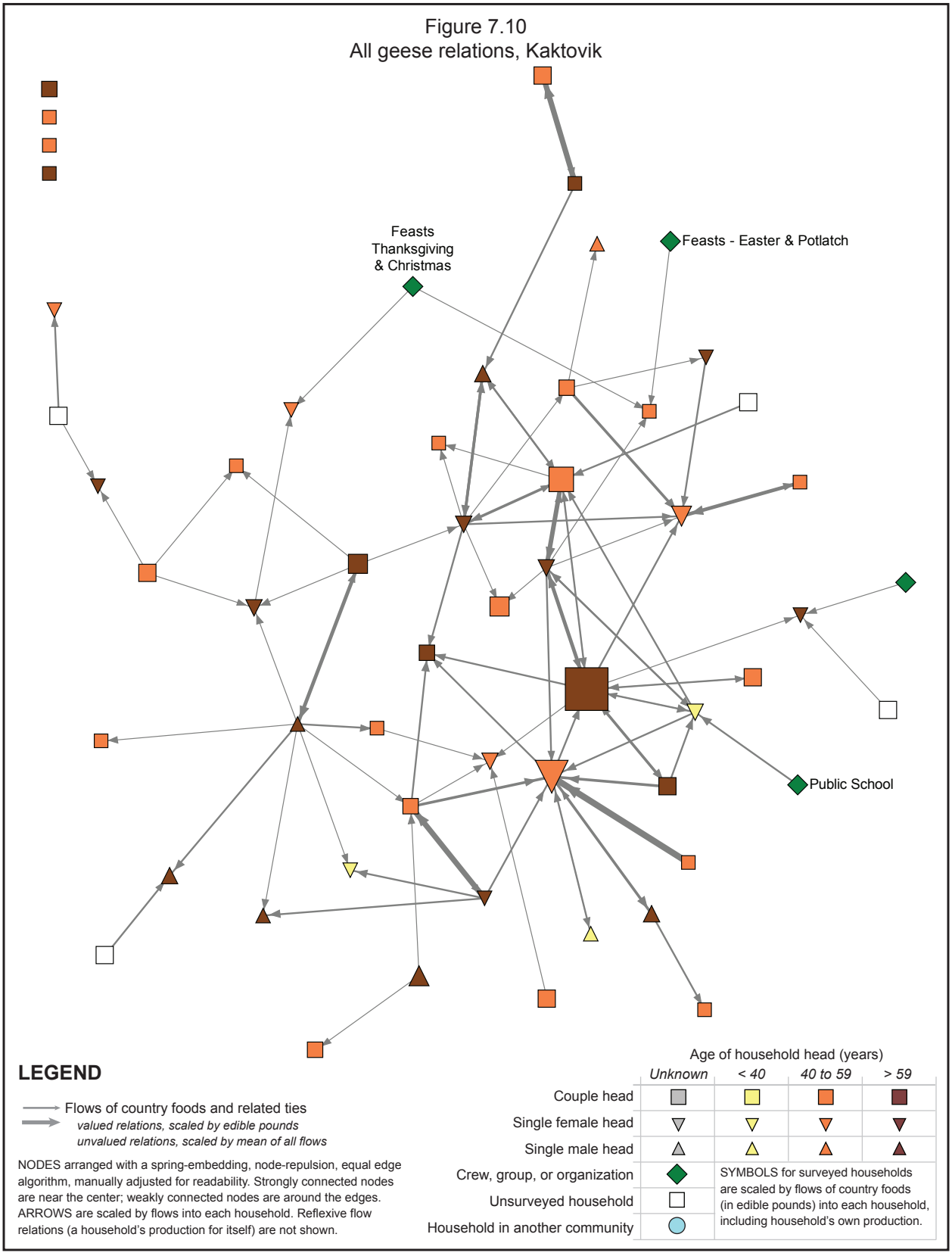
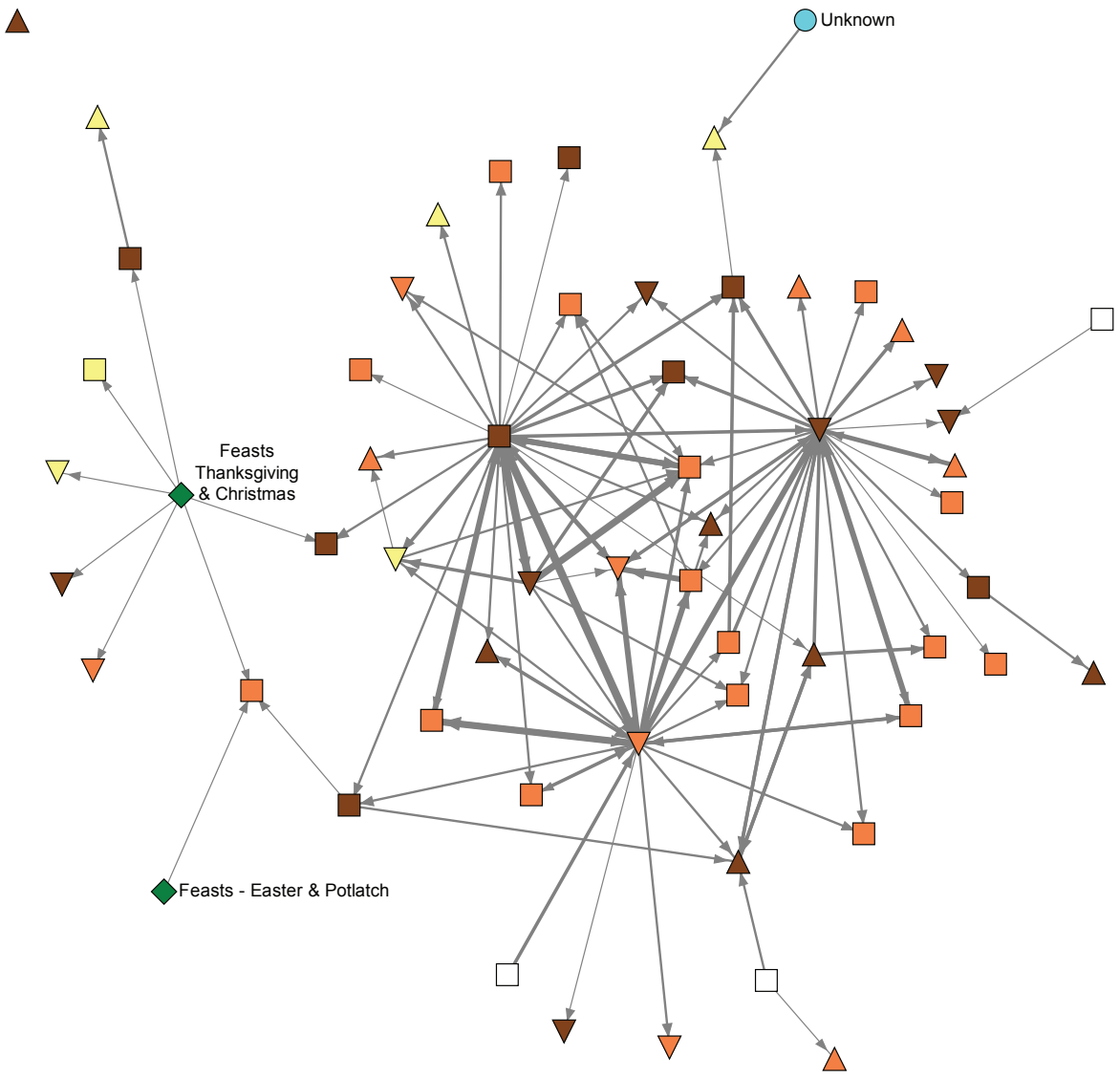


Figure 7.11
All Dall sheep relations, Kaktovik



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.12
All Dolly Varden (char) relations, Kaktovik

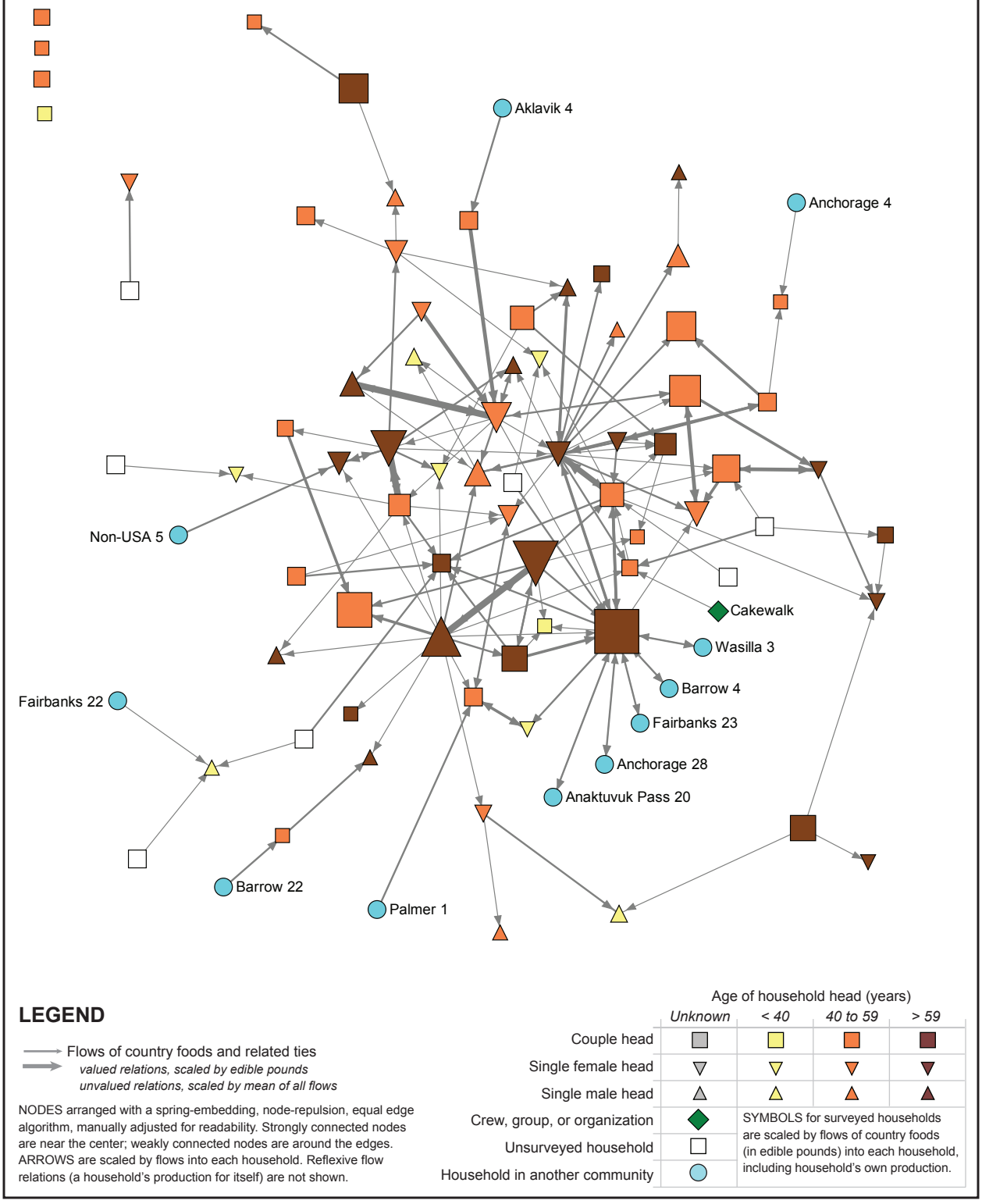
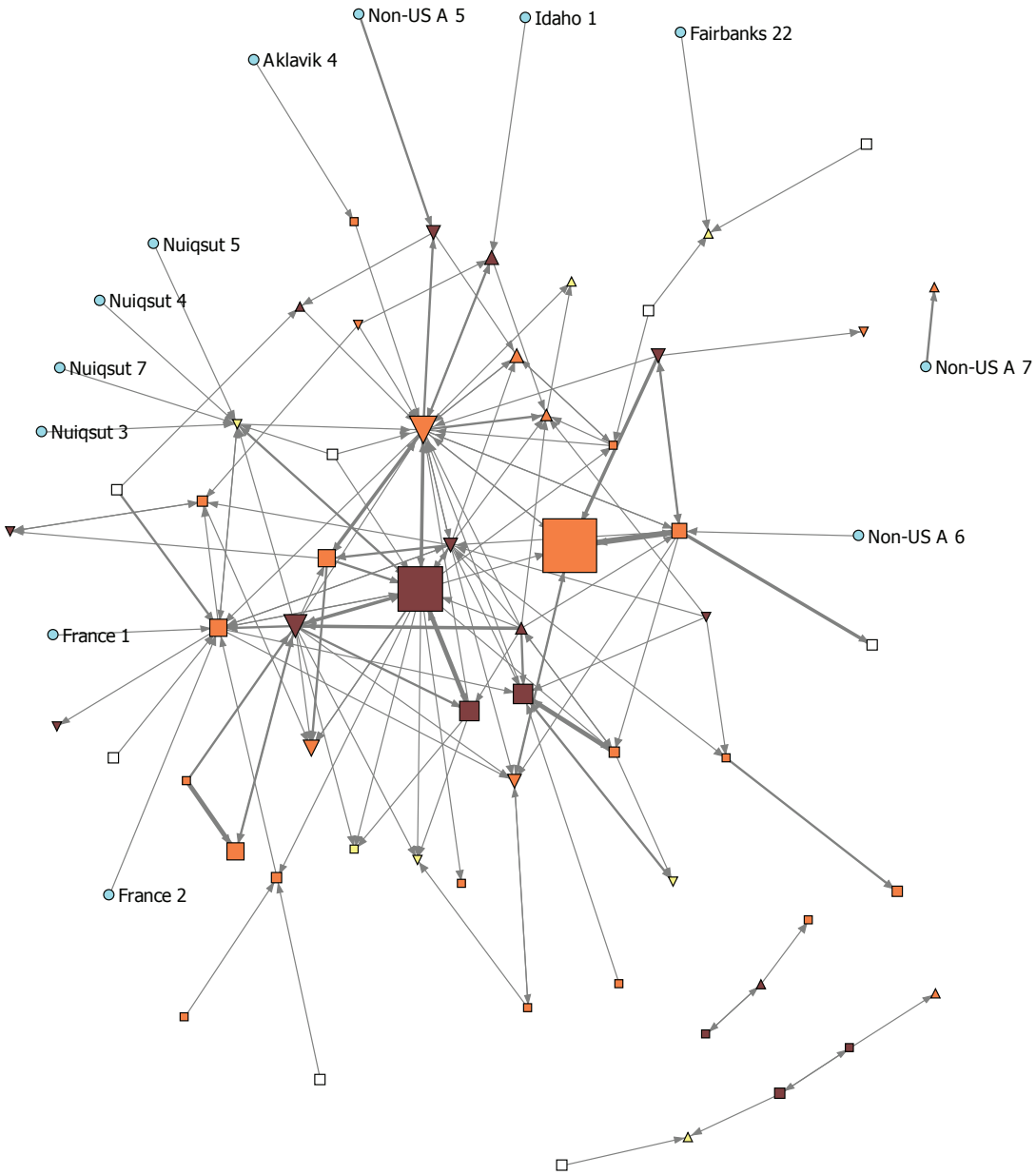


Figure 7.13
Cooperative harvesting relations, all resources, Kaktovik



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

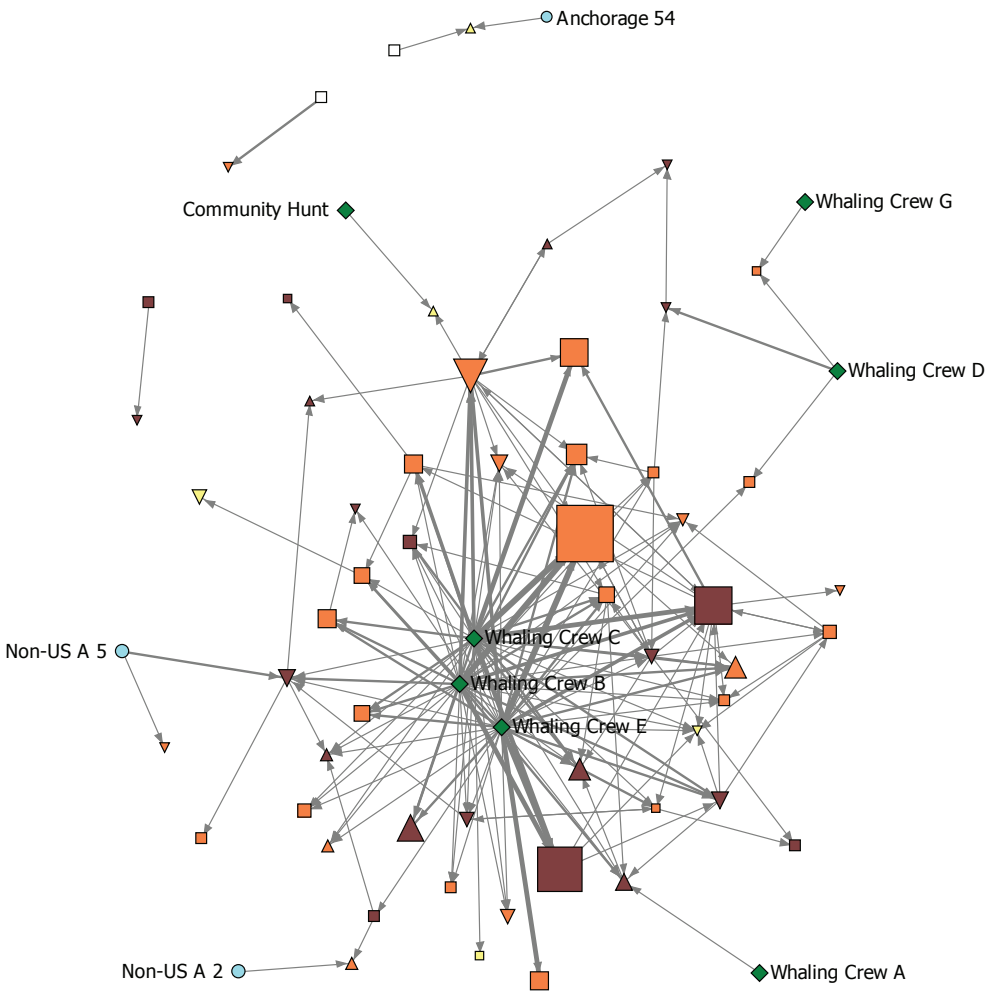
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.14
Shares relations, all resources, Kaktovik



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

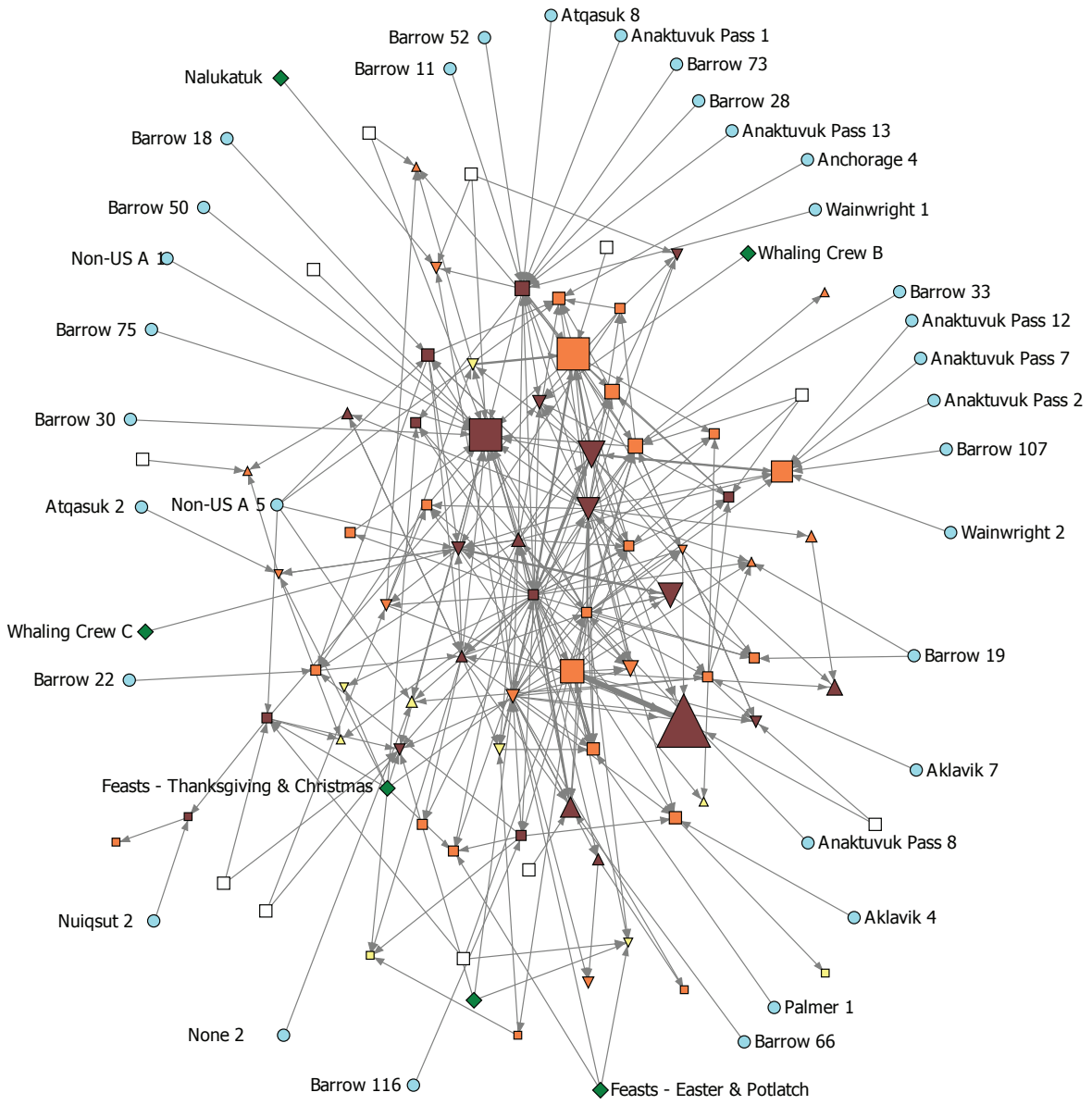
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.15
Sharing relations, all resources, Kaktovik



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	□	□	□	□
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◇			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.16
Feast relations, all resources, Kaktovik

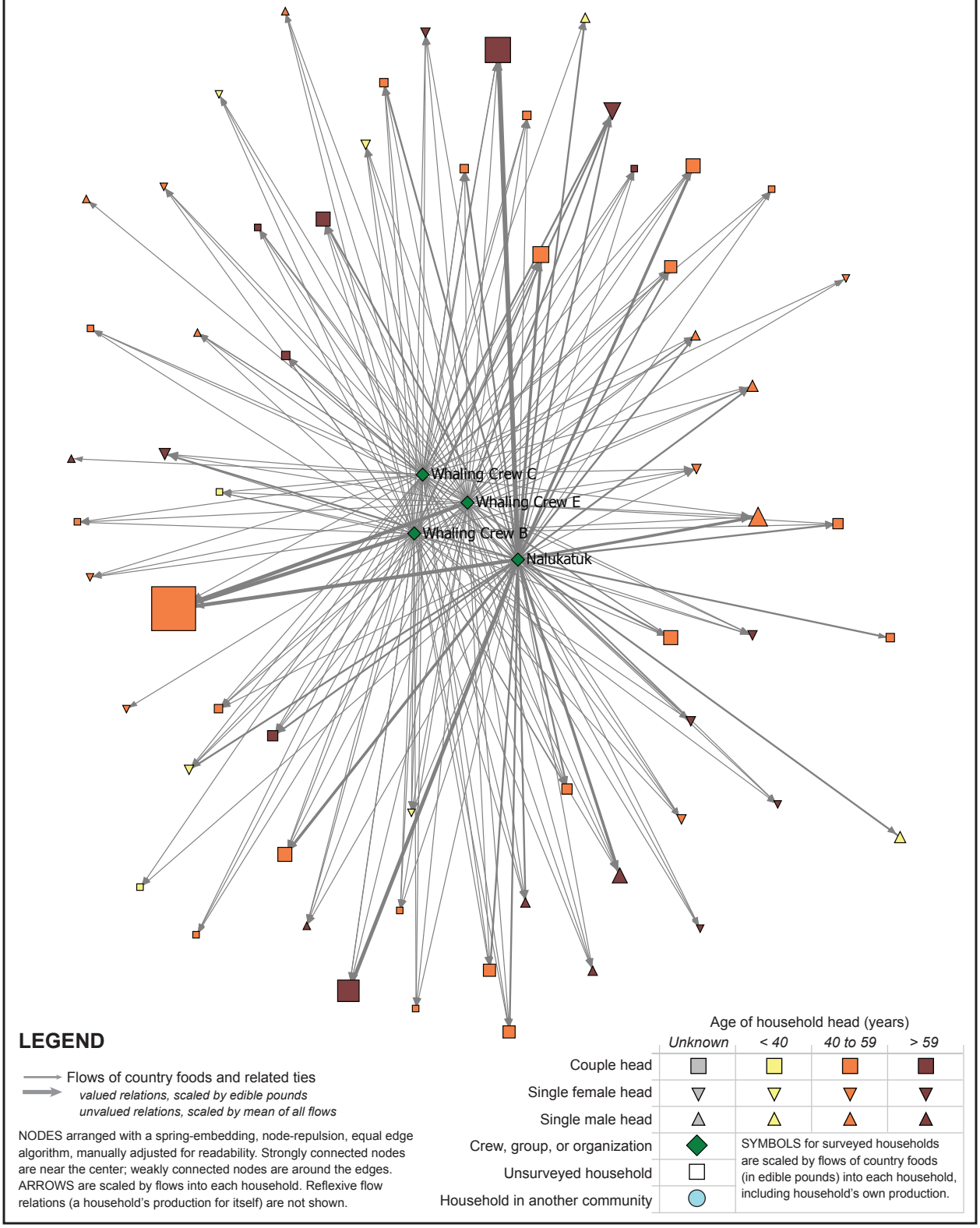
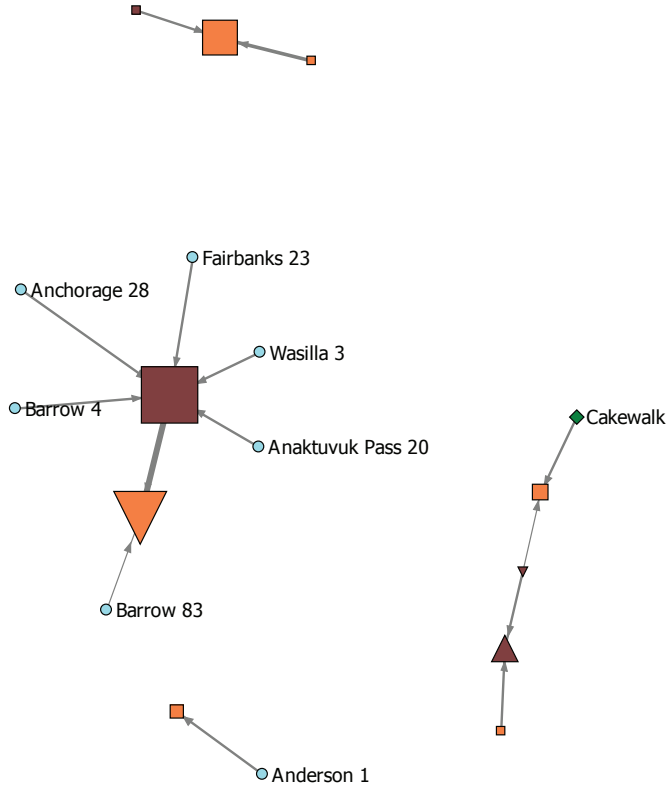


Figure 7.17
Reciprocal relations, all resources, Kaktovik



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

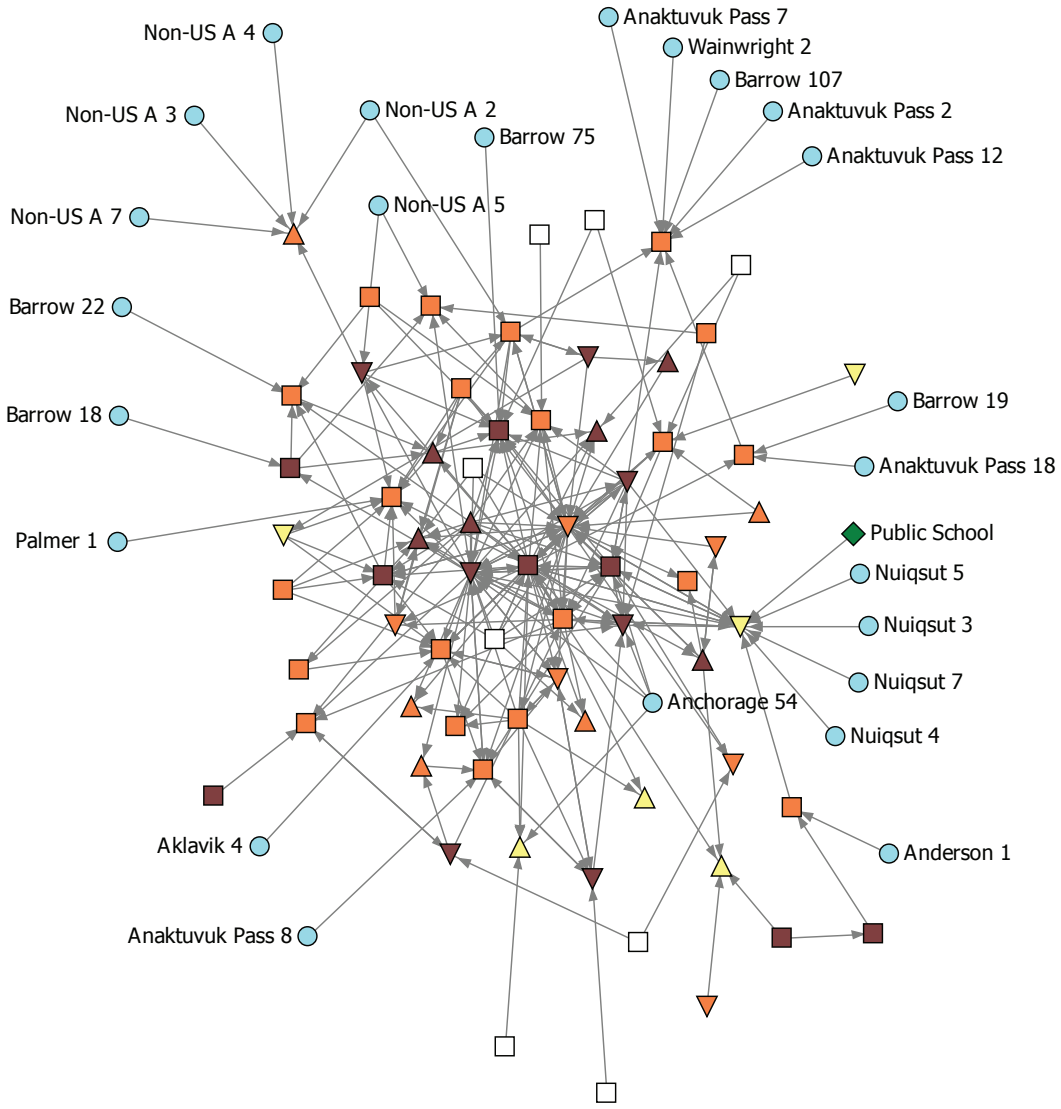
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	□	□	□	□
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◇			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.18
Processing relations (unvalued), all resources, Kaktovik



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

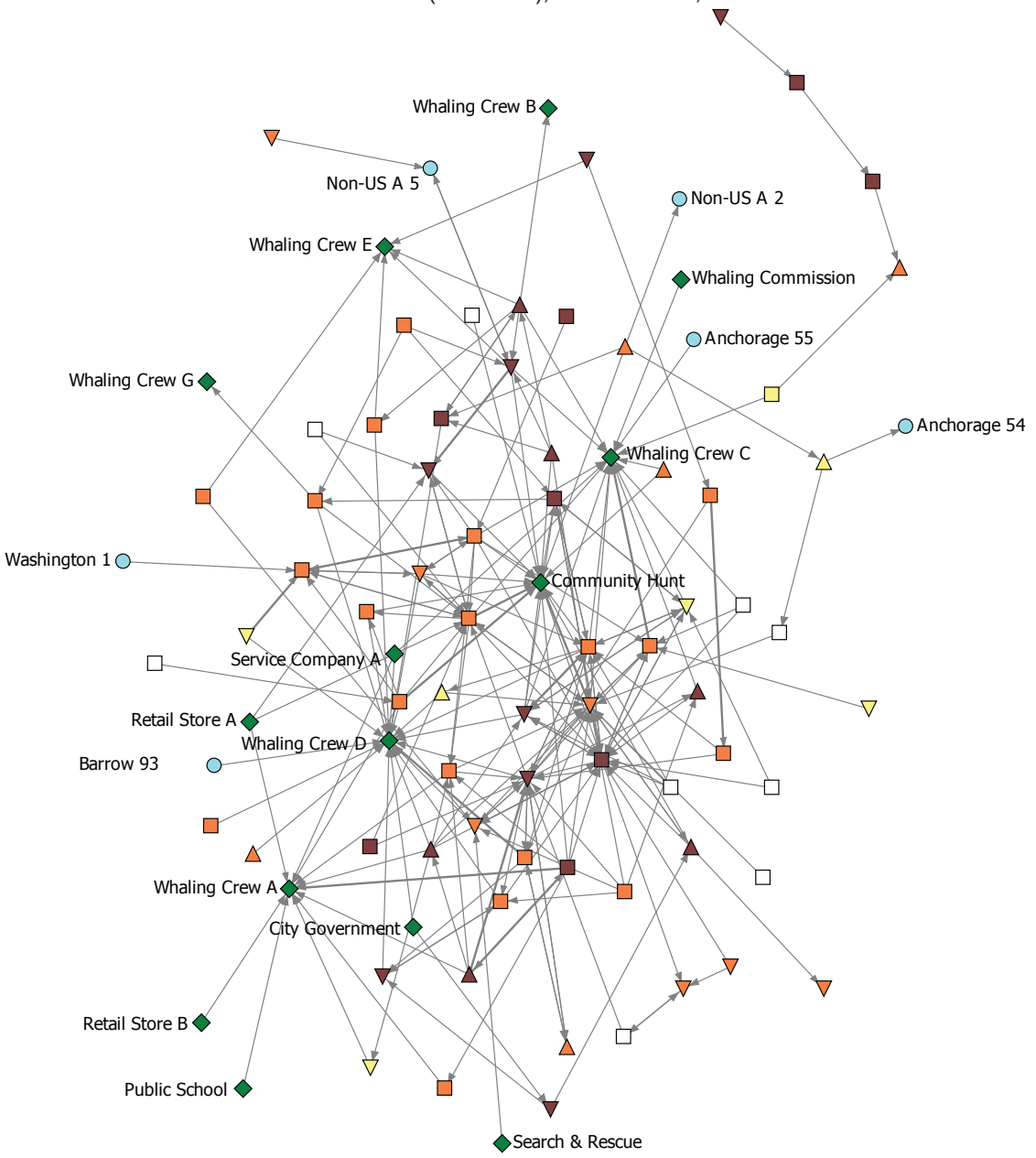
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.19
Other relations (unvalued), all resources, Kaktovik



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

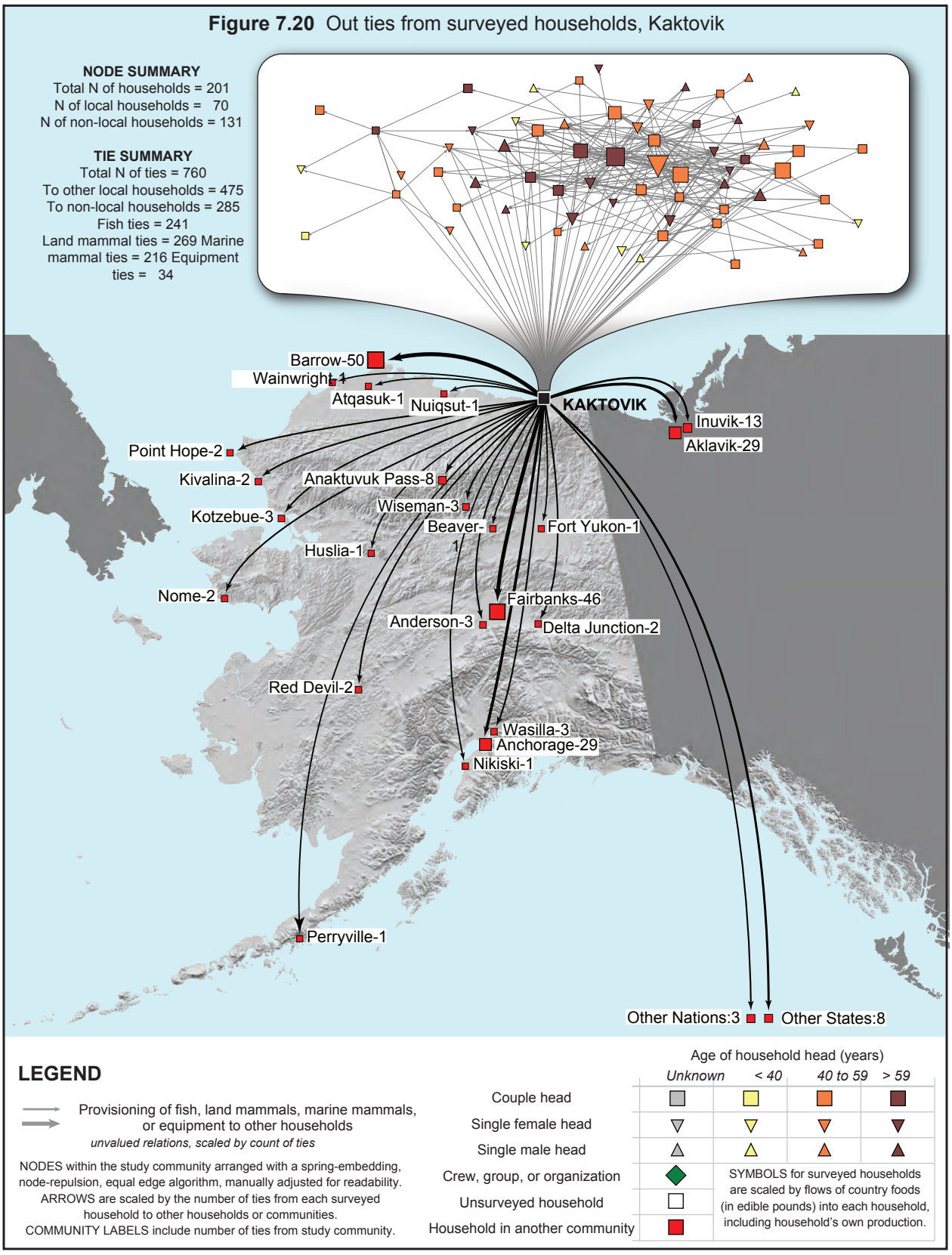
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.20 Out ties from surveyed households, Kaktovik



Wainwright

Network data were collected for 7 core species in Wainwright—bowhead whale, beluga whale, bearded seal, caribou, smelt, geese and ducks. Almost 94% of Wainwright households harvested core species with a mean weight of 2,347.6 lbs per household (Median = 1,363.5 lbs) (Table 7.9). More than 97% of households harvested both core and non-core species. Total harvest for core species was 343,160 lbs while total food flowing between all Wainwright households was documented as 404,082 lbs. The difference between harvest and inflow (61,064 lbs) represents harvested wild foods that were redistributed between Wainwright households. This result corresponds to the pattern found in Wainwright and is a clear indication of the role of social relationships—primarily sharing and shares—in supporting Wainwright households within the mixed subsistence-cash economy.

Table 7.10 indicates the total flow of edible pounds by core species for Wainwright. These figures include mean replacement values. Caribou was the first-ranked core species (198,067 lbs), followed by bowhead whale (accounting for 120,465 lbs of the 404,082.0 lbs of food flowing between village households), bearded seal (37,508 lbs), smelt (23,213 lbs), beluga whale (11,825 lbs), geese (9,455 lbs) and ducks (3,550 lbs).

Wainwright Subsistence Cooperation

Figure 7.21 illustrates visually that only 25% of total inflows of wild food to Wainwright households is from households' own harvest (102,587

Figure 7.21. Flows of wild food through social relationships, Wainwright.

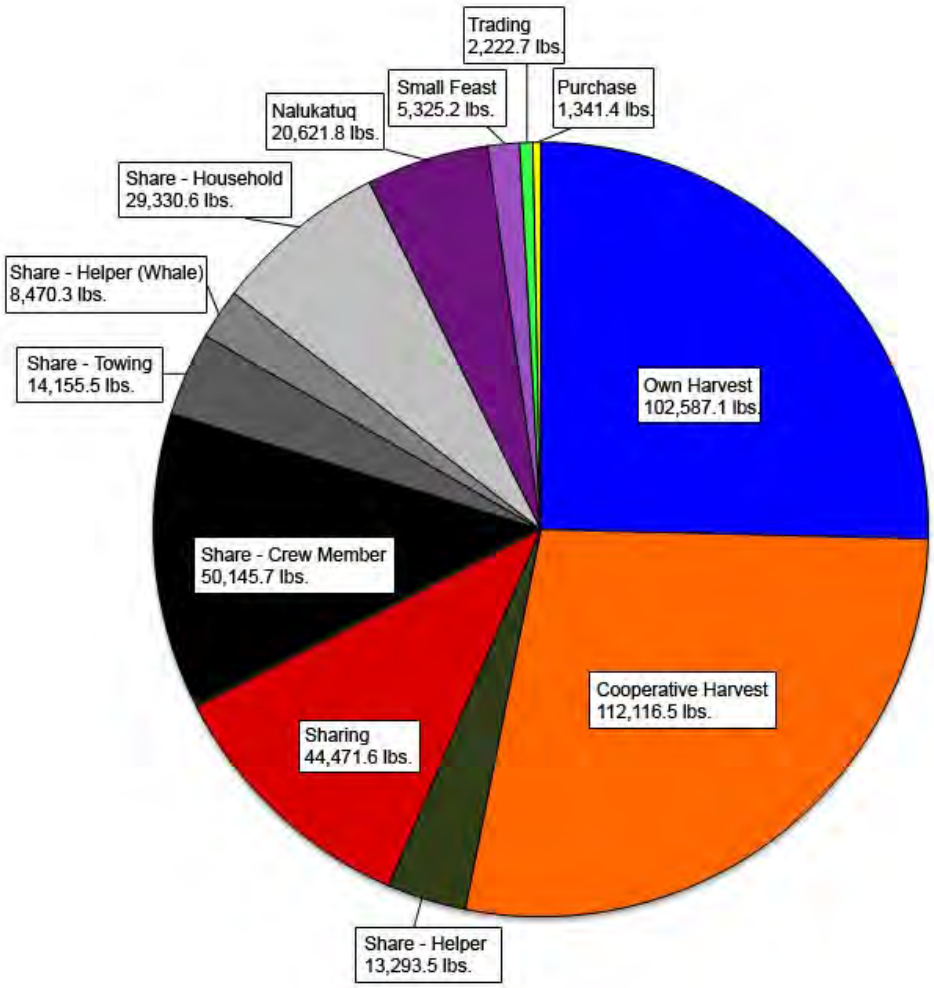


Table.7.9. Mean core and non-core harvests for households (lbs), Wainwright.

	Households with Reported Harvest % (No.)	Mean	Standard Deviation	Median	Minimum	Maximum
Core Species[a]	93.84 (137)	2,347.62	2,959.18	1,363.52	0.00	16,227.21
Non-Core[b] Species	71.23 (104)	225.16	627.30	7.45	0.00	4,486.75
Core and Non-Core Species	96.58 (141)	2,572.78	3,470.16	1,402.10	0.00	20,713.93

a. Wainwright core hunted species were Bowhead Whale, Beluga Whale, Bearded Seal, Smelt, Caribou, Ducks and Geese.

b. Chum Salmon, Coho Salmon, Chinook Salmon, Pink Salmon, Sockeye Salmon, Unknown Salmon, Rainbow Smelt, Arctic Cod, Saffron Cod, Halibut, Burbot, Dolly Varden, Sheefish, Arctic Grayling, Unknown trout, Broad Whitefish, Arctic Cisco, Bering Cisco, Least Cisco, Humpback Whitefish, Round Whitefish, Unkknown Whitefish, Brown Bear, Moose, Muskox, Dall Sheep, Arctic Fox, Red Fox, Snowshoe Hare, Lynx, Marmot, Matin, Parka Squirrel, Wolf, Wolverine, Reindeer – Ferrel, Polar Bear, Ringed Seal, Spotted Seal, Walrus, Tundra Swan, Sandhill Crane, Ptarmigan, Tundra Swan Eggs, Clams, Blueberry, Low-bush Cranberry, Crowberry, Cloudberry.

lbs). The remainder, 75%, is the result of different kinds of social relationships operating between households—a key finding of the study and comparable to the figure found for Kaktovik. Cooperative harvesting accounted for 112,116.5 lbs (28%), helper shares (non-whale) 13,293.5 lbs (3%), and sharing 44,471.6 lbs (11%) (See Table 7.11 for a breakdown by species, and then specific social relationships). Table 7.12 (Part a), breaks down the proportion of flows of wild foods into households represented by all social relationships. Of the total flow of food (404,082.0 lbs), 33% (132,290.3 lbs) is represented by combined pounds of meat and *maqtaaq* associated with bowhead and beluga whaling. More than 12% of total flow (50,145.7 lbs) was received by members of bowhead whaling crews from the first two whales landed in spring of 2009. Another 17,704.0 lbs flowed into Wainwright households as equal household shares from the third whale that year, which was landed in fall (Table 7.12b and Table 7.13 (bowhead section).

Many other resources flowed between households in addition to wild foods. Table 7.11 (all relations contribution ties) highlights a total of 1,251 ties between households representing help with processing for core species (444 ties), general lending of equipment (157 ties), provision of labor to repair equipment (62 ties), contributions to communal beluga hunting (processing and spotting labor, 78 ties), and other contributions to the hunting efforts of households for which contributing households received shares of hunted meat or fish (e.g., labor (211 ties), fuel (83 ties), supplies (57 ties), equipment (92 ties), ammunition (32 ties), cash (19 ties) and an "other" category that included, for example, contributions for cooking for whaling crews (16 ties). These contribution ties are by definition reciprocal as they represent

Table 7.10. Core resource flows by resource, Wainwright.

		Flows (edible pounds with mean replacements)			
Resource	N of Flow Reports	Sum	Mean/flow	Median/flow	Std. Dev.
Caribou	761	198,066.9	260.3	136.0	399.4
Geese	347	9,454.5	27.2	15.0	44.2
Bearded Seal	250	37,507.5	150.0	70.0	221.0
Beluga	125	11,825.1	94.6	86.4	137.5
Bowhead	842	120,465.2	143.1	69.1	272.4
Ducks	265	3,549.9	13.4	7.5	20.4
Smelt	246	23,212.9	94.4	18.2	174.0
All Resources	2,836	404,082.0	142.5	48.6	282.9

Table 7.11. Core resource flows by resource and relation, Wainwright.

		No. of Reported Ties		Flows (edible pounds with mean replacements)							
Resource & Relation Combinations				Sum		Mean		Median		Std. Dev.	
Caribou Relations											
Own Harvest		131	ties	78,608.0	lbs	600.1	lbs	408.0	lbs	633.2	lbs
Share - Cooperative Harvest		347		78,019.8		224.8		136.0		256.5	
Share - Helper		48		11,032.7		229.8		136.0		263.3	
Sharing		219		29,368.4		134.1		68.0		327.1	
Trading		13		608.6		46.8		21.4		53.8	
Purchase		3		429.4		143.1		136.0		125.5	
Own HH Processing		205									
Other HH Processing		7.13									
Contribution for Share - Total		74									
	Ammunition	18									
	Cash	2									
	Equipment	14									
	Fuel	32									
	Labor	2									
	Supplies	6									
	Total	1,193		198,066.9		260.3		136.0		399.4	
Geese Relations											
Own Harvest		112		4,457.4		39.8		17.0		65.4	
Share - Cooperative Harvest		119		2,876.4		24.2		11.9		33.8	
Share - Helper		16		369.1		23.1		20.4		19.6	
Sharing		96		1,687.0		17.6		13.6		18.0	
Trading		2		40.8		20.4		20.4		9.6	
Purchase		2		23.8		11.9		11.9		7.2	
Own HH Processing		146									
Other HH Processing		67									
Contribution for Share - Total		21									
	Ammunition	8									
	Equipment	3									
	Fuel	9									
	Labor	1									
	Total	581		9,454.5		27.2		15.0		44.2	
Ducks Relations											
Own Harvest		36		870.4		24.2		14.1		34.3	
Share - Cooperative Harvest		159		1,846.5		11.6		4.7		18.5	

Table 7.11. Core resource flows by resource and relation, Wainwright, continued.

		No. of Reported Ties	Flows (edible pounds with mean replacements)			
Resource & Relation Combinations			Sum	Mean	Median	Std. Dev.
Ducks Relations, continued						
Share - Helper		8	207.6	25.9	24.3	21.5
Sharing		61	621.6	10.2	7.5	9.0
Purchase		1	3.8	3.8	3.8	.-
Own HH Processing		95				
Other HH Processing		88				
Contribution for Share - Total		8				
	Ammunition	3				
	Equipment	2				
	Fuel	2				
	Supplies	1				
	Total	456	3,549.9	13.4	7.5	20.4
Bearded Seal Relations						
Own Harvest		20	5,460.0	273.0	70.0	560.9
Share - Cooperative Harvest		133	23,299.5	175.2	140.0	158.7
Share - Helper		10	1,451.5	145.2	140.0	114.0
Sharing		72	6,295.1	87.4	20.3	154.0
Trading		4	910.7	227.7	235.2	222.4
Purchase		11	90.6	8.2	6.8	5.4
Own HH Processing		99				
Other HH Processing		119				
Contribution for Share - Total		18				
	Ammunition	3				
	Cash	1				
	Equipment	1				
	Fuel	7				
	Labor	3				
	Supplies	3				
	Total	486	37,507.5	150.0	70.0	221.0
Smelt Relations						
Own Harvest		80	13,191.3	164.9	49.6	220.6
Share - Cooperative Harvest		63	6,074.3	96.4	13.0	172.9
Share - Helper		7	232.6	33.2	18.2	32.6
Sharing		78	2,674.2	34.3	12.0	107.7
Trading		4	246.6	61.6	15.4	97.2

Table 7.11. Core resource flows by resource and relation, Wainwright, continued.

		No. of Reported Ties	Flows (edible pounds with mean replacements)					
Resource & Relation Combinations			Sum	Mean	Median	Std. Dev.		
Smelt Relations, continued								
Purchase		14	793.9	56.7	28.7	70.7		
Own HH Processing		125						
Other HH Processing		17						
Contribution for Share - Total		8						
	Cash	1						
	Equipment	4						
	Fuel	1						
	Labor	1						
	Supplies	1						
	Total	396	23,212.9	94.4	18.2	174.0		
Beluga Relations								
Sharing		6	198.5	33.1	27.3	28.4		
Share - Household		119	11,626.6	97.7	103.7	140.1		
Contribution to Communal Hunt		78						
	Boat	23						
	Labor (Hunting, Processing, Spotting)	55						
	Total	281	11,825.1	94.6	86.4	137.5		
Bowhead Relations								
Sharing		53	3,626.7	68.4	25.0	124.1		
Trading		2	416.0	208.0	208.0	292.4		
Nalukatuq		223	20,621.8	92.5	87.5	119.6		
Small Feast		220	5,325.2	24.2	6.6	33.7		
Share - Crew Member		173	50,145.7	289.9	207.4	327.3		
Share - Towing		29	14,155.5	488.1	139.2	883.1		
Share - Helper		53	8,470.3	159.8	105.6	157.3		
Share - Household		89	17,704.0	198.9	138.2	240.8		
Contribution for Share - Total		381						
	Cash	15						
	Equipment	68						
	Fuel	32						
	Labor (Processing and Other)	204						

Table 7.11. Core resource flows by resource and relation, Wainwright, continued.

		No. of Reported Ties		Flows (edible pounds with mean replacements)							
Resource & Relation Combinations				Sum		Mean		Median		Std. Dev.	
Bowhead Relations, continued											
	Supplies	46									
	Other (food)	16									
	Total	1,223		120,465.2		143.1		69.1		272.4	
Lending Relations											
Lending Equipment											
	Boat	47									
	Equipment	110									
	Total	157									
Repairing Relations											
	Repair Equipment	62									
	Total	62									
All Resources											
All Relations											
Own Harvest		379		102,587.1		270.7		52.5		476.2	
Share - Cooperative Harvest		821		112,116.5		136.6		48.6		206.9	
Share - Helper		89		13,293.5		149.4		68.0		217.8	
Sharing		585		44,471.6		76.0		18.8		219.9	
Share - Crew Member		173		50,145.7		289.9		207.4		327.3	
Share - Towing		29		14,155.5		488.1		139.2		883.1	
Share - Helper (whale)		53		8,470.3		159.8		105.6		157.3	
Share - Household		208		29,330.6		141.0		103.7		195.9	
Nalukatuq		223		20,621.8		92.5		87.5		119.6	
Small Feast		220		5,325.2		24.2		6.6		33.7	
Trading		25		2,222.7		88.9		21.4		135.1	
Purchase		31		1,341.4		43.3		18.2		69.8	
All Relations Flows of Food		2,836	ties	404,082.0	lbs	142.5	lbs	48.6	lbs	282.9	lbs
Own HH Processing		670									
Other HH Processing		444									
Contribution for Share - Total		510									
	Ammunition	32									
	Cash	19									
	Equipment	92									
	Fuel	83									
	Labor	211									
	Supplies	57									

Table 7.11. Core resource flows by resource and relation, Wainwright, continued.

	No. of Reported Ties		Flows (edible pounds with mean replacements)							
Resource & Relation Combinations			Sum		Mean		Median		Std. Dev.	
All Resources, continued										
Other (food)	16									
Contribution to Communal Hunt	78									
Lending Equipment - Total	157									
Repair Equipment	62									
All Relations Contribution Ties	1,921	ties								
All Relations Flows and Contribution Ties	**4,757**	**ties**	**404,082.0**	**lbs**	**142.5**	**lbs**	**48.6**	**lbs**	**282.9**	**lbs**

Table 7.12. Wainwright - Sources of wild food inflows.

a. All relations/All Species	% of Total Flow	Lbs
Own Harvest	25.4	102,587.1
Cooperative Harvest	27.8	112,116.5
Shares Help	3.3	13,293.5
Sharing	11.0	44,471.6
Share – Crew member	12.4	50,145.5
Share – Towing	3.5	14,155.5
Share – Helper (Whale)	2.1	8,470.3
Share – Household	7.3	29,330.6
Nalukatuq	5.1	20,621.8
Small Feast	1.3	5,325.2
Trading	0.6	2,222.7
Purchase	0.3	1,341.4
TOTAL	100.0	404,082.0
b. Whaling Relations Only	**% of Total Flow**	**Lbs**
Share - Helper	2.1	8,470.3
Sharing	0.9	3,825.2
Share - Household	7.3	29,330.6
Trading	0.1	416.0
Nalukataq	5.1	20,621.8
Small Feast	1.3	5,325.2
Share - Crew Member	12.4	50,145.7
Share - Towing	3.5	14,155.5
TOTAL - All whaling relations	32.7	132,290.3

harvested food received by a household in return for contributions to the hunting effort.

During the study period, 2 bowhead whales were successfully landed in spring of 2009. An additional whale was landed in fall of that year. This was a huge cause for celebration for the community as this was the first time in living memory that crews had landed a fall whale. Whaling captains reported that they tried whaling that fall because two spring whales were "not enough for village needs," and weather conditions were calm enough to go out safely. Two of 8 active whaling crews in Wainwright landed the 3 whales, with one crew successful in both spring and fall. All whaling captains in Wainwright were interviewed. Table 7.13 (a and b) presents a detailed account of bowhead and beluga contributions and associated flows of whale (*maqtaaq* and meat) to Wainwright households through specific kinds of social relationships unique to both kinds of whaling efforts. Tables 7.13 (a and b) also describes characteristics of crew membership.

We documented a total of 74 crew members across 53 households who reported household members as being on a bowhead whaling crew in 2009 (Table 7.13). Crew members received more than 50,145 lbs of *maqtaaq* and meat as crew shares and towing

Table 7.13. Whaling cooperation.

a. Bowhead Whaling		
Contributions to hunt	No. active crews	8
	No. HHs with crew members	53
	Total crew members (across all HHs)	74
	All Contribution ties (No.)	438
	Average no. of individuals on a crew[a]	9.3
	No HHs/org's contributing to bowhead whaling	124
Flows to HHs	No. HHs receiving shares[a]	53
	Average lbs flowing into HHs from Towing, Captain's and Crew Shares[b]	1,503.0
	Total lbs flowing into HHs	132,290.0
	No. HHs receiving small feast shares per whale	105
	Average Size of Small feast Share/HH (lbs)	38.0
	Total lbs small feasts (all)	5,325.2
	No. HHs receiving Nalukataq shares	118
	Average Size of Nalukataq Share/HH (lbs)	147.3
	Total lbs flowing from Nalukataq	20,621.8
	Average lbs flowing from bowhead shares/sharing into HHs	285.1
b. Beluga Whaling		
Contributions to beluga hunt	Total no. individuals (Hunters/spotters/boat providers)	Hunters = 53 Spotter = 1 Boats = 23
Flows to HHs	No. receiving HH shares	119
	Avg size of beluga share (lbs)	94.6
	Total lbs flowing from beluga hunt	11,825.1

a. This number refers to the number of individuals with a captain out on the ice. It does not include spouses, or helpers to crews who are actively involved with preparing for feasts.

b. Captain's Share, Household crew member, Towing share

c. Average calculated only based on those HHs receiving some combination of Tow, Crew, and/or Captain's Shares (n=53).

shares (14,155.5 lbs) (Table 7.12). Towing shares were distributed to members of crews who helped to tow the whales of the 3 successful whaling crews. Across these 3 categories of shares, average pounds of meat and *maqtaaq* flowing into households was 1,503 lbs. Because the successful fall whale was rare, whaling captains decided at the time to divide it according to equal Household Shares (i.e., all village households were entitled to a share), instead of according to crew and helper shares as would have been customary. The crew share category for 3 whales is consequently lower than would have been expected because of this occurrence. The successful fall crew did retain significant portions of the third whale for future contributions to Christmas, Thanksgiving, and *Nalukataq* feasts—as is customary. There were 381 household contributions to the 8 crews made by 124 households, businesses, or organizations. An average of 9.3 individuals were active hunters on whaling crews. Note: This number refers to the number of individuals with a captain out on the ice. As with Kaktovik, this number does not include spouses or helpers to crews who were central to all activities associated with preparing for feasts. This number therefore underestimates the number of people who might locally be defined as

members of whaling crews. Whaling crew members contributed their labor and sometimes equipment to whaling efforts. Whaling captains contributed equipment (e.g., boat, snowmachines, sleds, tarps, fuel, oil, ropes, ammunition, bombs) as well as food and other supplies. Non-crew "helpers" also were the source of significant contributions to crews (e.g., cooking labor, processing labor, fuel, equipment and other supplies) for which they received shares of the landed whale (Share = Helper lbs, 8,470.3). More than 3,600 lbs of *maqtaaq*/ meat were received by Wainwright households as "sharing" from one household to another.

There were 3 Captain's Feasts or "small feasts" held after each whale was landed and processed, at the whaling captain's home. The timing of the feast was announced by radio. Once people were assembled, the feast began with a prayer of thanks for the successful hunt, the safety of the crews, and a safe and healthy coming year for the community. All community members were invited to attend, eat, and take small shares of food (*migiak*, duck and *maqtaaq* soup, jello, fruit salad, biscuits, etc.) home with them. Households may take home shares of food for each household member regardless of any individual's presence at the feast itself. Ninety-two households, 86 and 42 households at the small feasts held in spring (2 feasts) and fall (1 feast), respectively, reported receiving shares. The average combined shares reported across the three small feasts was 38.0 lbs, and a total poundage of 5,325.2 lbs was reported received by households from all three small feasts. Average flows from shares and sharing combined into each Wainwright household was 285.1 lbs.

Spring and fall whales from 2009 were to contribute to *Nalukataq* feasts in spring of 2010. In contrast to Kaktovik, each whaling crew in Wainwright holds its own feast. Because data were collected in Wainwright in November of 2009, the 2010 Nalukatak had not yet occurred, so households were asked to report how much food they received at the previous year's *Nalukataq* (June 2009). One hundred nineteen households attended that *Nalukataq* feast, and households reported taking an average of 147.3 lbs home from the feast. More than 20,621 lbs of food were distributed to households through the spring 2009 *Nalukataq* in Wainwright.

Similar to Kaktovik, beluga hunting took place in Wainwright (Table 7.13 (b) in 2 ways. One beluga was landed by hunters, and other animals were successfully taken in a communal hunt. This larger hunt required considerable cooperation among community members in first spotting animals passing by the village, hunting the pod with boats, retrieving hunted animals, and processing the meat. Twenty-three households contributed boats with another 55 households contributing time and labor as harvesters, processors, or spotters. One hundred nineteen total households received beluga meat and *maqtaaq*, averaging 94.6 lbs per household, for a total of ~11,825 lbs distributed to community households from the hunting effort. Animals were processed and distributed from the beach. Wainwright households conceptualized beluga they received as household shares. Because of a local-level rule on how beluga is to be distributed in Wainwright, every household in the community was entitled to a share regardless of whether they had hunted or processed animals.

Cooperative hunting activity between households was reported for all 7 core species. The number of households involved in hunting or fishing for core species cooperatively other than bowhead and beluga averaged from 2.5 to 3.4 households. Duck-hunting groups incorporated the most households on average. This reportedly was a reflection of bowhead crews often hunting together from the ice while waiting for a whale to be sighted, or crews hunting together outside of the whaling effort to provide ducks for the *Nalukataq* feast. Mean size of cooperative hunting groups varied from 3.2 individuals (bearded seal) to a high of 6.62 (ducks). The largest recorded group was for hunting caribou, with a maximum of 14 people, followed by 13 people for a duck-hunting group (Table 7.14). Bearded seal hunting and smelt-fishing groups were the smallest on average.

Figure 7.22 provides detail on the total flows of wild foods from seven core species into Wainwright households, ranking households by total inflow (high to low, left to right on the X axis), and indicating the different social relationships responsible for flows of food. The pattern represented by the

Figure 7.22. Total inflows by relationships to households, Wainwright.

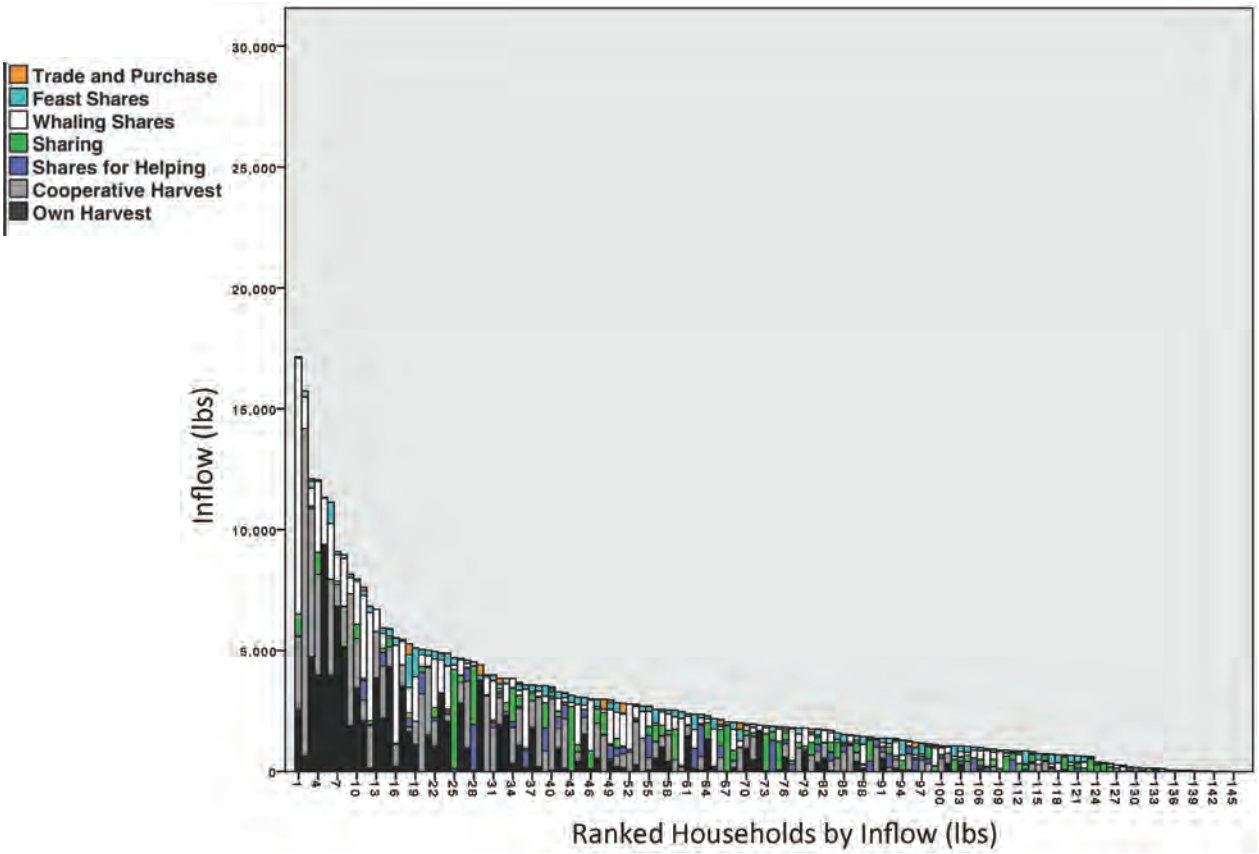


Figure 7.23. Proportion of food by relationships flowing to households, Wainwright.

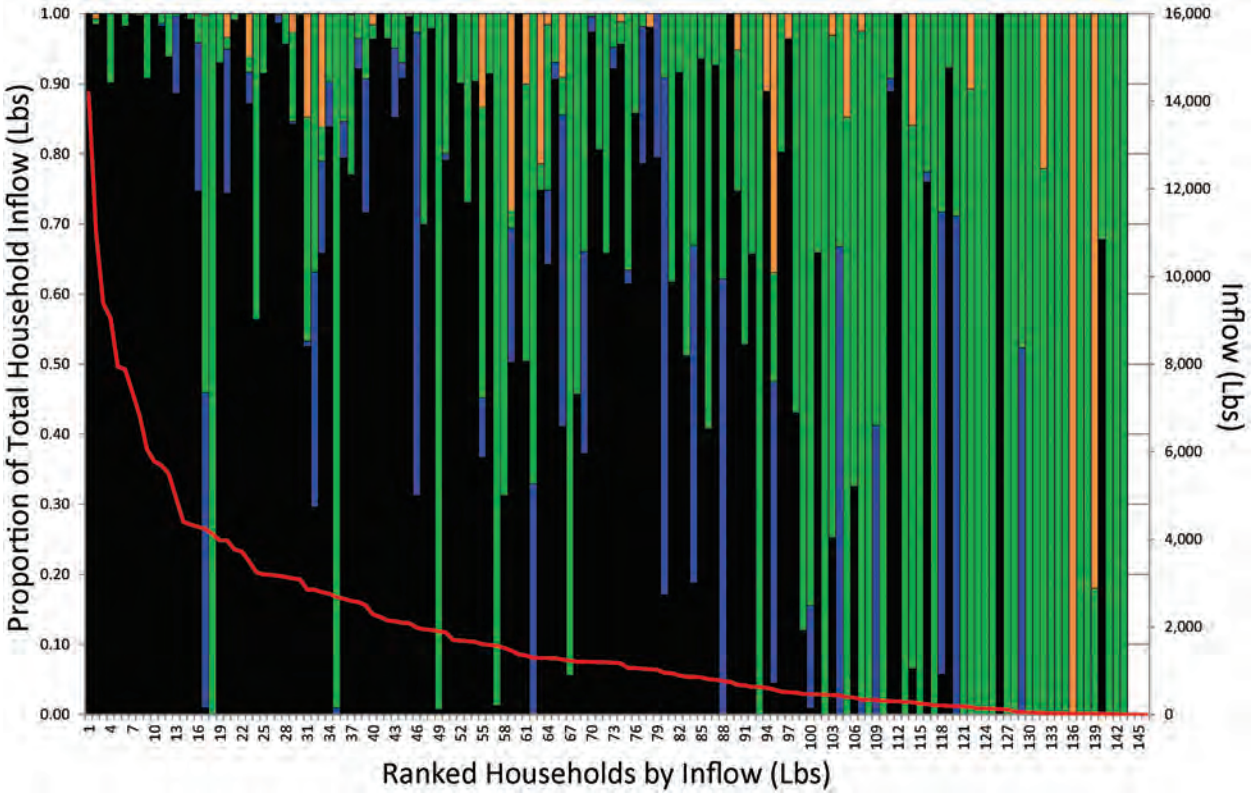


Table 7.14. Average size of cooperative hunting group[a], Wainwright.

Species	Mean number of HHs within cooperative hunting groups (No. HHs)	Cooperative Hunting Group/ Crew Size (No. Hunters/Fishers)	Standard Deviation (No. hunters/ fishers)	Median (No. hunters/ fishers)	Minimum (No. hunters/ fishers)	Maximum (No. hunters/ fishers)
Caribou	2.90	4.94	3.41	4.00	2.00	14.00
Ducks	3.39	6.62	3.85	6.00	2.00	13.00
Geese	2.59	4.22	3.07	3.00	2.00	12.00
Smelt	2.81	3.57	1.80	3.00	2.00	7.00
Bearded Seal	2.52	3.23	1.57	3.00	2.00	7.00

a. Data calculated based on no. individuals hunting together only for the "Cooperative hunting" relation.

black portions of the bars reflects the 30:70 rule articulated by Wolfe (1987), as this portion of the bars illustrates production of food from own harvest and cooperative hunting. However, the results also highlight that households along the gradient of total inflow received food from a range of social mechanisms. Looking only at harvested food for core species (own hunting, cooperative hunting, and whaling harvest relationships), 30% of Wainwright households are responsible for 76% of total harvested food. For those households with low inflow (Figure 7.22), it is clear that the source of most of their wild food is predominantly social in nature (Shares Help, Sharing, and Whaling).

Figure 7.23 highlights this pattern for inflows associated with the 5 non-whale core species. Households are again ranked by total inflow on the X axis and total inflow on the Z axis (red line). The proportion of total household inflow from Sharing and Shares for Helping relationships (Y axis) is inversely related to total inflow. Households with lower inflow overall depend more on social relationships of Sharing (green color), some Shares for Helping (blue color) and Trading/ Purchase (orange color) as sources of wild food.

Wainwright households reported giving and receiving an average of 3.1 and 3.9 core species,

Table 7.15. Giving and receiving of core species, Wainwright.

Core Resources	Mean	Standard Deviation	Median	Minimum	Maximum
Giving					
No. Core Food Resources Given Per HH[a]	3.18	1.57	3.00	1.00	6.00
No. Other Contributions[b] Given Per HH	3.05	1.87	2.00	1.00	8.00
No. of HHs that HHs are Giving to[c]	6.63	4.40	6.00	1.00	30.00
Receiving					
No. Core Food Resources Received Per HH[a]	3.92	1.42	4.00	1.00	7.00
No. Other Contributions Received per HH	2.66	1.62	2.00	1.00	7.00
No. HHs that HHs are Receiving From	6.36	5.96	5.00	1.00	38.00
HH Degree	**32.65**	**23.18**	**27.50**	**0.00**	**143.00**

a. Wainwright core hunted species were Bowhead Whale, Beluga Whale, Bearded Seal, Smelt, Caribou, Ducks and Geese

b. Processing, Equipment, Ammunition, etc.

c. Sharing, Shares, Trading, Purchasing

respectively (Table 7.15). Households gave an average of 3.1 non-food contributions (Median = 2.0) and received an average of 2.7 contributions from other households (Median = 2.0). Households gave to 6.3 other households on average (Median = 6.0). Households received from an average of 6.4 other households (Median = 5.0). Mean degree for Wainwright households was 32.7 (Median = 27.5), meaning households had an average of 32.7 ties (across all resources and relations) with other households. Mean household degree was higher for Kaktovik (44. 6 ties) than Wainwright and Venetie (Mean = 29.2). All households received from, and gave to at least one other entity or household. For households with a degree of one, attending and receiving food at a small Captain's Feast or *Nalukataq* were the most common sources of food. Variability across households was high (Table 7.15). One household received foods from 38 different households and another gave to 30 different households. Household Degree ranged from 1.0 to 143.0 ties.

Wainwright Networks

Results within this section are drawn from network diagrams and Table 7.16. Figure 7.24

Table 7.16. Network summary measures, core resources, Wainwright, 2009.

	All Core Resources	Caribou	Bowhead Whale	Beluga Whale	Bearded Seal	Geese	Ducks	Smelt
Network Size								
Total Number of Nodes	218	218	218	218	218	218	218	218
Number of Ties	1,324	545	322	124	256	288	270	226
Flows among nodes (edible lbs.)								
Total Flow	301,075	119,039	120,465	11,825	32,048	4,997	2,679	10,022
Minimum Flow	0	0	0	0	0	0	0	0
Maximum Flow	9,086	4,510	9,086	1,493	983	333	644	1,300
Mean Flow/Node	1,381	546	553	54	147	23	12	46
Mean Flow/Tie	426	457	374	96	268	139	110	193
Components (connected nodes)								
Number of Components	106	150	218	218	196	200	199	213
Largest Strong Component	112	68	0	0	22	18	19	5
Network Statistics								
Mean Degree	6.073	2.500	1.477	0.569	1.174	1.321	1.239	1.037
Density	0.028	0.012	0.007	0.003	0.005	0.006	0.006	0.005
Mean Distance	3.419	3.940	1.199	1.008	3.530	3.762	3.825	2.899
Compactness	0.170	0.069	0.007	0.003	0.011	0.013	0.015	0.005
Diameter	8	10	4	2	10	12	9	8
Clustering Coefficient	0.242	0.105	0.099	0.407	0.181	0.064	0.148	0.059
Reciprocity	0.168	0.162	0.000	0.000	0.195	0.135	0.180	0.078

NOTES: Number of households includes sampled local households, unsampled local households, and unsampled non-local households. Flows do not include households' production for itself. Networks are disconnected. Distance-based measures are calculated within components. Total number of components includes isolates. Caribou, bowhead whale, beluga whale, bearded seal, and geese were included in all three study communities. Ducks were included in Wainwright and Venetie. Smelt were included in Wainwright only.

represents all community flows of core resources for all social relationships for the one-year study period. The two successful whaling crews (who caught 3 whales) are central to the network. Similarly, a node labeled "community hunt" that represents distribution from the beluga community hunting efforts is at the center. The central locations of these three nodes reflects their greater connectedness (total indegree and outdegree ties) relative to other nodes of the network. The network visualized in Figure 7.24 includes local and non-local nodes to illustrate the extent to which food or contributions were received by local households from local households and others outside the village. There were 84 non-local ties (2%) across 53 non-local households from 14 different communities. There were 3,069 ties in total within the network (Table 7.16). Figure 7.25, in contrast, only includes local nodes.

In contrast to the Kaktovik complete network, there is a mix of younger, mature, and elder households at the center of the network diagram. The majority of highly connected households are couple-headed households (square shapes). Similar to the pattern found in Kaktovik, Wainwright households that are the most connected are not always the households with the greatest total flow (i.e., central nodes are not always the largest nodes pictured in the network). Reciprocity and density metrics for Wainwright and Kaktovik are comparable. Reciprocity was 0.168 in Wainwright and 0.165 in Kaktovik, while density (proportion of all possible ties represented within a network) for Wainwright was 0.028 and 0.030 in Kaktovik.

Similar to results for Kaktovik, the Wainwright caribou network (Table 7.16 and Figure 7.26) is the densest (0.011), with the highest number of ties and behind bowhead, represents the second-highest ranked flow in pounds of all core species. Reciprocity within the network is third highest of all core species (0.162). The network also has the largest number of strong components (n = 68), suggesting that the network is both dense and distributed across many active households. The network has a total of 545 food ties and 119,039 lbs of flow. (Note: Pounds of flow in this section does not include flows of food from own harvesting.) Mean degree (2.5 ties per household) is also the highest across the core species. Caribou processing ties between households totaled 153 contributions (Table 7.11). The mean flow per tie for the caribou network is highest among all core species (457 lbs), and mean flow per node is the second highest of all species (546 lbs) behind bowhead.

Bowhead in Wainwright accounts for the most pounds of flow and number of ties within the household-to-household network. Figure 7.27 illustrates how households (local and non-local) and other local entities contribute to active whaling crews (green diamonds). Contributions to bowhead crews summed to 312 ties (Table 7.11), including ammunition, cash, equipment, labor, supplies, and other actions such as cooking. The network diagram clearly illustrates these contributions to all whaling crews (green diamonds), regardless of whaling success. The two crews who were successful in landing a whale are at the center of the network. These crews are the source of towing shares (given both to crew members and members of other crews who helped to tow the whale to shore), crew shares, and shares for households who helped crews in their whaling effort. Successful crews initially stage a Captain's Feast, and then store a portion of the whale until the following June when captains and their crews contribute to *Nalukataq* (See Table 7.12 for flows associated with these relationships). These linked social relationships explain the star pattern emanating from each successful whaling crew. Individual crews stage their own *Nalukataq*, so unlike Kaktovik, there is not a unique node designating flows from the whaling feast. Similar to results from Kaktovik, the mean flow per tie for the bowhead network (Table 7.16) is second highest among all core species (374 lbs), but mean flow per node is the highest of all species (553 lbs). Bowhead mean degree is second highest of all core species in Wainwright (1.47 ties).

Beluga hunting in Wainwright was undertaken both with a large community hunt and few opportunistic individual hunts. Because of the nature of beluga hunting, cooperation among many parties (with many boats) is needed to direct and herd beluga into shallow areas were harvesting is possible. All animals taken during the Wainwright community hunt were processed

immediately on the beach and then distributed directly to households as "community shares." A radio call to households to pick up their shares goes out simultaneously to all community members. This hunting and distribution pattern yields a distinctive star network (Figure 7.28), in which all distribution takes place from a central point (i.e., the beach). This pattern is characterized by a high clustering coefficient (0.407) for beluga compared to all other core resources. As a consequence, there are zero strong components in the beluga network (Table 7.16). Mean flow per tie was 378 lbs. Mean flow/node within the network was 54 lbs. The Wainwright beluga network includes 281 ties (Table 7.13), of which 119 ties were categorized as "household shares." Other households received shares based on providing boats, hunting (labor/skill), and other labor such as processing and initially spotting animals as they swam by the village (156 ties). Six households received beluga as sharing from other households. Total flows of meat and *maqtaaq* in this network came to 11,825 lbs.

The bearded seal network (Figure 7.29) has a low density of ties relative to other species networks, and has the second-highest clustering coefficient of all networks (i.e., it is focused around groups of tightly connected nodes). As well, the reciprocity measure for bearded seal (0.195) is the highest of all core species. The seal network includes 256 connected households with 22 strong components (the second most numerous after caribou). The network is not compact however, with few of all active nodes connected to each other. The network contains 486 ties in total (Table 7.14), 119 of which are processing ties between households. Mean flow per tie was 268 lbs (third largest) while mean flow per node was 147 lbs (third largest of all core species). Those who give and receive bearded seal do so in larger amounts. Figure 7.29 illustrates the prominent role of key households as both producers and receivers in the bearded seal network.

The geese network (Figure 7.30) includes 288 ties and has 18 strong components. Three households are isolates. Another 5 households are linked in two small groups, but not to the larger network. Degree within this network is the third highest after caribou and bowhead. Reciprocity in this network is ranked fourth across core species. The clustering coefficient is relatively low but network diameter is high, indicating the network is large, but nodes are not tightly connected.

The duck network (Figure 7.31) includes 270 ties and has 19 strong components. Two households are linked in one small group, but not to the larger network. Degree within this network is the third highest after caribou and bowhead. Reciprocity in this network is ranked second across all core species. The clustering coefficient is relatively high and network diameter is moderately high indicating the network is large, but nodes are moderately connected to other households in smaller groups.

The smelt network in Wainwright (Figure 7.32) includes 226 ties with relatively few (n = 5) strong components. The network is moderate in size compared to other core species. Seven households are isolates. Another 12 households are linked in 3 small groups, but not to the larger network. Reciprocity is relatively low between households in this network. The mean flow per tie was fourth highest of all species (193 lbs), and mean flow per tie was also moderate compared to other species (46 lbs).

Figures 7.33 through 7.39 visualize ties and flows between local and non-local households according to relationship type. These figures provide visual context for the proportions of food by house relationship of Table 7.11 (Final table section entitled "All Resources - Flows of Food and Contributions"), and illustrate the network structures behind flows of food and contributions for specific resources. Cooperative hunting (Figure 7.33), sharing (Figure 7.35), and processing (Figure 7.38) are the densest networks (821 ties, 585 ties, and 444 ties, respectively). Similar to Kaktovik, shares relations (whaling and non-whaling combined in Figure 7.13 and 7.14) are clearly focused around provision of contributions to whaling crews, although shares move between households independent of whaling as well. The mirror image of shares is contributions (Figure 7.39), instances when households contributed (supplies, cash, ammunition, labor, equipment, etc.) to the hunting/fishing of others in return for shares (807 ties).

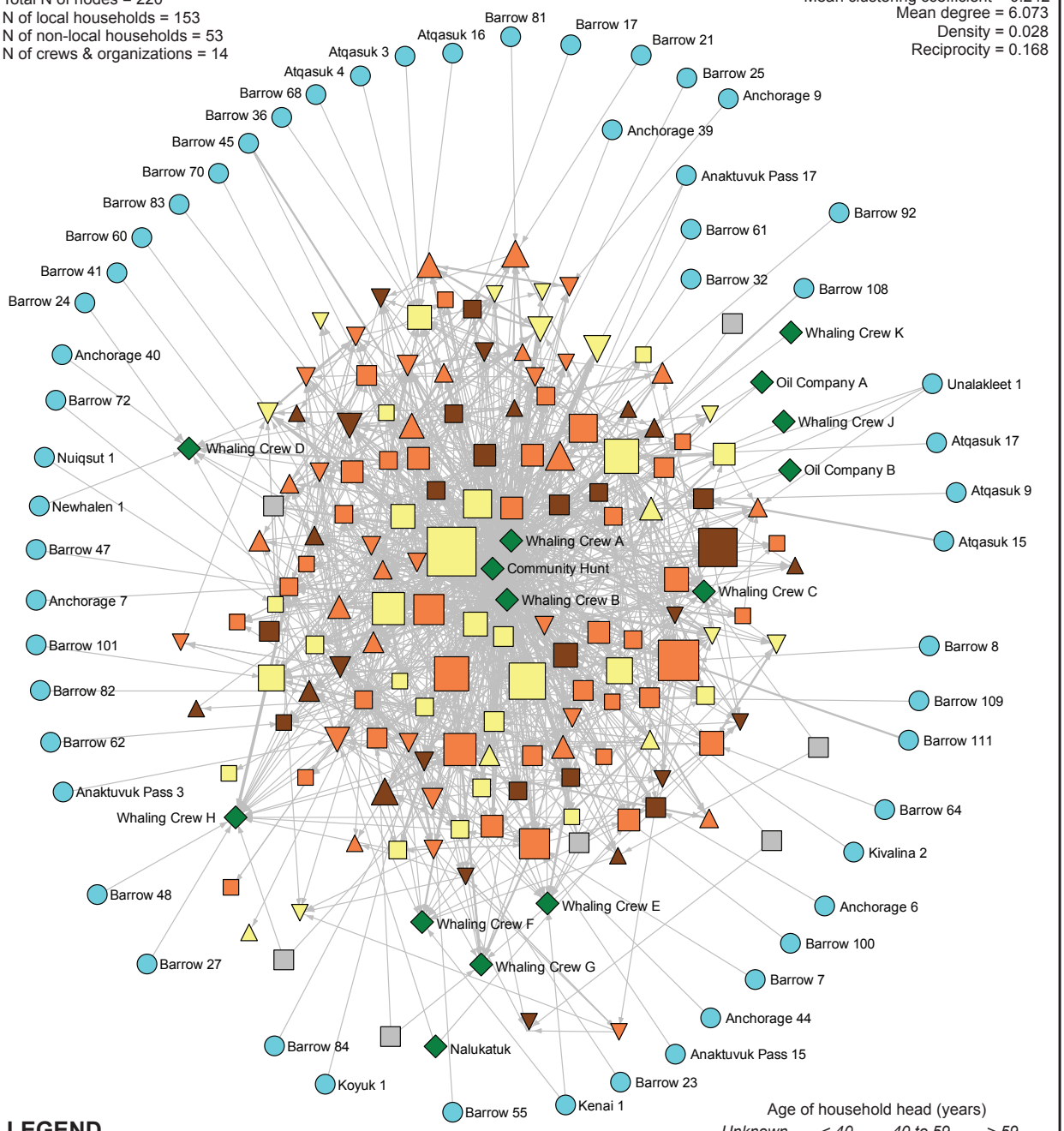
Again, successful whaling crews are central to this network, but other crews were the receivers of many contributions, and non-whaling contributions are significant. Figure 7.36 visualizes feast shares, illustrating the distinctive star pattern associated with wide distribution of feast shares from whaling crews to community households (443 ties). Figure 7.37 illustrates the comparatively sparse and relatively unconnected trading and purchase network for Wainwright. Across all species, trading and purchase contains 56 ties.

Figure 7.40 visualizes gifting flows by categories of resources between Wainwright households and from Wainwright households to other non-local households. In total, 272 nodes are represented in this network (146 local and 126 non-local). A total of 826 ties are represented, 577 between Wainwright households and 249 to non-local households spread across 19 other Alaska communities, and 8 households in other US states. One hundred forty of 249 non-local households (56%) were with other North Slope Borough households. The two largest recipient towns were Barrow (89 households) and Anchorage (51 households). Wainwright shows a stronger regional connection to Anchorage than Fairbanks, whereas this relationship is opposite of that found for Kaktovik (i.e., Kaktovik households have more numerous gifting ties to Fairbanks than Anchorage). The most common category of food given was land mammals (n = 423), followed by marine mammals (n = 196), fish (n = 182), and equipment (n = 25). Results clearly show that sharing relationships for Wainwright households extend beyond the village, and beyond the North Slope Borough.

Figure 7.24
All resources, all documented relations, Wainwright

NODE SUMMARY
Total N of nodes = 220
N of local households = 153
N of non-local households = 53
N of crews & organizations = 14

NETWORK STATISTICS
Mean clustering ccefficient = 0.242
Mean degree = 6.073
Density = 0.028
Reciprocity = 0.168



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.25 All resources, local relations only, Wainwright

LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

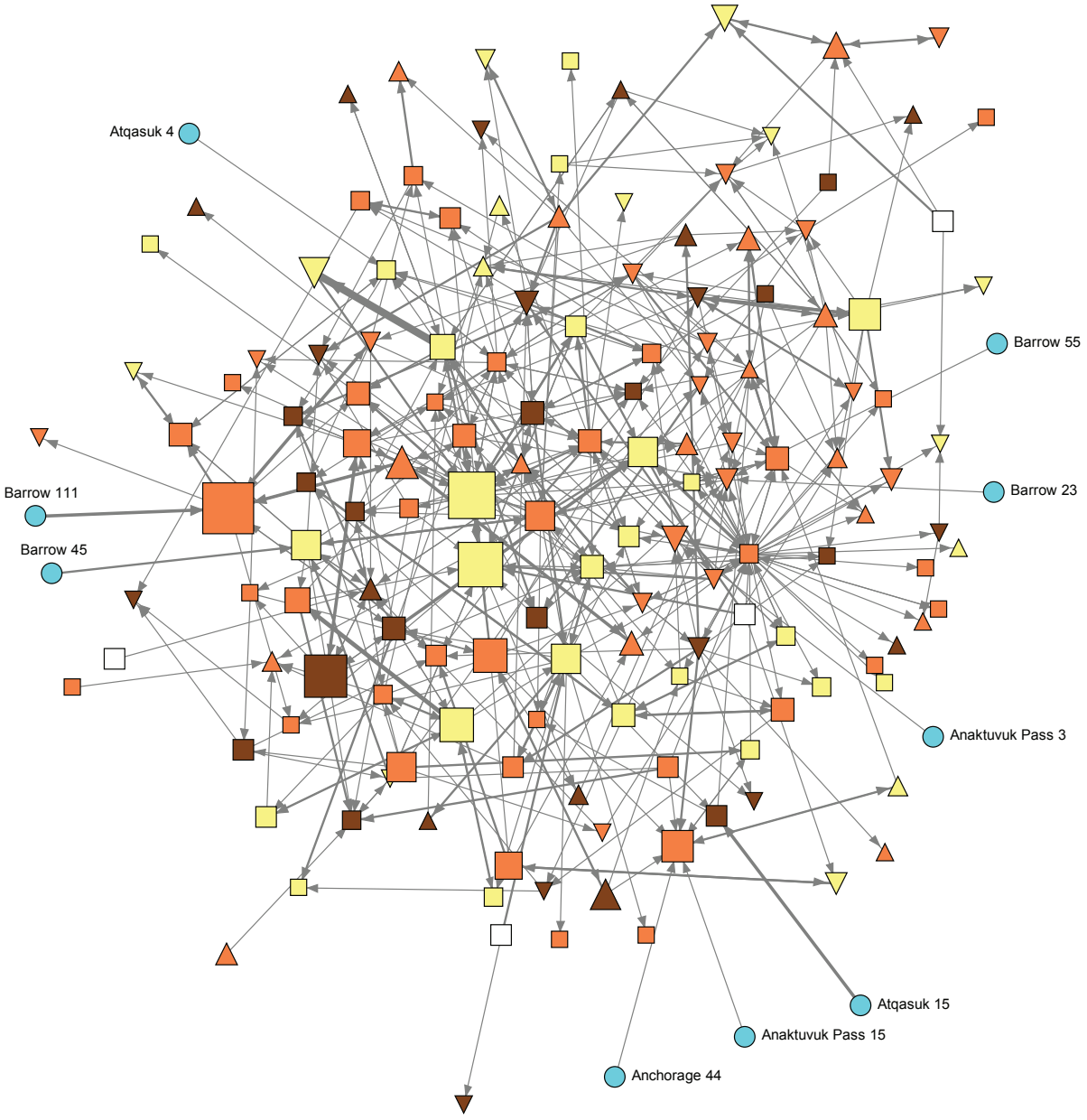
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	▢	▢	▢	▢
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.26
All caribou relations, Wainwright



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

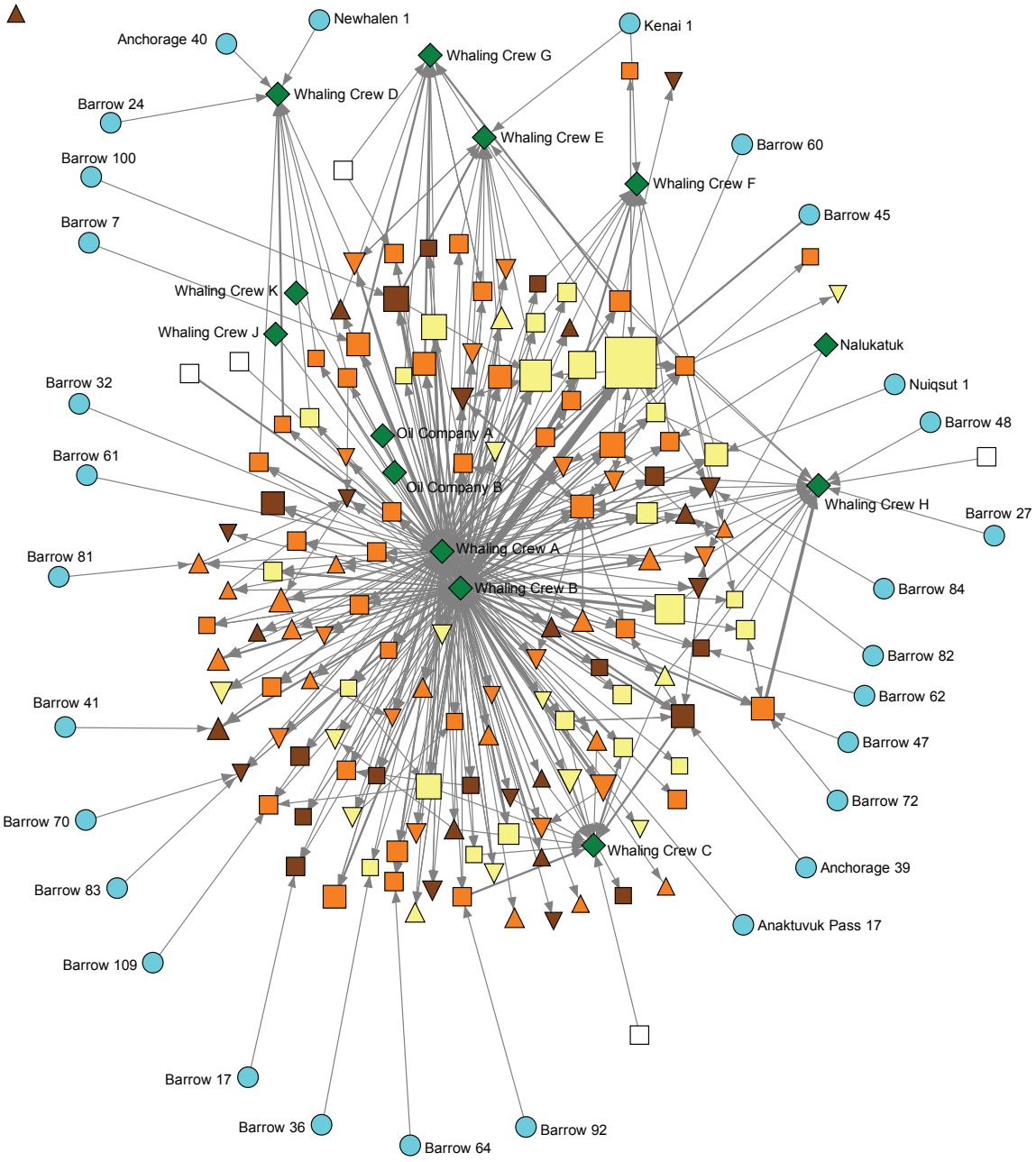
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.27
All bowhead whale relations, Wainwright



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

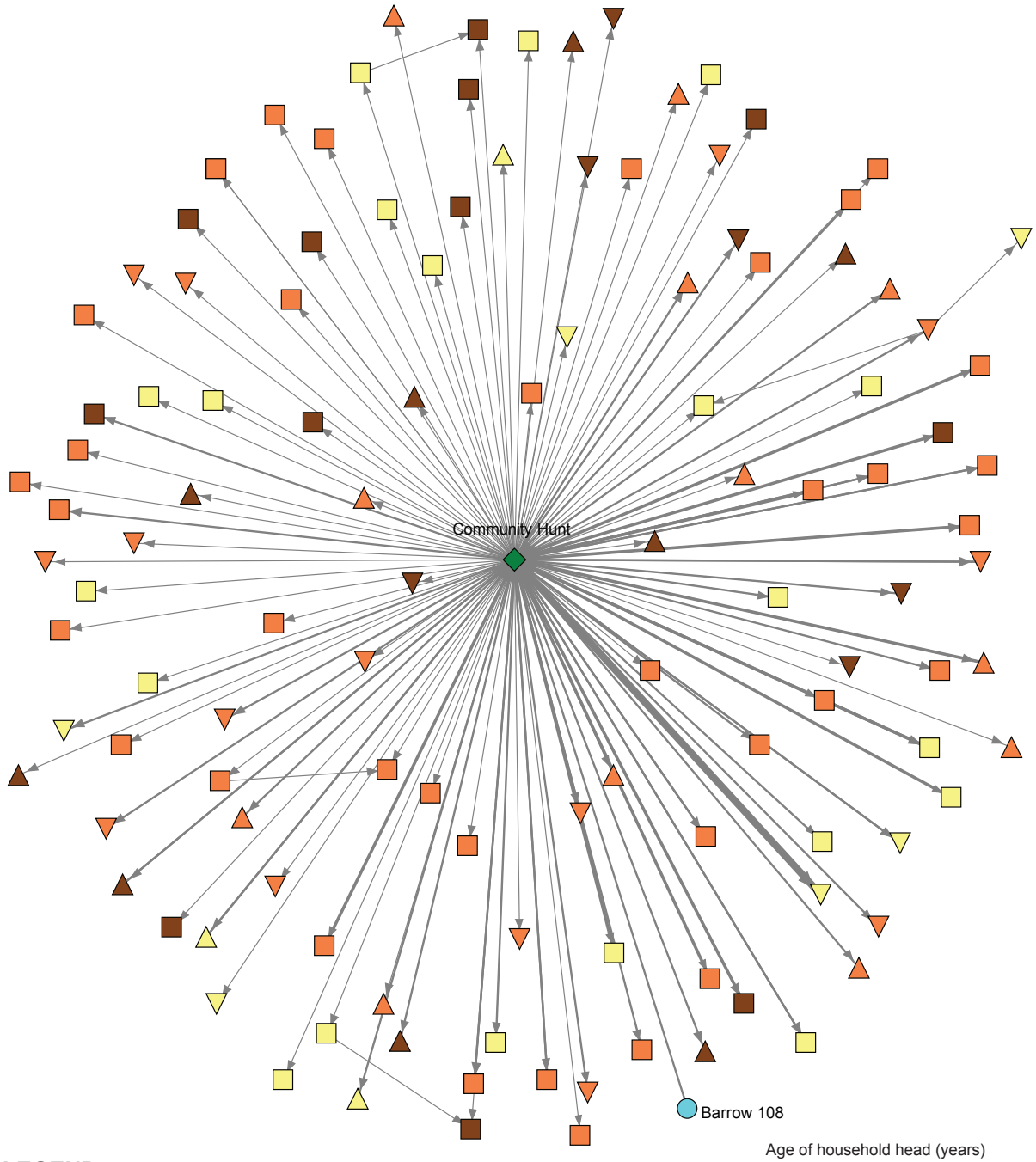
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.28 All beluga whale relations, Wainwright



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

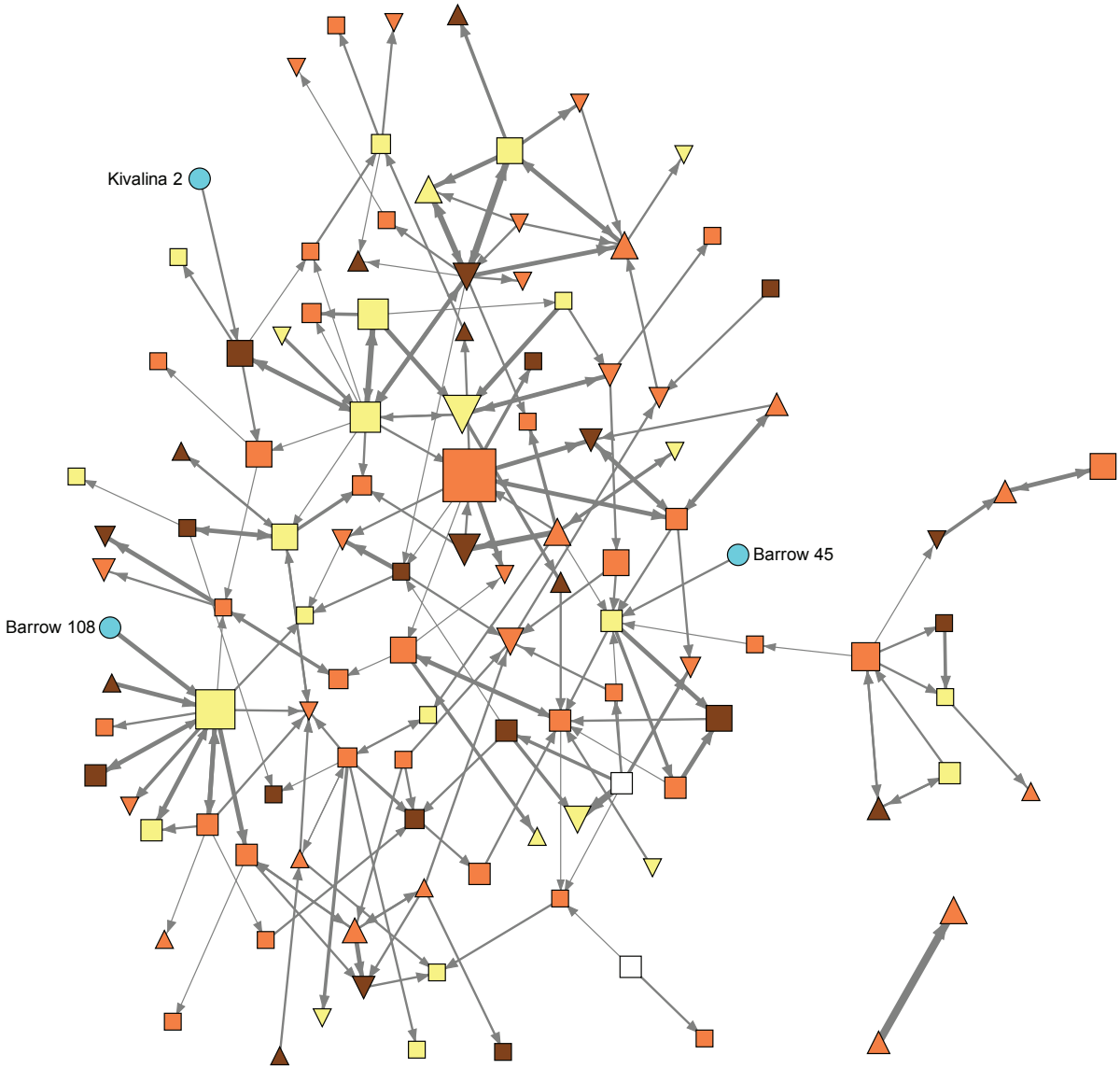
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.29
All bearded seal relations, Wainwright



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	▢	▢	▢	▢
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.30 All geese relations, Wainwright

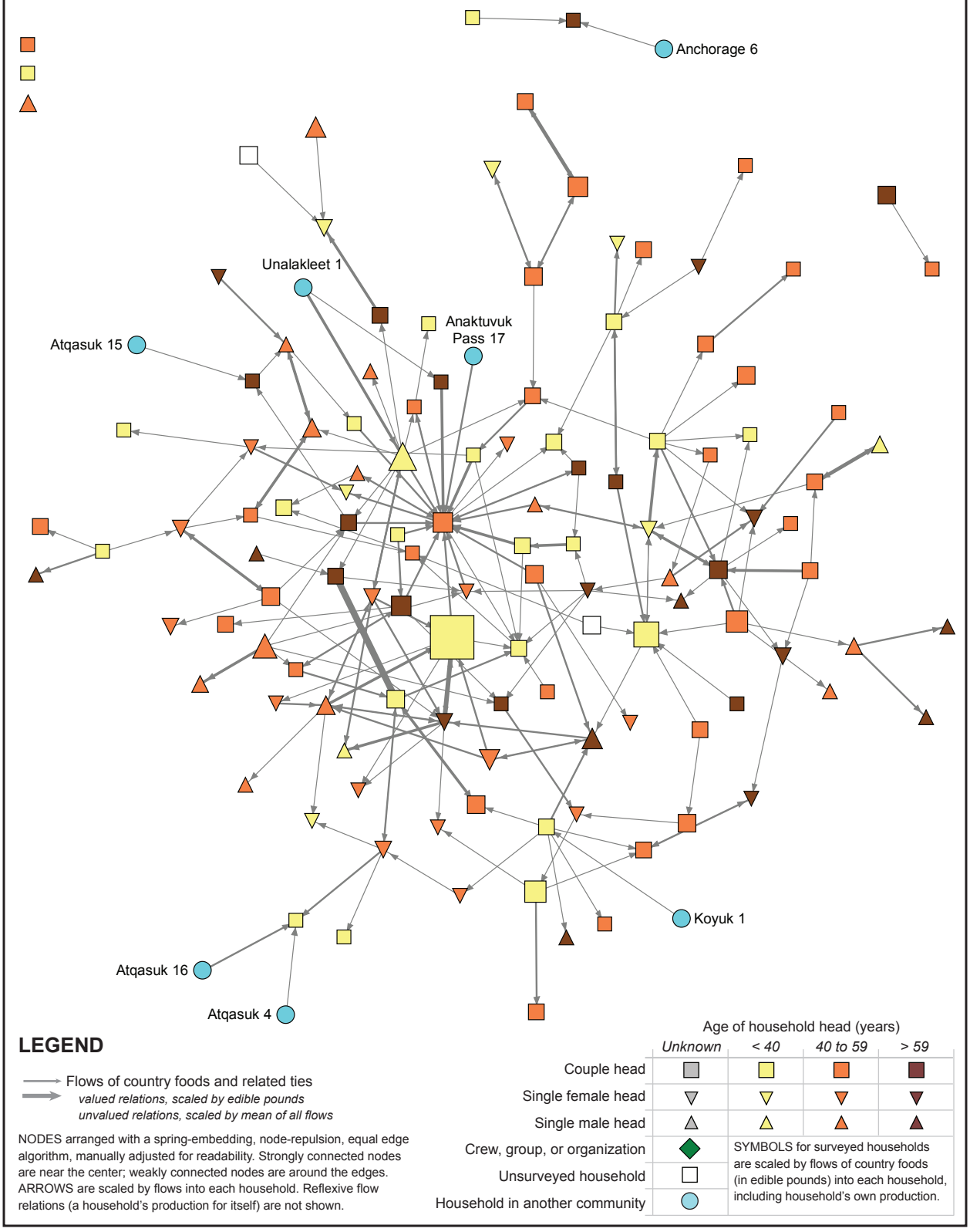
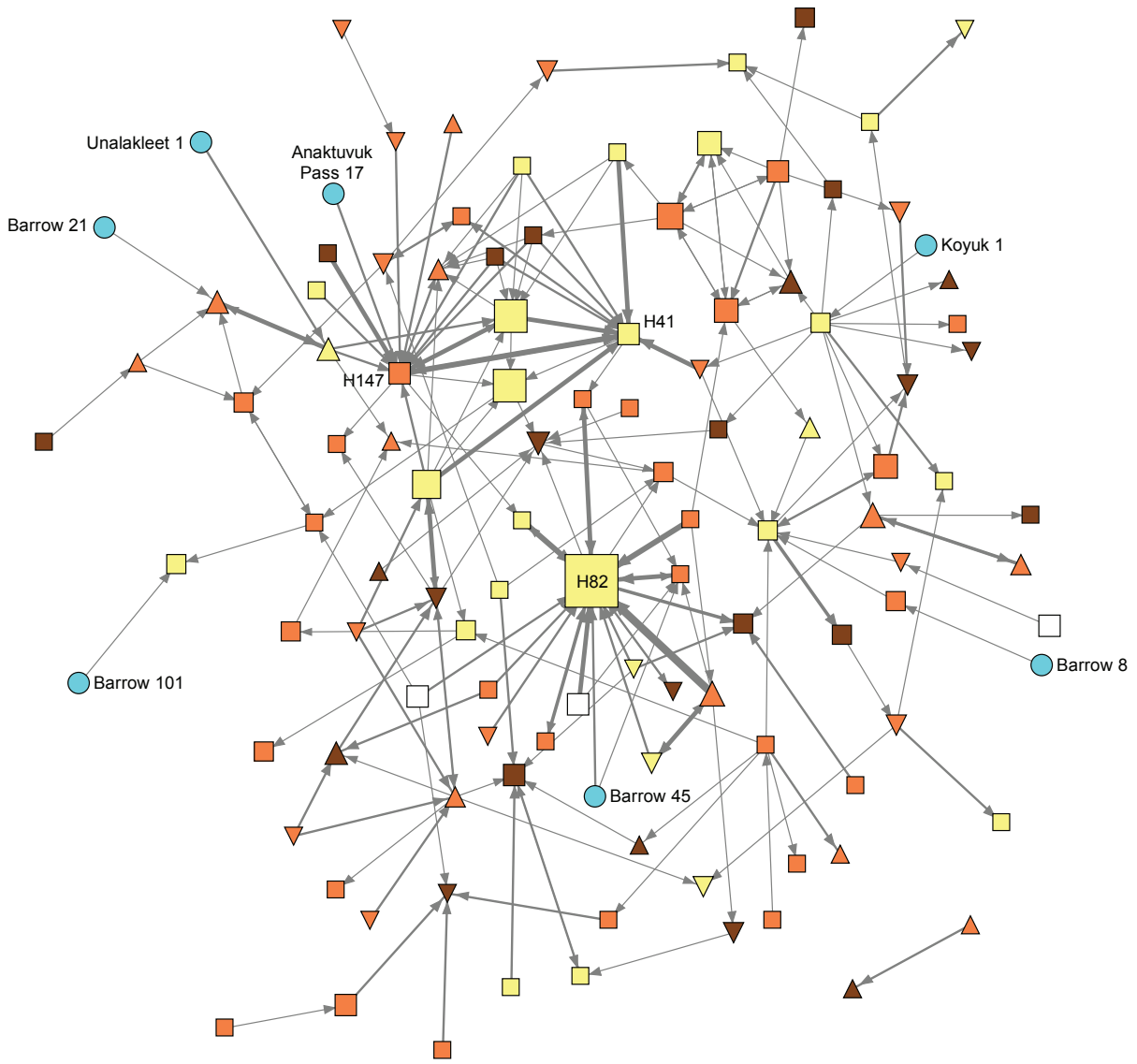


Figure 7.31
All duck relations, Wainwright



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

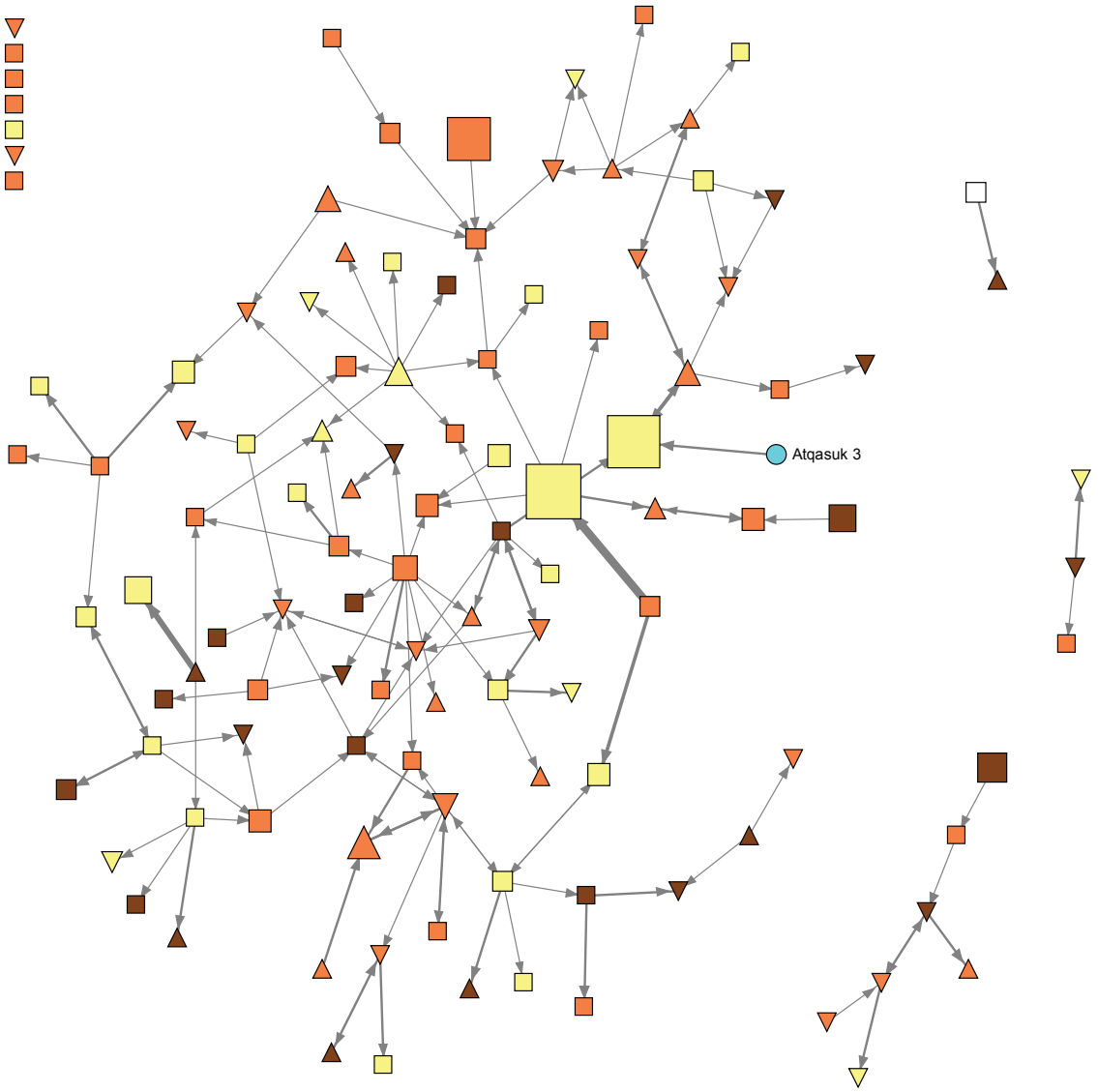
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.32
All smelt relations, Wainwright



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

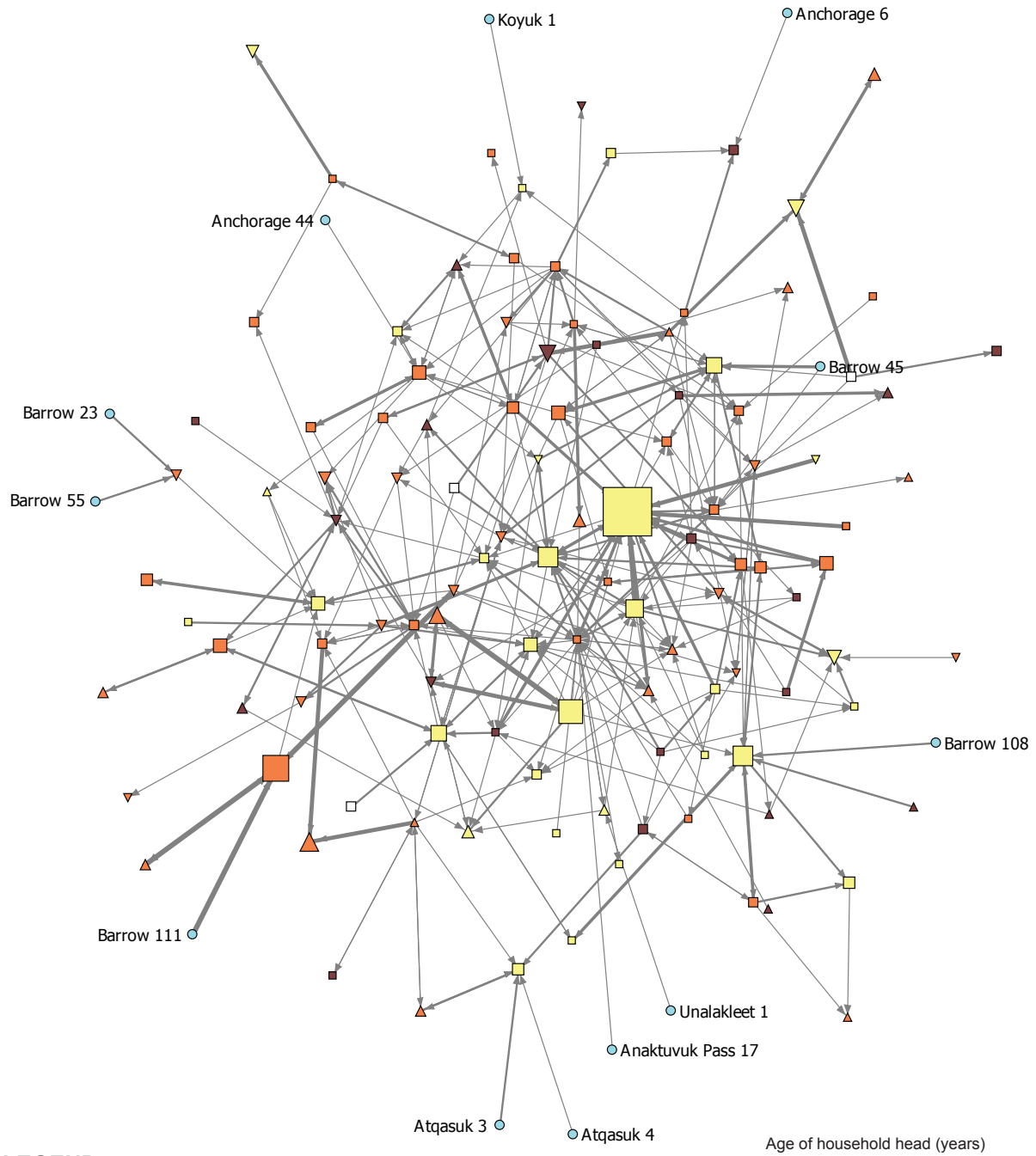
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.33 Cooperative harvest relations, all resources, Wainwright



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

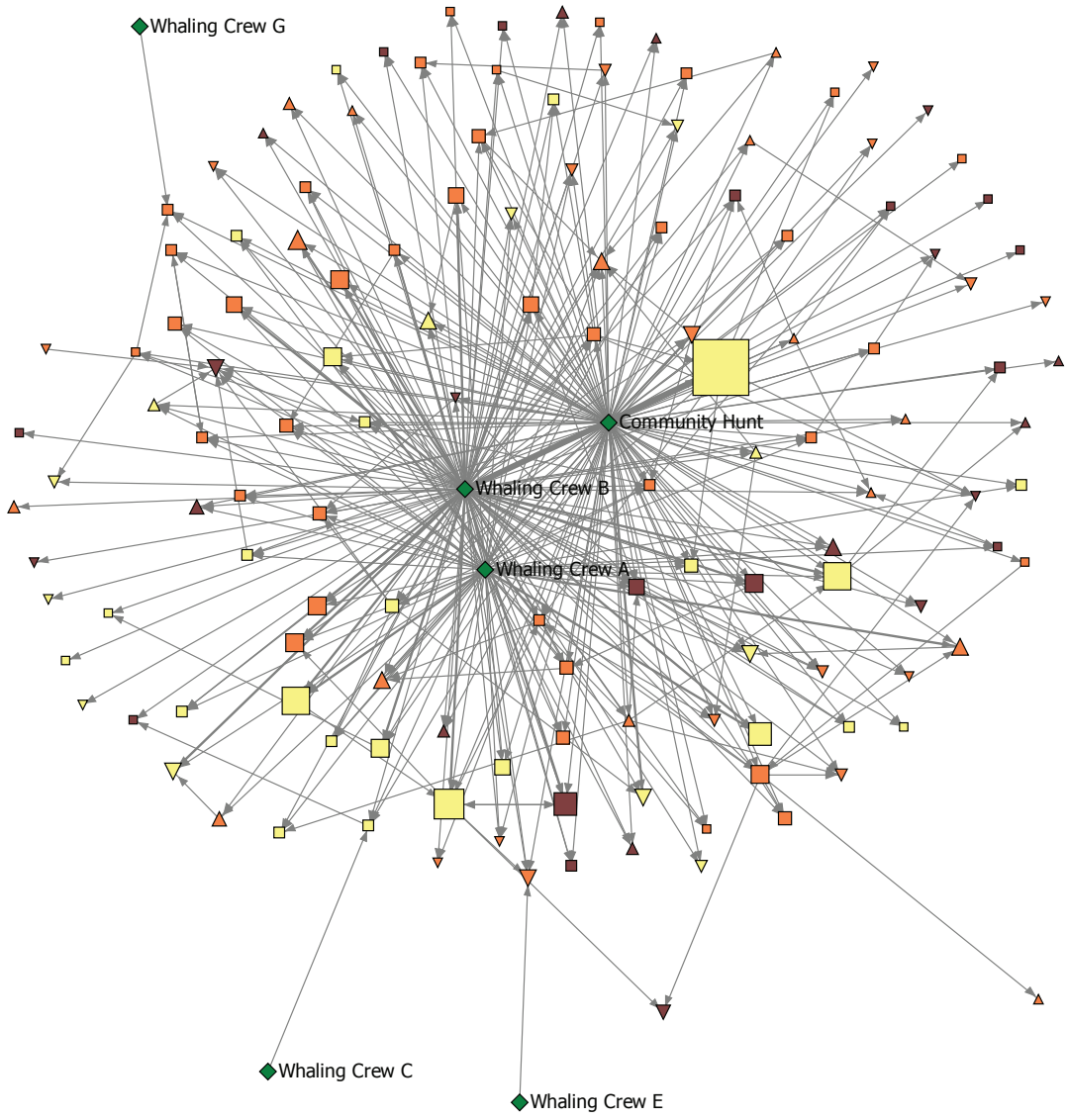
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.34 Shares relations, all resources, Wainwright



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

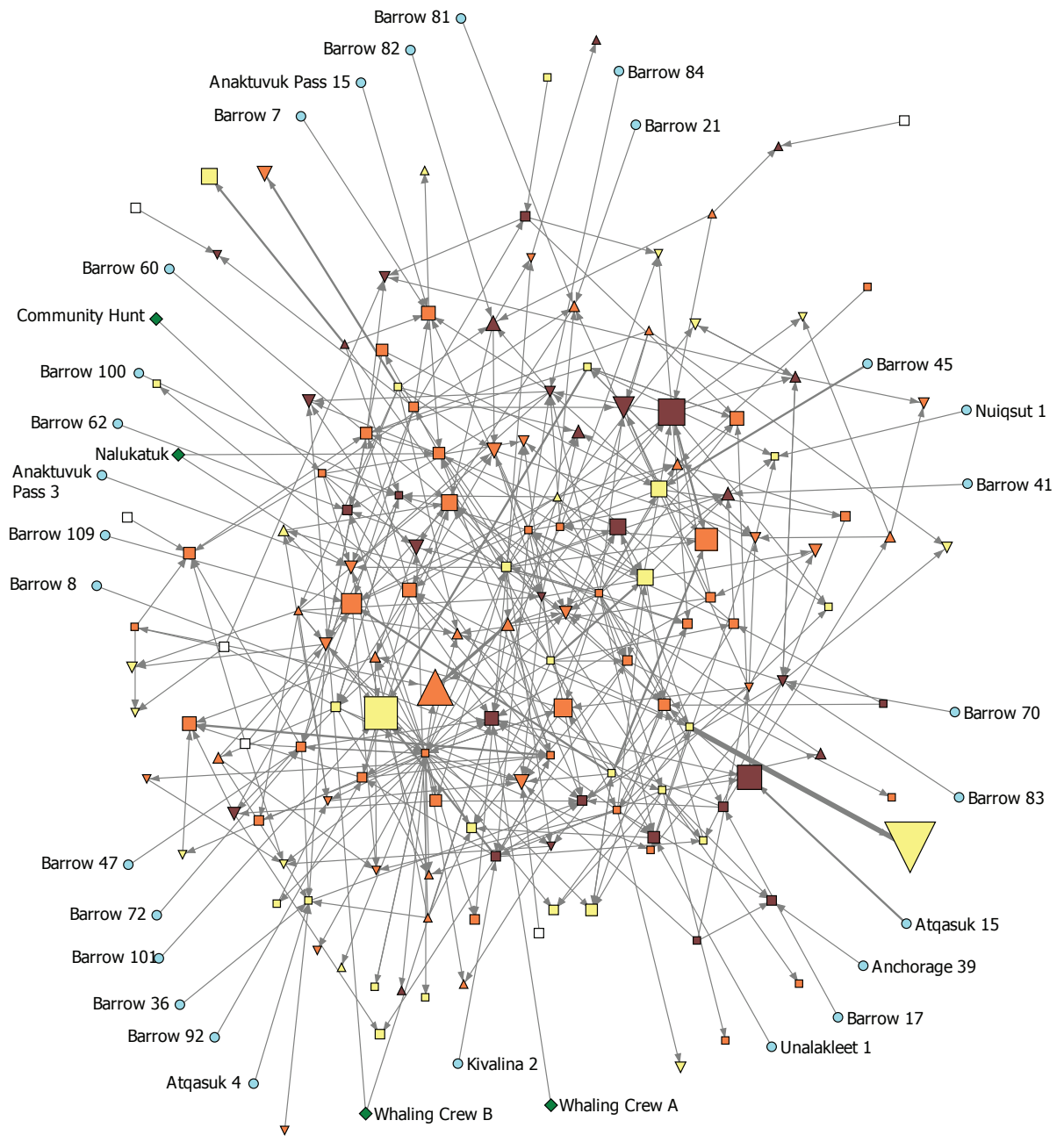
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.35 Sharing relations, all resources, Wainwright



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	●			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.36 Feast relations, all resources, Wainwright

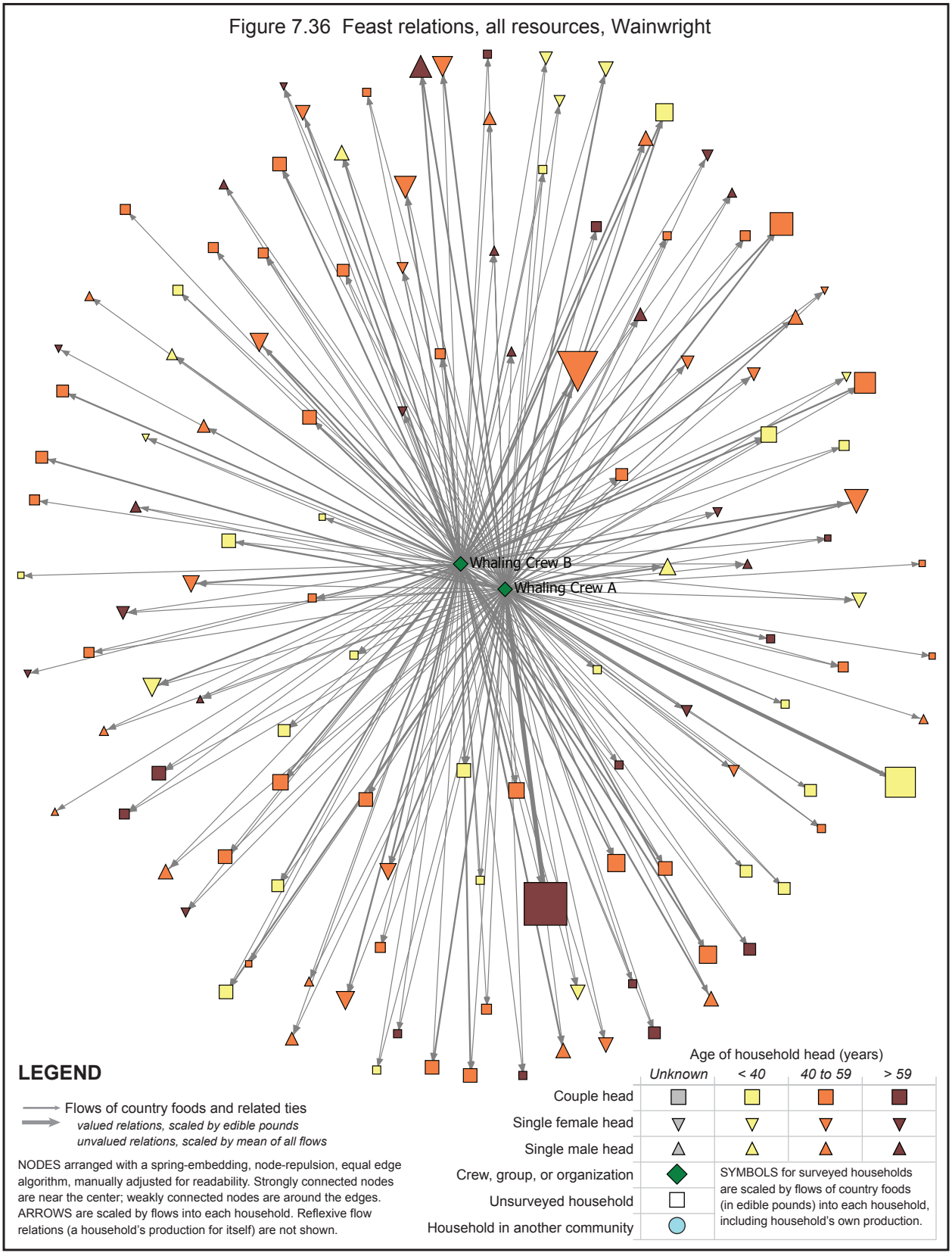
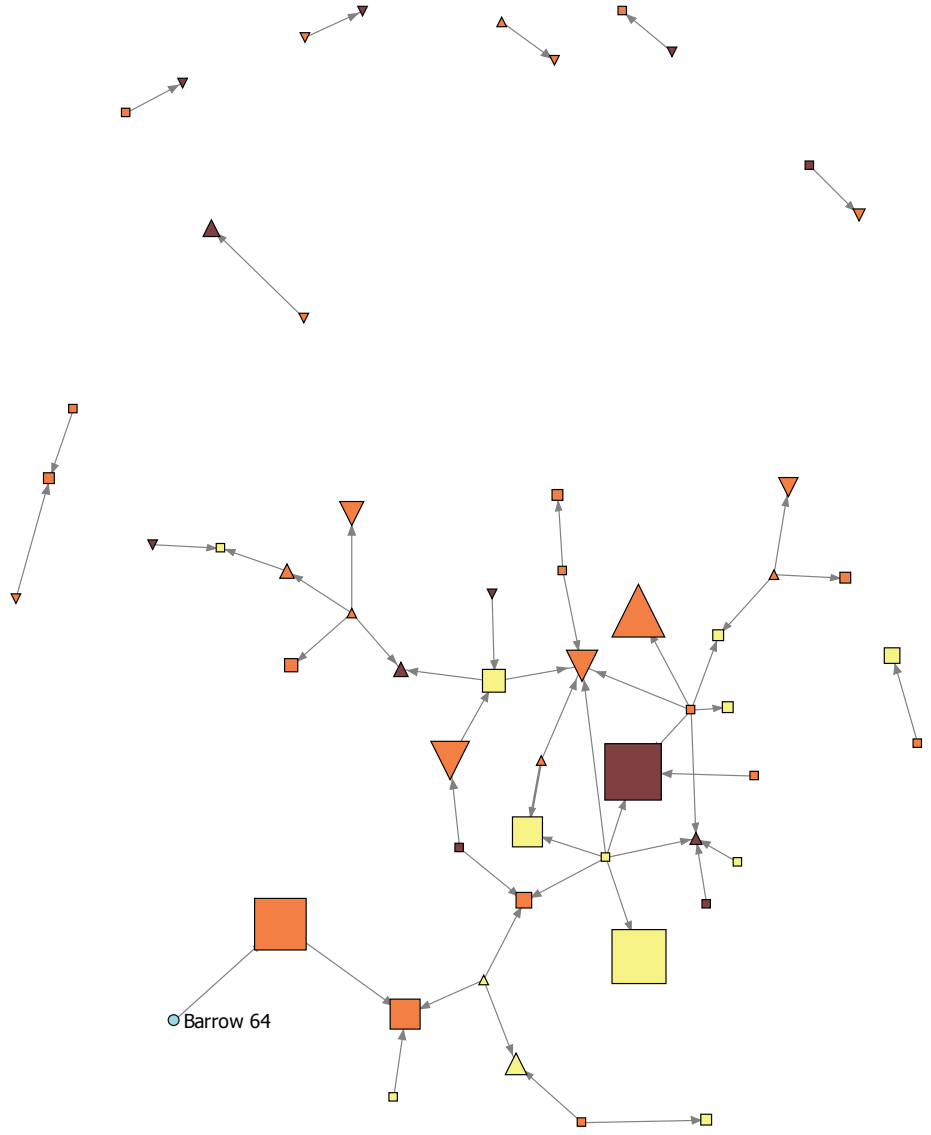


Figure 7.37 Reciprocal relations, all resources, Wainwright



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

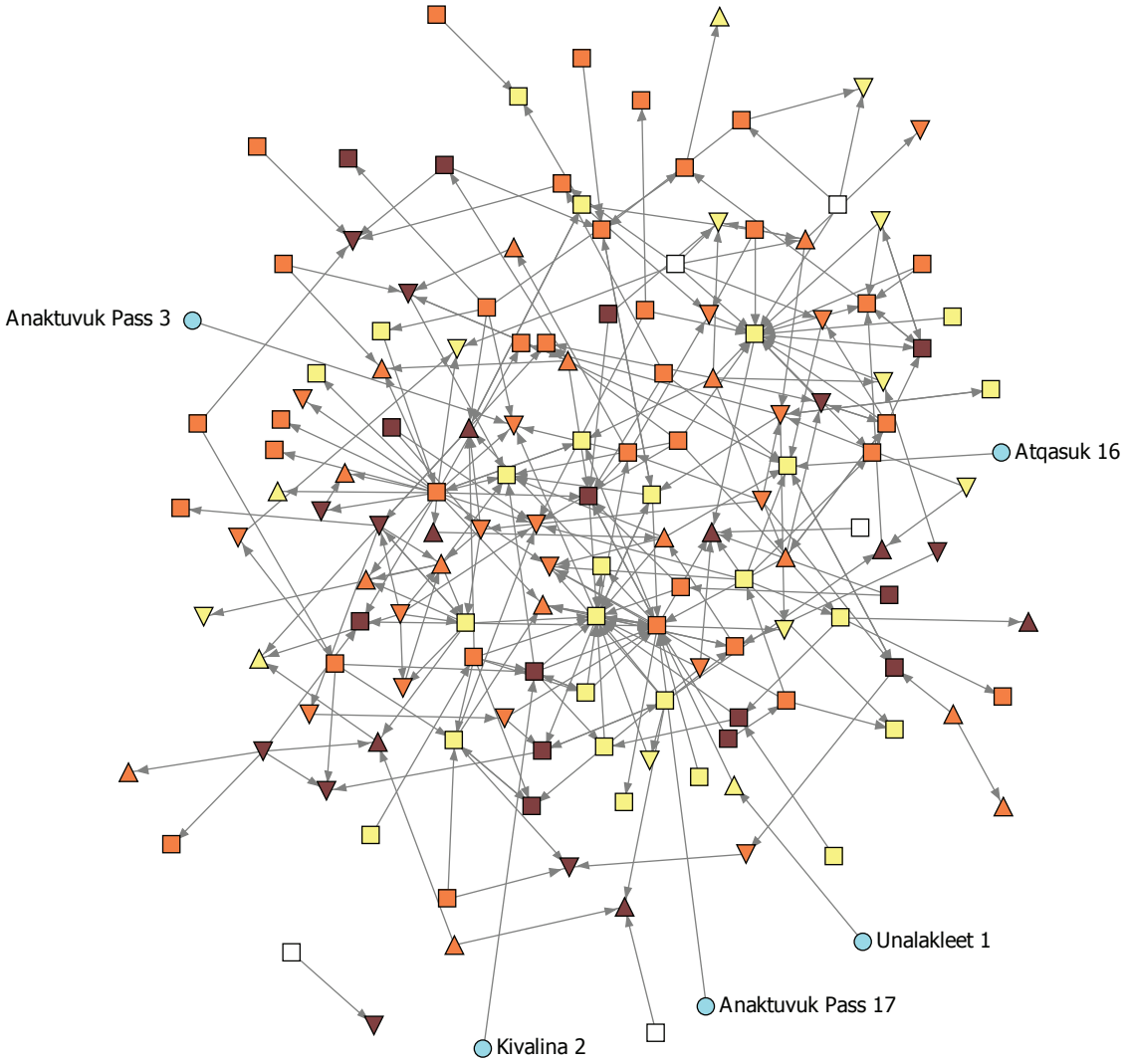
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.38 Processing relations (unvalued), all resources, Wainwright



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

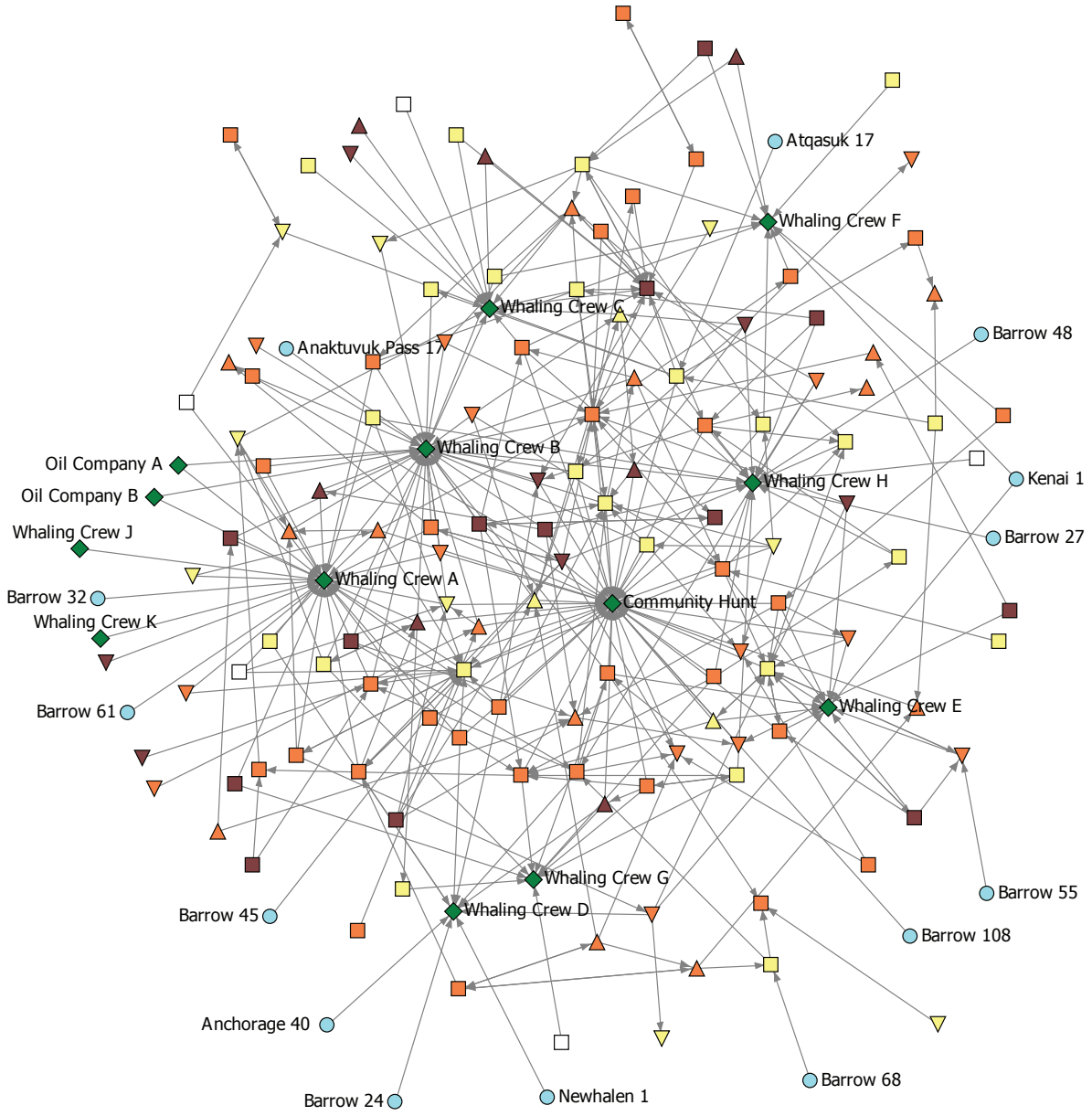
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.39 Other relations (unvalued), all resources, Wainwright



LEGEND

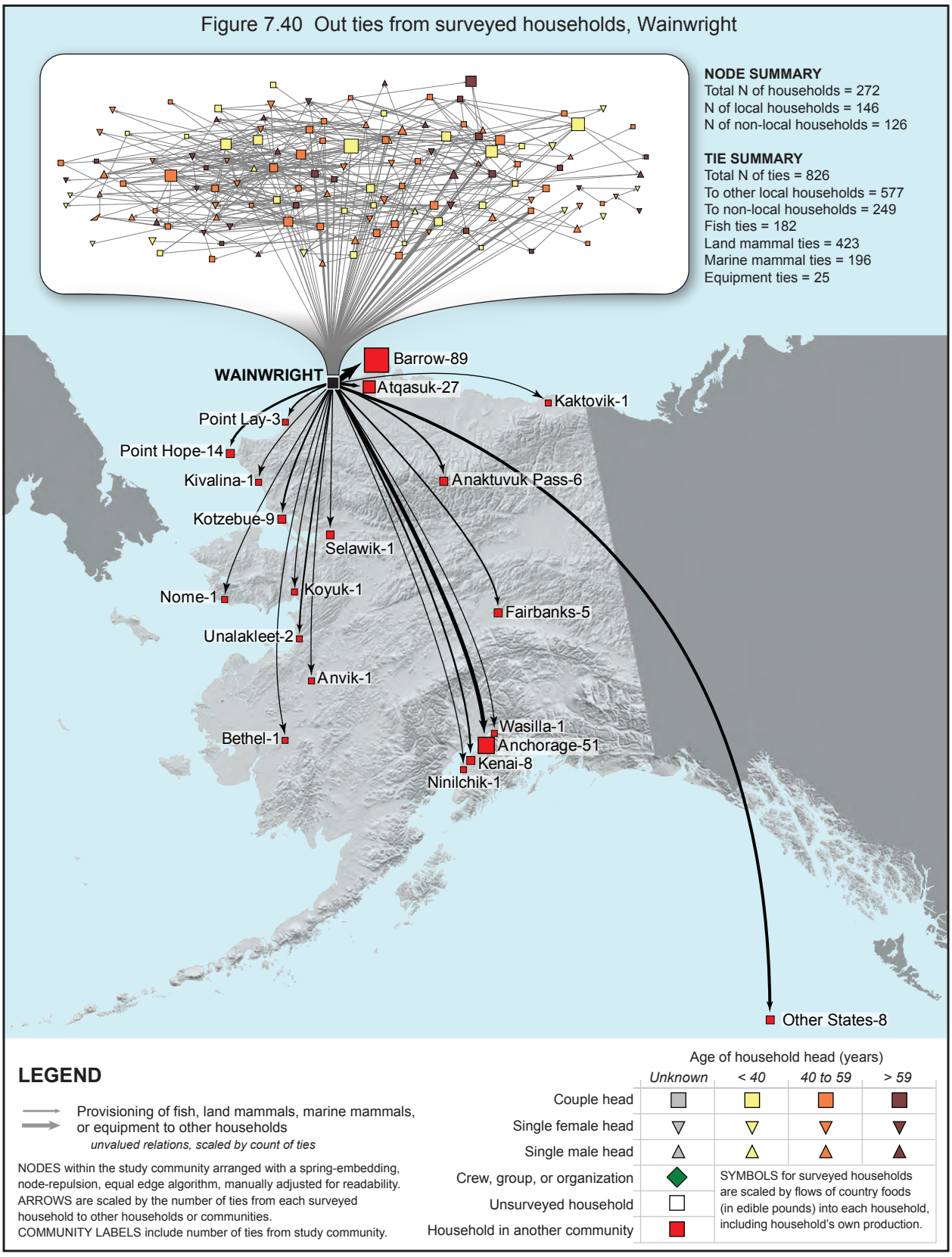
Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

	Age of household head (years)			
	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.40 Out ties from surveyed households, Wainwright



Venetie

Network data were collected for 7 core species in Venetie as well as 3 marine species that were received by households, but not hunted. Moose, caribou, smelt, geese and ducks, salmon, grayling, and berries were core species. Bowhead whale, beluga whale, and bearded seal were received species. Almost 75% percent of Venetie households harvested core species with a mean weight of 672.2 lbs per household (Median = 91.7 lbs) (Table 7.17). More than 78% of households harvested both core and non-core species. Total harvest for core species was 56,468 lbs while total food flowing between all Venetie households was documented as 92,034 lbs. The difference between harvest and inflow (35,566 lbs) represents harvested wild foods that were redistributed between Venetie households. This result corresponds to the pattern found in Wainwright and Kaktovik and is a clear indication of the role of social relationships—primarily sharing and shares—in supporting Venetie households within the mixed subsistence-cash economy. Total flows in Venetie are significantly lower than in Kaktovik, a village of comparable size. A primary difference between the two communities is the lack of whaling in Venetie. Without flows from bowhead and beluga whaling, total inflows in Venetie and Kaktovik are closer in magnitude (Kaktovik: 120,968 lbs compared to Venetie: 92,034 lbs).

Table 7.18 indicates the total flow of edible pounds by core species for Venetie. These figures include mean replacement values. Caribou was the first-ranked core species (29,925 lbs), followed by moose (accounting for 28,320 lbs), salmon (17,811 lbs), grayling (5,106 lbs), geese (4,286 lbs), ducks (2,342 lbs), bowhead whale (2,194 lbs), berries (1,894 lbs), beluga whale (82 lbs), and bearded seal (75 lbs).

Many other resources flowed between households in addition to wild foods. Table 7.19 (all relations contribution ties) highlights a total of 397 total ties between households, representing help with processing for core species (257 ties), and other contributions to the hunting efforts of households for which contributing households received shares of hunted meat or fish (labor (39 ties), fuel (38 ties), supplies (9 ties), equipment (6 ties), ammunition (33 ties), and cash (15 ties)). These contribution ties are by definition reciprocal as they represent harvested food received by a household in return for contributions to the hunting effort.

Venetie Subsistence Cooperation

Figure 7.41 illustrates that 37% of total inflows of wild food to Venetie households was from the households' own harvest (33,401.0 lbs). The remainder, 63%, is the result of different kinds of social relationships operating between households—a key finding of the study and similar to the pattern identified for Kaktovik and Wainwright. Table 7.20 illustrates that cooperative harvesting accounted for 23,067.1 lbs (25.3%), helper shares was 13,702.1 lbs (14%), and sharing 21,231.2 lbs (23%) (See Table 7.19 for a breakdown by species, and then specific social relationships). Sharing in Venetie

Table 7.17. Mean core and non-core harvests for households (lbs), Venetie.

	Households with Reported Harvest % (No.)	Mean	Standard Deviation	Median	Minimum	Maximum
Core Species[ab]	75.00 (63)	672.24	1,303.14	91.65	0.00	5,562.00
Non-Core[bc] Species	50.00 (42)	68.08	191.46	0.50	0.00	1,241.17
Core and Non-Core Species	78.57 (66)	740.31	1,387.60	130.50	0.00	6,803.17

a. Venetie core hunted species were Caribou, Moose, Grayling, Salmon, Geese, Ducks, and Berries.

b. Bowhead and Beluga Whale and Bearded Seal were not hunted in Venetie, but were core species received by HHs.

c. Northern Pike, Sheefish, Unknown Whitefish, Black Bear, Brown Bear, Deer, Dall Sheep, Beaver, Arctic Fox, Red Fox, Snowshoe Hare, Marmot, Marten, Muskrat, Porcupine, Parka Squirrel, Weasel, Wolf, Wolverine, Bearded Seal, Beluga Whale, Bowhead Whale, Tundra Swan, Unknown Swan, Sandhill Crane, Grouse, Ptarmigan and Wild Rose Hips.

Figure 7.41. Flows of wild foods through social relationships, Venetie.

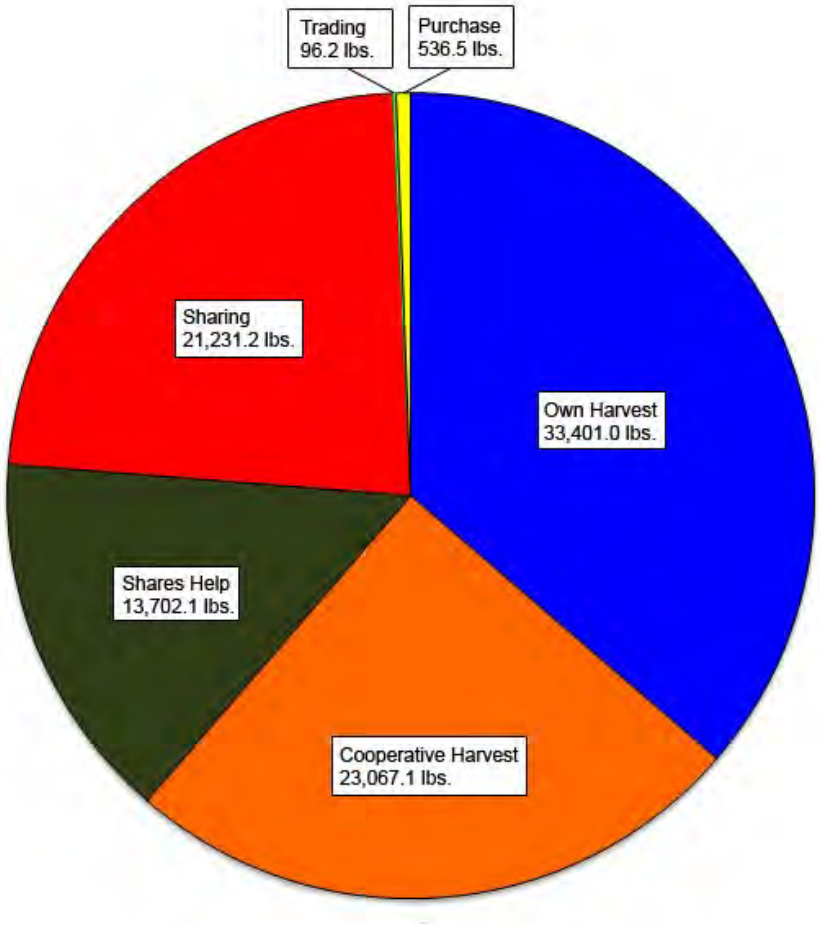


Table 7.18. Core resource flows by resource, Venetie.

		Flows (edible pounds with mean replacements)			
Resource	N of Flow Reports	Sum	Mean/ flow	Median/ flow	Std. Dev.
Caribou	190	29,924.9	157.5	68.0	259.2
Geese	186	4,286.1	23.0	11.3	33.3
Bearded Seal	17	74.6	4.4	1.3	6.5
Grayling	294	5,105.5	17.4	6.8	44.1
Beluga	8	82.3	10.3	6.8	9.0
Bowhead	17	2,193.9	129.1	5.0	501.2
Ducks	182	2,342.2	12.9	6.0	28.2
Berries	227	1,894.3	8.3	5.0	11.0
Salmon	166	17,810.7	107.3	24.0	289.2
Moose	289	28,319.5	98.0	26.9	203.5
All Resources	1,576	92,034.0	58.4	10.2	174.5

accounted for a greater proportion of total flow than documented in Kaktovik (15%) and Wainwright (11%), although flow amounts were smaller. Trading and purchasing accounted for less than 1% of total inflows to Venetie households.

Cooperative hunting activity between households was reported for all 7 core species. The number of households involved in hunting or fishing for core species cooperatively averaged between 2.4 and 3.0 households. Geese-hunting groups incorporated the most households on average. Mean size of cooperative hunting groups varied from 3.2 individuals (salmon) to a high of 4.4 (geese). The largest recorded group was for fishing of grayling with a maximum

Figure 7.42. Total inflows by relationships to households, Venetie.

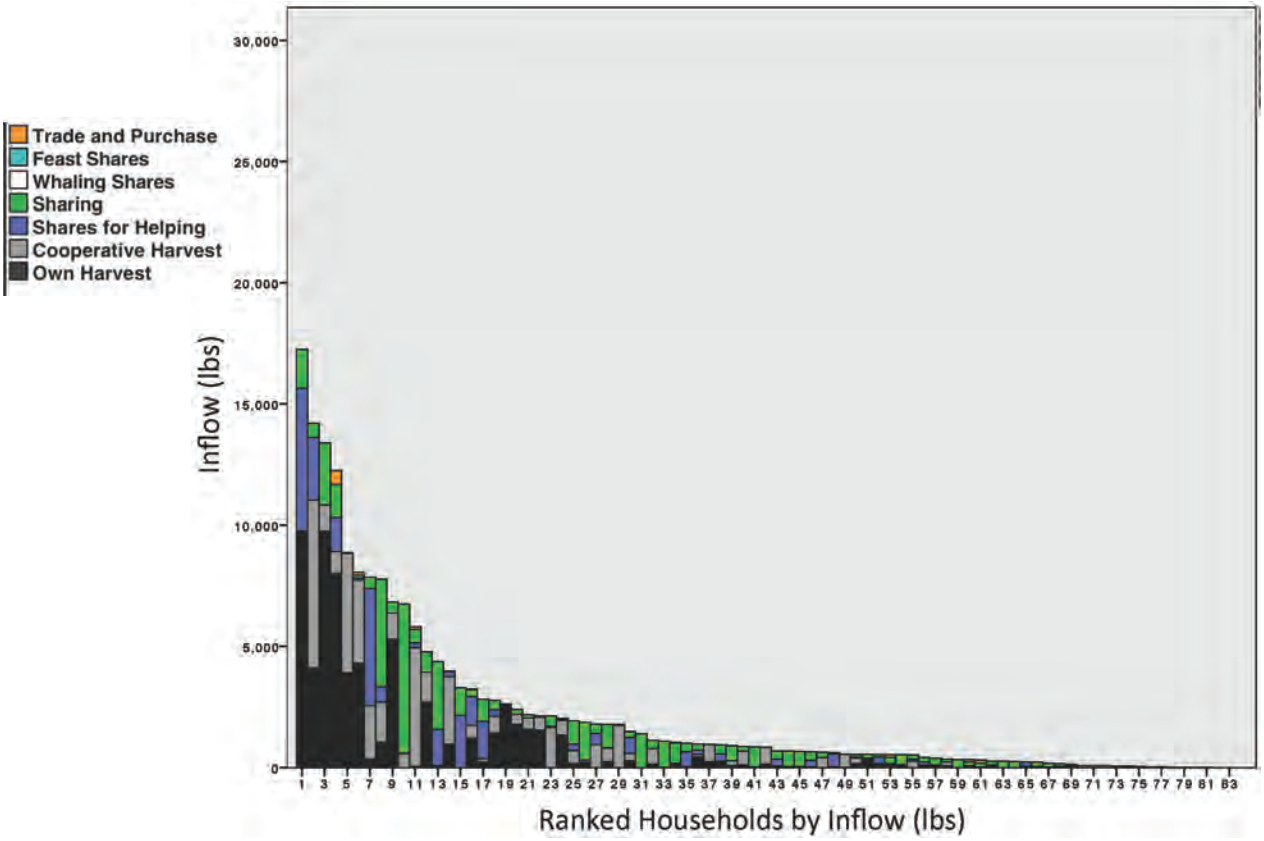


Figure 7.43. Proportion of food by relationships flowing to households, Venetie.

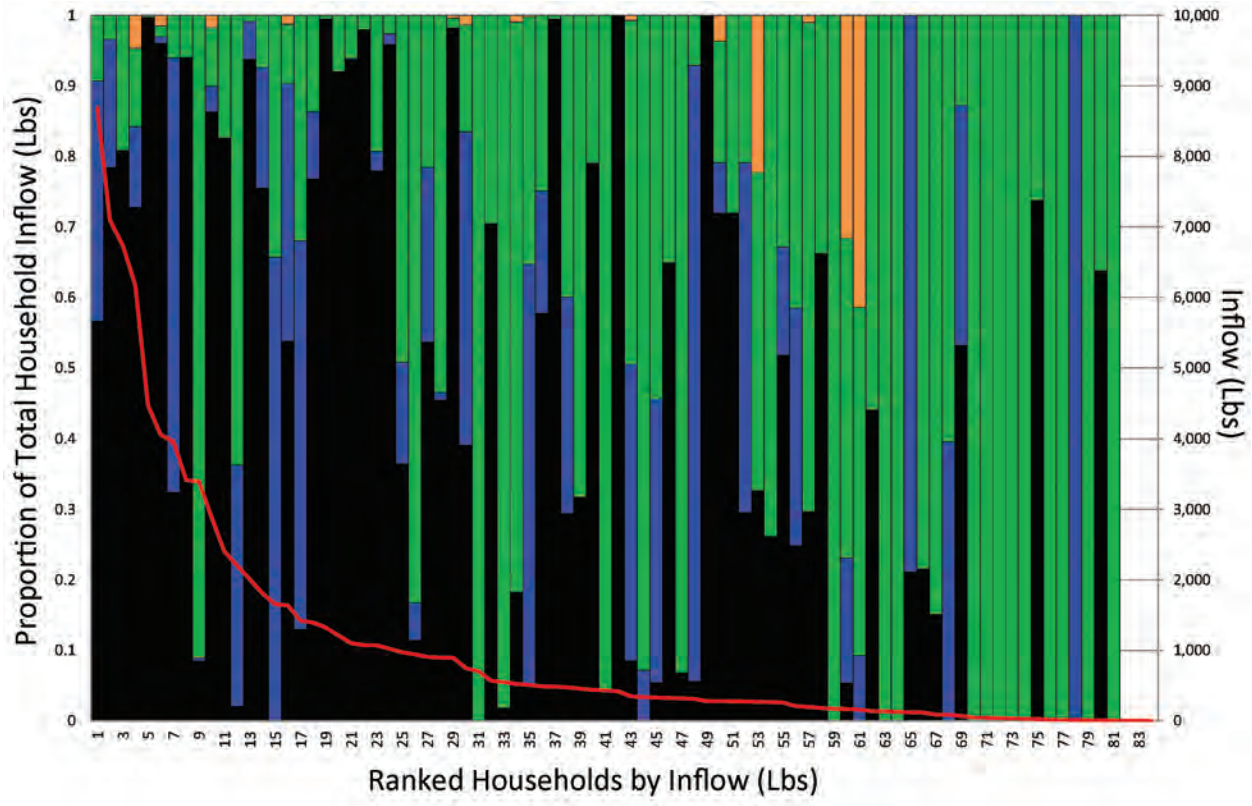


Table 7.19. Core resource flows by resource and relation, Venetie.

		Flows (edible pounds with mean replacements)									
Resource & Relation Combinations	No. of Reported Ties		Sum		Mean		Median		Std. Dev.		
Caribou Relations											
Own Harvest	25	ties	7,480.0	lbs	299.2	lbs	272.0	lbs	240.8	lbs
Share - Cooperative Harvest	28		5,236.0		187.0		136.0		162.3	
Share - Helper	29		8,666.4		298.8		136.0		386.3	
Sharing	107		8,532.5		79.7		21.4		209.3	
Purchase	1		10.0		10.0		10.0		. -	
Own HH Processing	70									
Other HH Processing	55									
Contribution for Share - Total	48									
Ammunition	12									
Cash	10									
Equipment	1									
Fuel	12									
Labor	9									
Supplies	4									
Total	363		29,924.9		157.5		68.0		259.2	
Moose Relations											
Own Harvest	19		10,222.0		538.0		269.0		503.3	
Share - Cooperative Harvest	81		8,969.0		110.7		88.8		101.7	
Share - Helper	34		3,669.5		107.9		61.3		197.2	
Sharing	150		5,117.0		34.1		10.0		77.5	
Trading	2		51.0		25.5		25.5		34.6	
Purchase	3		291.0		97.0		20.0		149.2	
Own HH Processing	74									
Other HH Processing	89									
Contribution for Share - Total	41									
Ammunition	4									
Cash	1									
Equipment	4									
Fuel	13									
Labor	18									
Supplies	1									
Total	493		28,319.5		98.0		26.9		203.5	

Table 7.19. Core resource flows by resource and relation, Venetie, continued.

Resource & Relation Combinations	No. of Reported Ties	Flows (edible pounds with mean replacements)			
		Sum	Mean	Median	Std. Dev.
Geese Relations					
Own Harvest	38	1,183.2	31.1	13.6	49.3
Share - Cooperative Harvest	78	1,611.6	20.7	12.1	20.7
Share - Helper	16	714.5	44.7	18.7	55.0
Sharing	53	766.6	14.5	6.8	20.6
Trading	1	10.2	10.2	10.2	. -
Own HH Processing	65				
Other HH Processing	19				
Contribution for Share - Total	17				
Ammunition	7				
Fuel	4				
Labor	5				
Supplies	1				
Total	287	4,286.1	23.0	11.3	33.3
Ducks Relations					
Own Harvest	64	1,455.0	22.7	6.0	45.3
Share - Cooperative Harvest	64	448.5	7.0	6.0	6.7
Share - Helper	12	111.0	9.3	8.3	5.0
Sharing	41	324.7	7.9	6.0	7.1
Trading	1	3.0	3.0	3.0	. -
Own HH Processing	62				
Other HH Processing	25				
Contribution for Share - Total	13				
Ammunition	10				
Fuel	1				
Labor	2				
Total	282	2,342.2	12.9	6.0	28.2
Grayling Relations					
Own Harvest	160	3,140.1	19.6	6.8	56.1
Share - Cooperative Harvest	77	1,277.1	16.6	6.8	28.0
Share - Helper	4	85.5	21.4	22.5	10.0
Sharing	53	602.8	11.4	7.2	11.5
Own HH Processing	76				

Table 7.19. Core resource flows by resource and relation, Venetie, continued.

			Flows (edible pounds with mean replacements)				
Resource & Relation Combinations	No. of Reported Ties	Sum	Mean	Median	Std. Dev.		
Grayling Relations, continued							
Other HH Processing	16						
Contribution for Share - Total	4						
Cash	1						
Fuel	3						
Total	390	5,105.5	17.4	6.8	44.1		
Salmon Relations							
Own Harvest	27	9,282.4	343.8	30.0	647.8		
Share - Cooperative Harvest	43	5,090.0	118.4	60.0	126.5		
Share - Helper	8	354.8	44.4	24.4	31.0		
Sharing	78	2,838.5	36.4	12.0	50.0		
Trading	2	22.0	11.0	11.0	1.4		
Purchase	8	223.0	27.9	26.0	24.0		
Own HH Processing	48						
Other HH Processing	24						
Contribution for Share - Total	9						
Cash	1						
Fuel	3						
Labor	5						
Total	247	17,810.7	107.3	24.0	289.2		
Bearded Seal Relations							
Share - Helper	2	19.0	9.5	9.5	0.7		
Sharing	15	55.6	3.7	1.3	6.6		
Own HH Processing	2						
Other HH Processing	7						
Contribution for Share - Total	2						
Cash	2						
Total	28	74.6	4.4	1.3	6.5		
Beluga Relations							
Sharing	8	82.3	10.3	6.8	9.0		
Own HH Processing	1						
Other HH Processing	6						
Total	15	82.3	10.3	6.8	9.0		

Table 7.19. Core resource flows by resource and relation, Venetie, continued.

Resource & Relation Combinations	No. of Reported Ties	Flows (edible pounds with mean replacements)									
			Sum		Mean		Median		Std. Dev.		
Bowhead Relations											
Sharing	17		2,193.9		129.1		5.0		501.2		
Own HH Processing	3										
Other HH Processing	7										
Total	27		2,193.9		129.1		5.0		501.2		
Berries Relations											
Own Harvest	70		638.3		9.1		5.0		11.1		
Share - Cooperative Harvest	82		434.9		5.3		2.5		7.4		
Share - Helper	4		81.4		20.4		20.0		13.5		
Sharing	68		717.2		10.5		5.0		13.4		
Trading	1		10.0		10.0		10.0		. -		
Purchase	2		12.5		6.3		6.3		5.3		
Own HH Processing	53										
Other HH Processing	15										
Contribution for Share - Total	3										
Equipment	1										
Fuel	2										
Total	298		1,894.3		8.3		5.0		11.0		
All Resources											
All Relations											
Own Harvest	403		33,401.0		82.9		10.2		253.8		
Share - Cooperative Harvest	453		23,067.1		50.9		12.1		91.3		
Share - Helper	109		13,702.1		125.7		34.3		251.5		
Sharing	590		21,231.2		36.0		10.0		132.3		
Trading	7		96.2		13.7		10.0		16.5		
Purchase	14		536.5		38.3		12.5		69.4		
All Relations Flows of Food	1,576	ties	92,034.0	lbs	58.4	lbs	10.2	lbs	174.5	lbs	
Own HH Processing	451										
Other HH Processing	257										
Contribution for Share - Total	140										
Ammunition	33										
Cash	15										
Equipment	6										

Table 7.19. Core resource flows by resource and relation, Venetie, continued.

			Flows (edible pounds with mean replacements)									
Resource & Relation Combinations		No. of Reported Ties		Sum		Mean		Median		Std. Dev.	
All Resources, All Relations, continued												
	Fuel	38										
	Labor	39										
	Supplies	9										
All Relations Contribution Ties		848	ties									
All Relations Flows and Contribution Ties		**2,424**	**ties**	**92,034.0**	**lbs**	**58.4**	**lbs**	**10.2**	**lbs**	**174.5**	**lbs**

of 9 people followed by 8 people for a moose-hunting group (Tables 7.19 and 7.21). Group sizes for all species averaged between 3 and 4 individuals.

Figure 7.42 provides detail on the total flows of wild foods from 7 core species into Venetie households, ranking households by total inflow (high to low, left to right on the X axis), and indicating the different social relationships responsible for flows of food. The pattern represented by the black portions of the bars reflects the shape of the 30:70 rule articulated by Wolfe (1987), as this portion of the bars illustrates production of food from own harvest and cooperative hunting. However, the results also highlight that households along the gradient of total inflow receive food from a range of social mechanisms. Looking only at harvested food for core species (own hunting and cooperative hunting), 30% of Venetie households are responsible for 93% of total harvested food. This relationship is significantly more skewed than those identified for Wainwright and Kaktovik. For those households with low inflow (Figure 7.42), it is clear that the source of most of their wild food is predominantly social in nature (Shares Help and Sharing). Figure 7.43 highlights this pattern for inflows associated

Table 7.20. Venetie – Sources of wild food inflows.

	% of Total	Lbs
Own Harvest	36.6	33,401.0
Cooperative Harvest	25.3	23,067.1
Shares - Helper	14.4	13,702.1
Sharing	23.0	21,231.2
Trading	0.1	96.2
Purchase	0.6	536.5
TOTAL	100.0	92,034.0

Table 7.21. Average size of cooperative hunting groups[a] - Core species, Venetie.

Species	Mean number of HHs within cooperative hunting groups (No.)	Cooperative Hunting Group/ Crew Size (No. Hunters/ Fishers)	Standard Deviation (No. Hunters/ Fishers)	Median (No. Hunters/ Fishers)	Minimum (No. Hunters/ Fishers)	Maximum (No. Hunters/ Fishers)
Caribou	2.50	3.36	1.57	3.00	2.00	6.00
Moose	2.70	3.72	1.86	3.00	2.00	8.00
Ducks	2.65	3.94	1.81	3.00	2.00	7.00
Geese	3.00	4.41	1.94	4.00	2.00	7.00
Grayling	2.26	4.45	2.34	4.00	2.00	9.00
Salmon	2.43	3.19	1.03	3.00	2.00	5.00

a. Data calculated based on no. individuals hunting together only for the "Cooperative hunting" relation.

Table 7.22. Giving and receiving of core species

Core Resources[a]	Mean	Standard Deviation	Median	Minimum	Maximum
Giving					
No. Core Food Resources Given Per HH	3.36	2.16	3.00	1.00	7.00
No. Other Contributions[b] Given Per HH	2.32	1.68	2.00	1.00	8.00
No. of HHs that HHs are Giving to[c]	7.36	5.10	6.00	1.00	20.00
Receiving					
No. Core Resources Received Per HH	4.91	1.74	5.00	1.00	7.00
No. Other Contributions					
Received per HH	2.28	1.39	2.00	1.00	7.00
No. HHs that HHs are Receiving From	6.51	7.62	4.00	1.00	43.00
HH Degree	29.19	24.91	20.50	1	125

a. Venetie core species were Caribou, Moose, Grayling, Salmon Geese, Ducks, and Berries, Bowhead, Beluga and Bearded Seal.

b. Processing, Equipment, Ammunition, etc.

c. Sharing, Shares, Trading, Purchasing.

with core species. Households are again ranked by total inflow on the X axis and total inflow on the Z axis (red line). The proportion of total household inflow from Sharing and Shares for Helping relationships (Y axis) is inversely related to total inflow. Households with lower inflow overall depend more on social relationships of Sharing (green color), some Shares for Helping (blue color) and Trading/Purchases (orange color) as sources of wild food.

Venetie households reported giving and receiving an average of 3.3 and 4.9 core species, respectively (Table 7.22). Households gave an average of 2.3 non-food contributions (Median = 2.0) and received an average of 2.3 contributions from other households (Median = 2.0). Households gave to 7.4 other households on average (Median = 6.0). Households received from an average of 6.5 other households (Median = 4.0). Mean degree for Venetie households was 29.2 (Median = 20.5), meaning households had an average of 29.2 ties (across all resources and relations) with other households. Mean household degree was highest for Kaktovik (Mean = 44.6) compared to Wainwright (Mean = 32.7) and Venetie (Mean = 29.2). All households received from and gave to at least one other entity or household. One household received foods from 43 different households and another gave to 20 different households. Household degree ranged from 1 to 125 ties.

Venetie Networks

Results within this section are drawn from network diagrams (Figures 7.44 to 7.56) and Table 7.23. Figure 7.44 represents all community flows of core resources for all social relationships for the one-year study period. The figure includes local and non-local nodes in the network, to illustrate the extent to which food or contributions were received by local households from local households and others outside the village. In the local/non-local network, there were 271 non-local ties (11%) across 113 non-local households from 21 different communities. Although the number of communities giving and contributing to Venetie households is comparable to Katkvoik and Wainwright, 14 and 14, respectively, more than double the households gave to Venetie households (n = 131) than either Kaktovik or Wainwright (63 and 53 households). Venetie and Kaktovik are of similar size, but Wainwright has almost double the households of Venetie. The Venetie network has a higher proportion of non-local nodes in the network than either Wainwright (2%) or Kaktovik (4%). There were 2,424 ties in total within the local/non-local network (Table 7.16). Figure 7.45 only contains local nodes.

Similar to Wainwright, there is a mix of younger, mature, and elder households at the center

Table 7.23. Network summary measures, core resources, Venetie, 2009.

	All Core Resources	Caribou	Bow-head Whale	Beluga Whale	Bearded Seal	Geese	Ducks	Moose	Salmon	Gray-ling	Berries
Network Size											
Number of Nodes	205	205	205	205	205	205	205	205	205	205	205
Number of Ties	805	213	17	10	17	160	139	287	161	142	163
Flows (edible lbs)											
Flow Among House-holds	58,315	22,445	2,194	82	75	3,103	887	18,098	8,247	1,965	1,220
Minimum Flow	0	0	0	0	0	0	0	0	0	0	0
Maximum Flow	2,527	2,098	2,147	74	83	304	123	1,076	800	193	117
Mean Flow/Node	284	109	11	0	0	15	4	88	40	10	6
Mean Flow/Tie	166	175	163	49	35	57	53	132	137	74	36
Components (connected nodes)											
Number of Compo-nents	142	192	205	205	205	191	201	177	201	202	202
Largest Strong Compo-nent	63	13	0	0	0	14	4	28	4	3	3
Network Statistics											
Mean Degree	3.415	1.039	0.083	0.049	0.083	0.780	0.678	1.400	0.785	0.693	0.795
Density	0.017	0.005	0.000	0.000	0.000	0.004	0.003	0.007	0.004	0.003	0.004
Mean Distance	3.391	3.212	1.417	1.250	1.536	3.760	2.266	3.733	2.333	3.123	2.258
Compact-ness	0.116	0.011	0.000	0.000	0.001	0.008	0.004	0.027	0.005	0.004	0.005
Diameter	8	10	2	2	3	11	6	9	6	8	6
Clustering Coefficient	0.159	0.055	0.000	0.000	0.000	0.077	0.062	0.107	0.044	0.111	0.126
Reciprocity	0.164	0.086	0.000	0.000	0.000	0.127	0.044	0.122	0.068	0.025	0.053

NOTES: Number of households includes sampled local households, unsampled local households, and unsampled non-local households. Flows do not include households' production for itself. Networks are disconnected. Distance-based measures are calculated within components. Total number of components includes isolates. Caribou, bowhead whale, beluga whale, bearded seal, and geese were included in all three study communities. Ducks were included in Wainwright and Venetie. Moose, salmon, grayling, and berries were included in Venetie only.

of the Venetie network diagram. The majority of highly connected households are couple-headed households (square shapes), although both single men- and women-headed households are central to the network. Similar to the pattern found in Kaktovik, the Wainwright households that are the most connected are not always the households with the greatest total flow (i.e., central nodes are not always the largest nodes pictured in the network). Reciprocity and density metrics for Venetie, Wainwright, and Kaktovik are comparable. Reciprocity was 0.164 in Venetie, 0.168 Wainwright, and 0.165 in Kaktovik. Density (proportion of all possible ties active within a network) for Venetie was 0.017, less than Wainwright (0.028) and that documented for Kaktovik (0.030).

Similar to results for Kaktovik and Wainwright, the Venetie caribou network (Table 7.23 and Figure 7.46) has the represents the highest-ranked flow in pounds of all core species (22,445 lbs). However, there are more ties between household nodes for moose than for caribou (231 compared to 287). The mean flow per tie is higher for caribou than moose, suggesting that moose is shared distributed more widely but in smaller amounts. Caribou processing ties between households totaled 55 ties (Table 7.23). The mean flow per tie for the caribou network is the highest among all core species (175 lbs), and mean flow per node is the highest of all species (109 lbs) behind bowhead.

Bowhead, a species received by Venetie households, is not a large network (17 ties), but the mean flow per tie (163 lbs) is the second highest across core species. Likewise, beluga and bearded seal are very small, sparse networks (17 and 10 ties, respectively), with low mean flows per tie (49 lbs and 35 lbs, respectively) and low total flows within the village (82 and 75 lbs, respectively). Venetie households receive these species from non-local households and then distribute them to those households that they know desire them.

The geese network (Figure 7.47) includes 160 food ties and has the greatest diameter of all species (11). The largest strong component has 14 households. Two households receive only from non-local households, two others are linked only to each other, and others are linked to the larger network component only through one household. This network has the largest mean distance of all core species (signaling that the network has the shortest mean path between nodes). Reciprocity in this network is ranked first across all core species.

The duck network (Figure 7.48) includes 139 food ties and has a diameter of six (moderately sized). Two dyads and one triad of nodes are linked only to each other and not the larger network. Many others are linked only to one or two other households at the edge of the duck network. Mean degree within this network is similar to that of geese, berry, salmon, and grayling, in the range of 0.678 to 0.785 ties per household. Reciprocity in this network is low relative to other core species.

Situated in the boreal forest, it is no surprise that total moose flow among households (18,098 lbs) was the second highest of all core species in Venetie (Figure 7.49). The largest strong component in this network is 28 households—the largest component of all core species. This network has the second highest level of reciprocity, is the most clustered, the most compact, has the shortest mean distance between nodes. The mean degree per household is the highest at 1.4 ties. Mean flow per tie is 132 lbs and mean flow per node is the second highest at 88 lbs.

The salmon network in Venetie (Figure 7.50) includes 161 food ties with relatively few (n = 4) strong components. The network is moderate in size compared to other core species. Many households are connected to the network through receiving from only one other household, and there are 7 pairs of households unlinked to the larger network. Six of these dyads are characterized by a local household receiving fish from a non-local household. The mean flow per tie was third highest of all species (137 lbs), and mean flow per tie was also third highest compared to other species (40 lbs), after moose and caribou.

The grayling network (Figure 7.51) has a moderately large diameter and 3 strong components. There are 142 food ties (fewest of the 7 core hunted/fished species) and mean flow per tie was 74 lbs, while mean flow per node was 10 lbs. There were 12 isolates in the network. The

network is less compact than other core species, but has the second-largest clustering coefficient of all core species. Visually, it is clear that the network forms around specific key households, most of which are couple-headed households.

The berry network (Figure 7.52) has 163 food ties and 3 strong components. Mean flow per tie was 36 lbs and mean flow per node was 6 lbs. While berry picking normally does not result in high yield in pounds, the harvesting of berries in Venetie is a highly social activity. Many households are connected to the network through receiving from only one or two other households, and there are 8 pairs of households unlinked to the larger network. Five of these dyads are characterized by a local household receiving fish from a non-local household. The network is less compact than other core species, but has the largest clustering coefficient of all core species.

Figures 7.53 through 7.56 visualize ties and flows between local and non-local households according to relationship type. These figures provide visual context for Table 7.19 (Final table section entitled "All Resources - Flows of Food and Contributions"), and illustrate the network structures behind flows of food and contributions for specific resources. Cooperative Hunting (Figure 7.53), Sharing (Figure 7.54), and Processing (Figure 7.55), are the densest networks, (453 ties, 403 ties, and 257 ties, respectively). The sharing network is noteworthy for the sharing flows between many non-local households and local households. Shares relations (109 food ties) and the mirror image relations of contributions (Figure 7.56, 109 ties) illustrate instances when households contributed (supplies, cash, ammunition, labor, equipment, etc.) to the hunting/fishing of others in return for shares. Similar to results for Wainwright and Kaktovik, Figure 7.57 illustrates the very sparse and relatively unconnected trading and purchase network for Venetie. Across all species, trading and purchase contains 21 ties (Table 7.19).

Note: The gifting module was added to the survey instrument after data were collected in Venetie, so gifting data are unavailable for this village.

Gender Roles in Sharing for All Three Communities

The questionnaire asked the name of the source of received subsistence foods, thus allowing our analysis to consider the gender of household head and the respective gender of the provider. Table 7.24 summarizes counts of ties and pounds of food flowing from all individuals named as sources, first by gender and then by social relationship for each community. Data represented here refer only to adults 18 years old and above. The relationship "Own Harvest" refers to the roles of men and women engaged in hunting activities only with members of their own household. Relationships associated with whaling (Crew Share, Captain's Shares, Towing Shares and Helper Shares) refer to individuals who were sources of food for their own households, and not the households of others. All other relationships cited in the table describe individuals cited as sources and living in other households.

Totals are presented for both tie counts and flows in order to distinguish frequency of ties from the amount of food represented by those ties. Generally, men were named more frequently as the sources of food (Table 7.25 shaded areas) and the flows associated with food were greater for men in each community. However, results show clearly that women are active in subsistence activities and are responsible for between 29–38% of total ties by count across social relationships. There are unique gender patterns associated with specific relationships, which are described below.

The proportion of *Own Hunting* ties where men were reported as sources was 70% in Wainwright, ~60% in Kaktovik and 63% in Venetie. Tie counts for Cooperative Harvest were more skewed in Wainwright - 83% for men vs. women, abut tie counts were similar to Own Harvest frequencies in Kaktovik (67% men) and Venetie (70% men). Flows of food associated with these hunting-oriented social relationships were also skewed toward men as sources with women named as sources for 26% of Own Harvest and 19% of Cooperative Harvest food flows. In Kaktovik

Table 7.24. Outflows by household head type and gender.

		WAINWRIGHT			KAKTOVIK			VENETIE		
		Source Gender			Source Gender			Source Gender		
Household Type		Male	Female	Total	Male	Female	Total	Male	Female	Total
Male Head(s)	No. of Individuals	37	7	44	29	8	37	30	5	35
	Mean Flow (lbs)	1,225	202	1,063	795	684	771	586	39	508
	Sum of Flow (lbs)	45,335	1,416	46,751	23,057	5,475	28,532	17,594	197	17,791
	Percent of Flow (%)	97.0%	3.0%	100.0%	80.8%	19.2%	100.0%	98.9%	1.1%	100.0%
Female Head(s)	No. of Individuals	20	44	64	14	30	44	12	30	42
	Mean Flow (lbs)	814	275	443	2,726	599	1,276	756	213	369
	Sum of Flow (lbs)	16,273	12,095	28,368	38,167	17,974	56,141	9,076	6,404	15,480
	Percent of Flow (%)	57.4%	42.6%	100.0%	68.0%	32.0%	100.0%	58.6%	41.4%	100.0%
Couple Headed	No. of Individuals	135	110	245	61	44	105	60	55	115
	Mean Flow (lbs)	1,369	425	945	1,470	583	1,098	488	71	289
	Sum of Flow (lbs)	184,787	46,773	231,561	89,667	25,642	115,309	29,302	3,903	33,205
	Percent of Flow (%)	79.8%	20.2%	100.0%	77.8%	22.2%	100.0%	88.2%	11.8%	100.0%
Total	No. of Individuals	192	161	353	104	82	186	102	90	192
	Mean Flow (lbs)	1,283	374	869	1,451	599	1,075	549	117	346
	Sum of Flow (lbs)	246,396	60,284	306,680	150,890	49,092	199,982	55,972	10,504	66,476
	Percent of Flow (%)	80.3%	19.7%	100.0%	75.5%	24.5%	100.0%	84.2%	15.8%	100.0%

Flows are calculated incorporating reported flows and mean replacement values. Individuals include all flows of food linked to individuals within households who are 18 years or older.

Table 7.25. Resource flows by resource and gender for three communities.

		WAINWRIGHT			KAKTOVIK			VENETIE		
		Source Gender			Source Gender			Source Gender		
Resource		Male	Female	Total	Male	Female	Total	Male	Female	Total
	Valid N	192	161	353	104	82	186	102	90	192
Bowhead	Flow (lbs)	38,579	8,547	47,125	53,143	19,554	72,698	0	15	15
	Percent of Flow (%)	81.9%	18.1%	100.0%	73.1%	26.9%	100.0%	0.0%	100.0%	100.0%
Beluga	Flow (lbs)	69	109	179	13,453	3,298	16,751	0	10	10
	Percent of Flow (%)	38.7%	61.3%	100.0%	80.3%	19.7%	100.0%	0.0%	100.0%	100.0%
Bearded Seal	Flow (lbs)	30,475	4,289	34,764	7,663	2,539	10,202	2	11	13
	Percent of Flow (%)	87.7%	12.3%	100.0%	75.1%	24.9%	100.0%	15.0%	85.0%	100.0%
Caribou	Flow (lbs)	149,548	40,154	189,702	50,627	13,543	64,170	15,046	964	16,010
	Percent of Flow (%)	78.8%	21.2%	100.0%	78.9%	21.1%	100.0%	94.0%	6.0%	100.0%
Moose	Flow (lbs)							22,437	2,183	24,619
	Percent of Flow (%)	.	.	.	.	.	.	91.1%	8.9%	100.0%
Dall Sheep	Flow (lbs)				12,570	286	12,856			
	Percent of Flow (%)	.	.	.	97.80%	2.20%	100.00%	.	.	.
Geese	Flow (lbs)	7,388	1,663	9,050	2,228	697	2,925	3,056	475	3,531
	Percent of Flow (%)	81.6%	18.4%	100.0%	76.2%	23.8%	100.0%	86.5%	13.5%	100.0%
Ducks	Flow (lbs)	2,889	300	3,189				1,641	481	2,122
	Percent of Flow (%)	90.6%	9.4%	100.0%	.	.	.	77.3%	22.7%	100.0%

Table 7.25. Resource flows by resource and gender for three communities, continued.

		WAINWRIGHT			KAKTOVIK			VENETIE		
		Source Gender			Source Gender			Source Gender		
Resource		Male	Female	Total	Male	Female	Total	Male	Female	Total
	Valid N	192	161	353	104	82	186	102	90	192
Salmon	Flow (lbs)							9,673	4,169	13,842
	Percent of Flow (%)	.	.	.	.	.	.	69.9%	30.1%	100.0%
Dolly Varden	Flow (lbs)	-	-	-	11,207	9,175	20,382			
	Percent of Flow (%)	.	.	.	55.0%	45.0%	100.0%	.	.	.
Grayling	Flow (lbs)							3,624	1,304	4,929
	Percent of Flow (%)	.	.	.	.	.	.	73.5%	26.5%	100.0%
Smelt	Flow (lbs)	17,450	5,223	22,672	-	-				
	Percent of Flow (%)	77.0%	23.0%	100.0%	.	.	.	.	.	.
Berries	Flow (lbs)							495	893	1,388
	Percent of Flow (%)	.	.	.	.	.	.	35.6%	64.4%	100.0%
Total	Flow (lbs)	246,397	60,285			49,093	199,984	55,974	10,505	66,479
	Percent of Flow (%)	80.3%	19.7%	100.0%	75.5%	24.5%	100.0%	84.2%	15.8%	100.0%

Flows are calculated incorporating reported flows and mean replacement values. Individuals include all flows of food linked to individuals within households who are 18 years or older.

women accounted for 24% and 29% of Own and Cooperative Harvest, respectively. Women were responsible for a smaller proportion of food in pounds flowing in Venetie from Own and Cooperative Harvest (16% and 15%, respectively). Share-helper tie counts and flows were more heavily skewed toward men as sources. This relationship described ties/food received based on contributing to the hunting of others, for example by providing or loaning equipment, cash, ammunition or other supplies, and results indicate that these contributions more often emanated from men. Sharing tie counts followed similar patterns, with men cited more frequently as sources than women as sources (79% in Wainwright, and 76% in Kaktovik). However, the proportion of food ties by gender was more even split in Venetie (58% compared to 42% men:women). Taking magnitude of Sharing into account, men were responsible for higher proportions of food flows particularly in Wainwright and Kaktovik (92% and 87%, respectively), while the proportion was more even in Venetie (72%).

Men were responsible for all Whaling Captain shares in Kaktovik and aggregating across the three whales landed successfully. Of 130 total individuals who brought in Crew Shares for their households in Wainwright, 29 sources were women, while women accounted for 55 of 134 total sources reported in Kaktovik. The proportion of bowhead crew shares by weight broke down as 78% (men) to 22% (women) in Wainwright and 59% (men) to 41% (women) in Kaktovik. Towing Shares were brought in mainly by men who were crew members physically on the whaling boats. Helper Shares in Wainwright were mainly brought in by male household members, while almost half of individuals (8 of 19) cited as sources of Helper Shares in Kaktovik households were women. These individuals accounted for 61% (2,848 lbs) of total Helper Shares from whaling flowing into to Kaktovik households.

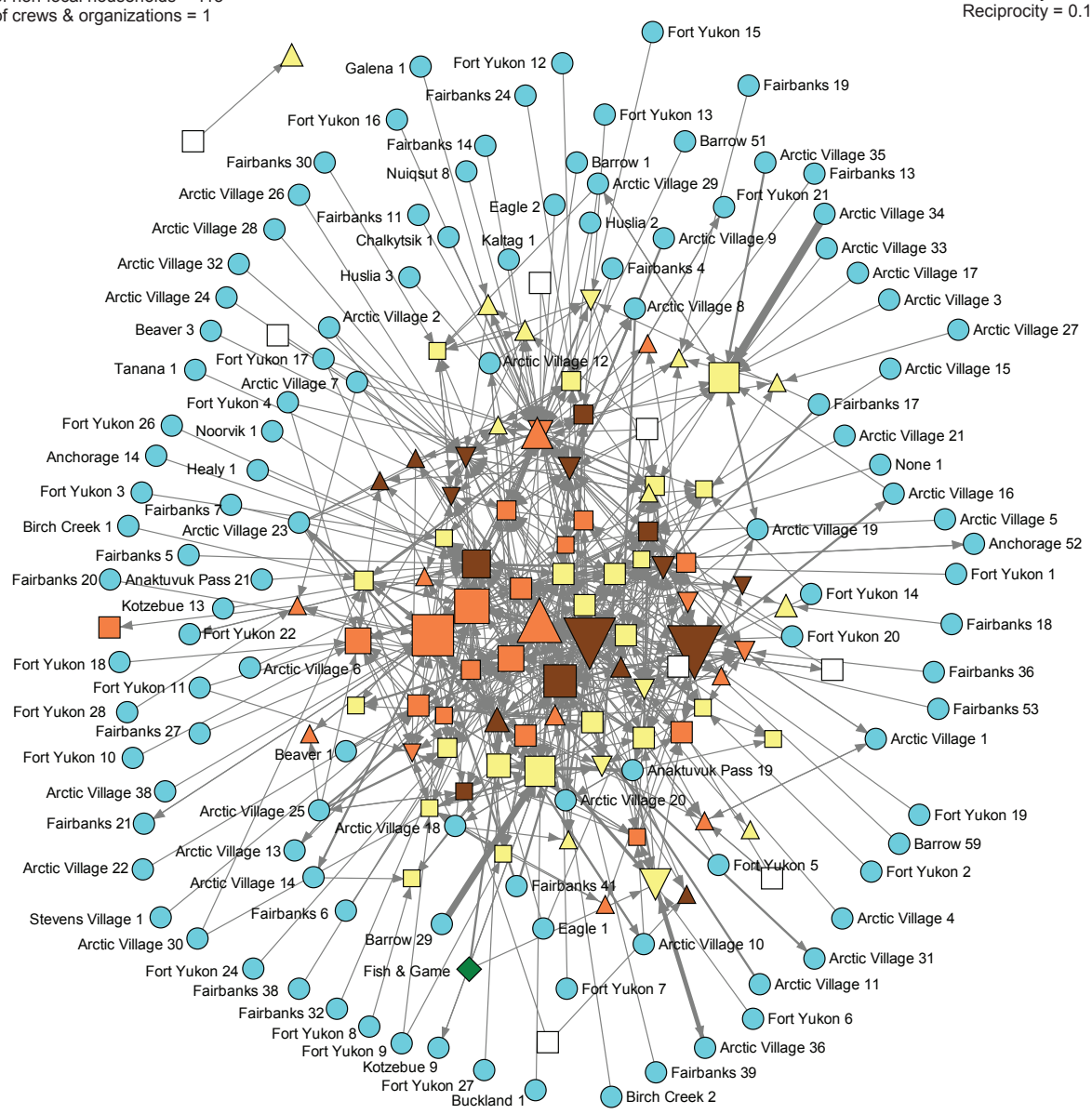
Men were slightly more often cited as sources for trading in Wainwright and Venetie, while of 6 total trading ties in Kaktovik, women were the source of 5. In terms of total food flowing, men still accounted for more traded food by weight, suggesting that men took part in trades of larger magnitude. Patterns for purchase were similar, although given the infrequency of ties for either trading or purchase documented in the dataset, caution should be used in interpreting these results.

The proportion of own household's processing ties accounted for by women was close to even across the 3 communities. Women were cited as sources of processing help by other households for fewer ties in Wainwright (60% men to 40% women) and Venetie (54% men to 46% women). Men accounted for 63% of processing ties in Kaktovik.

Figure 7.44
All resources, all documented relations, Venetie

NODE SUMMARY
Total N of nodes = 205
N of local households = 91
N of non-local households = 113
N of crews & organizations = 1

NETWORK STATISTICS
Mean clustering coefficient = 0.159
Mean degree = 3.415
Density = 0.017
Reciprocity = 0.174



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

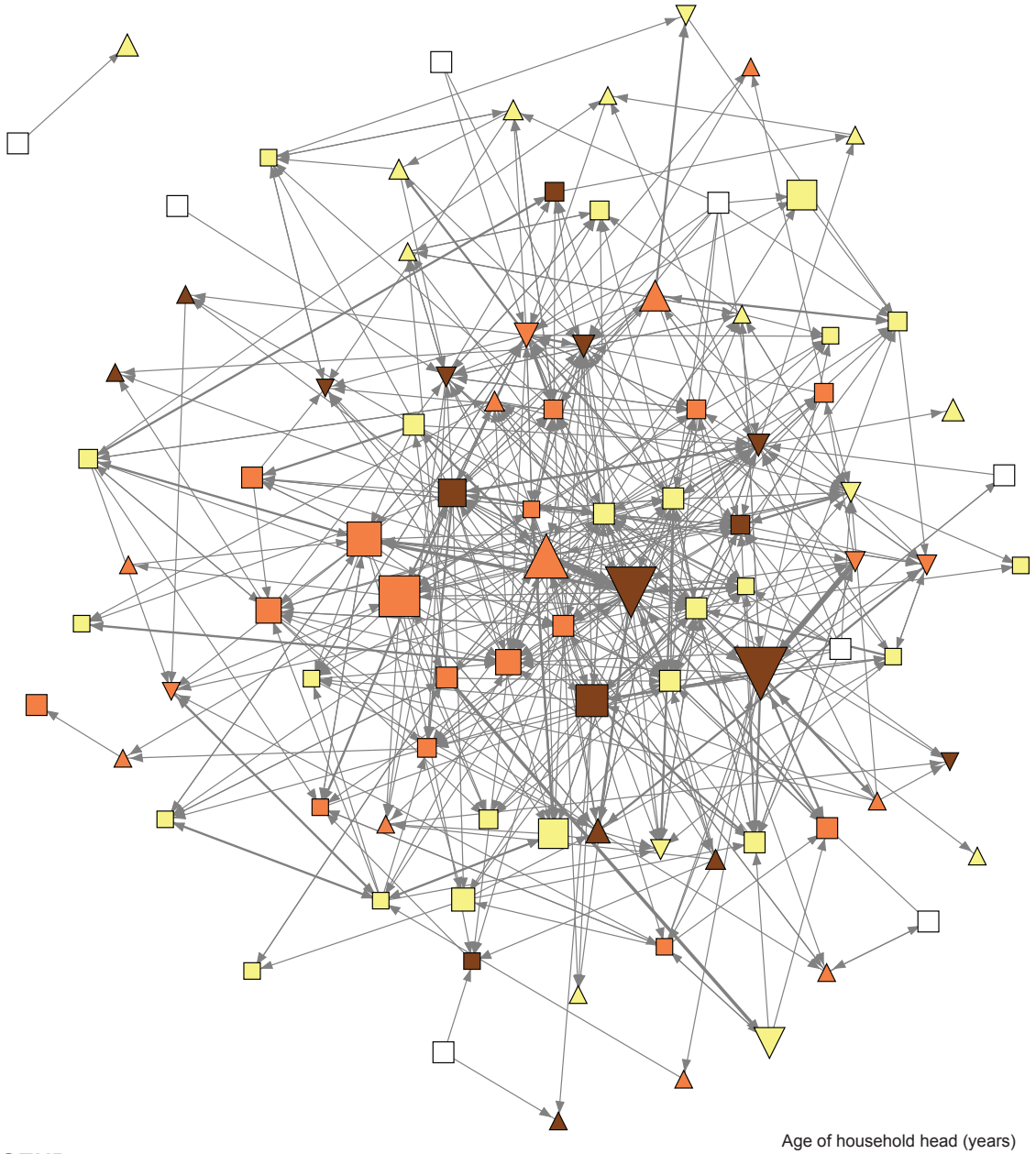
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.45
All resources, local relations only, Venetie



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

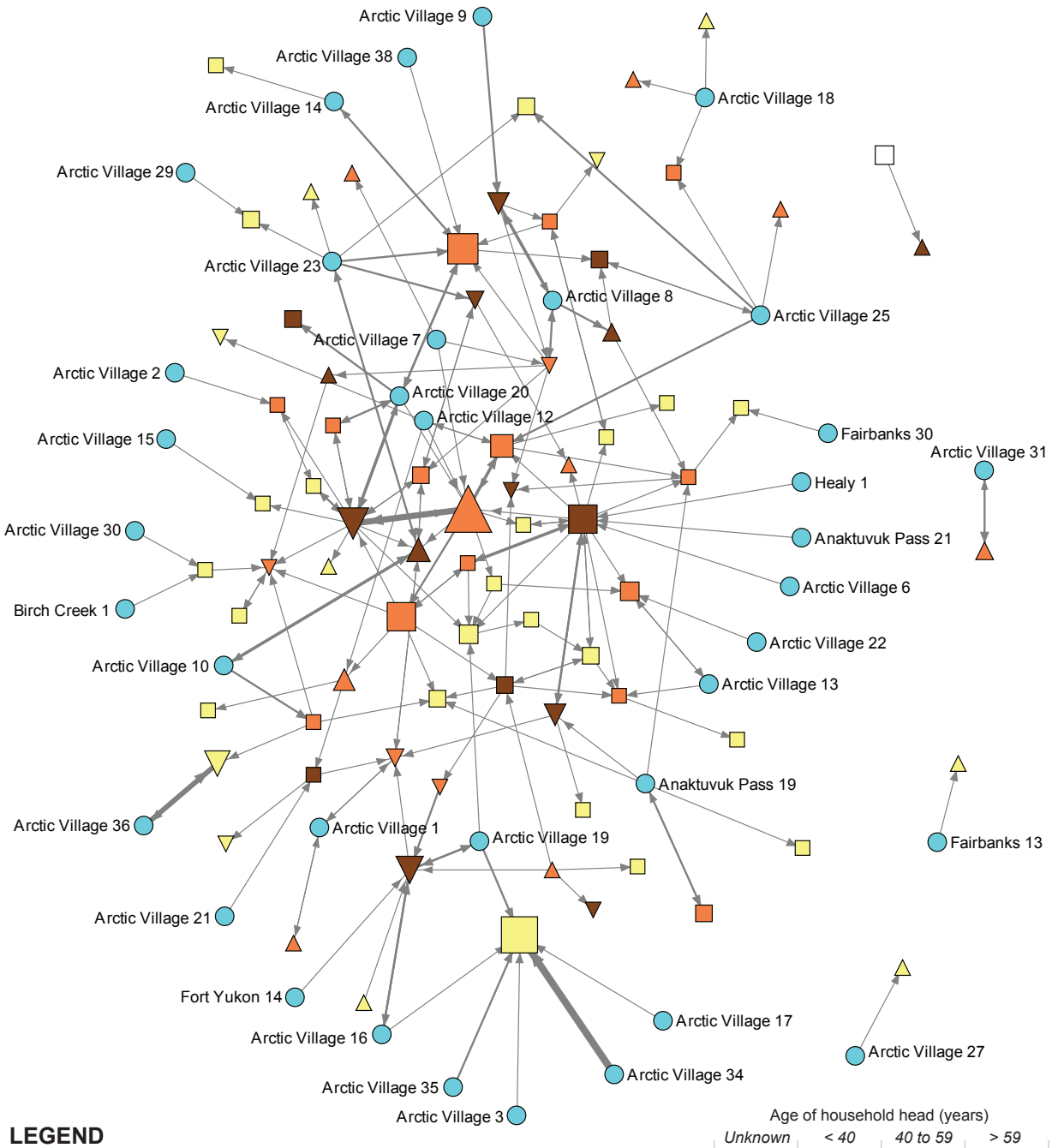
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.46
All caribou relations, Venetie



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head				
Single female head				
Single male head				
Crew, group, or organization				
Unsurveyed household				
Household in another community				

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.47
All geese relations, Venetie

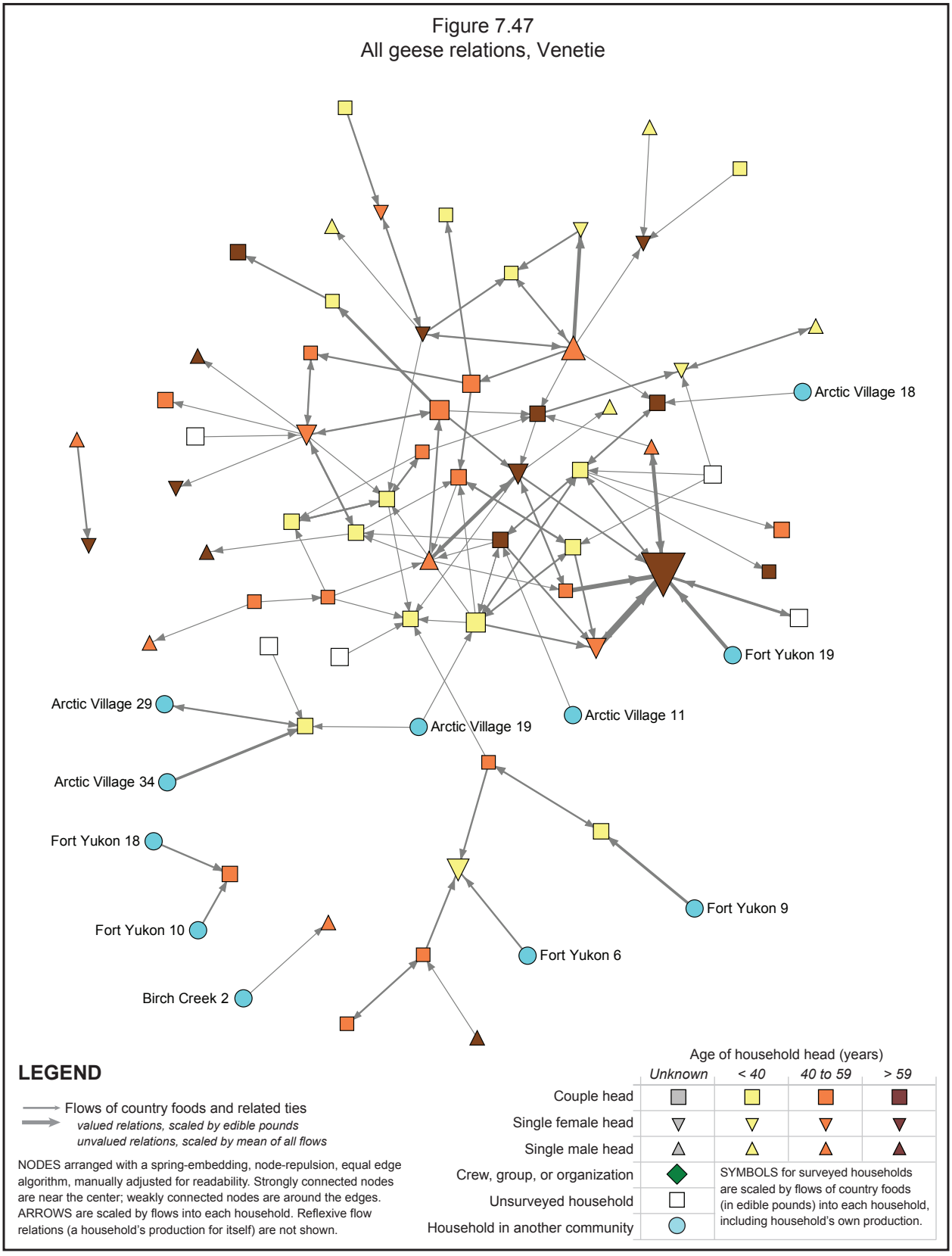
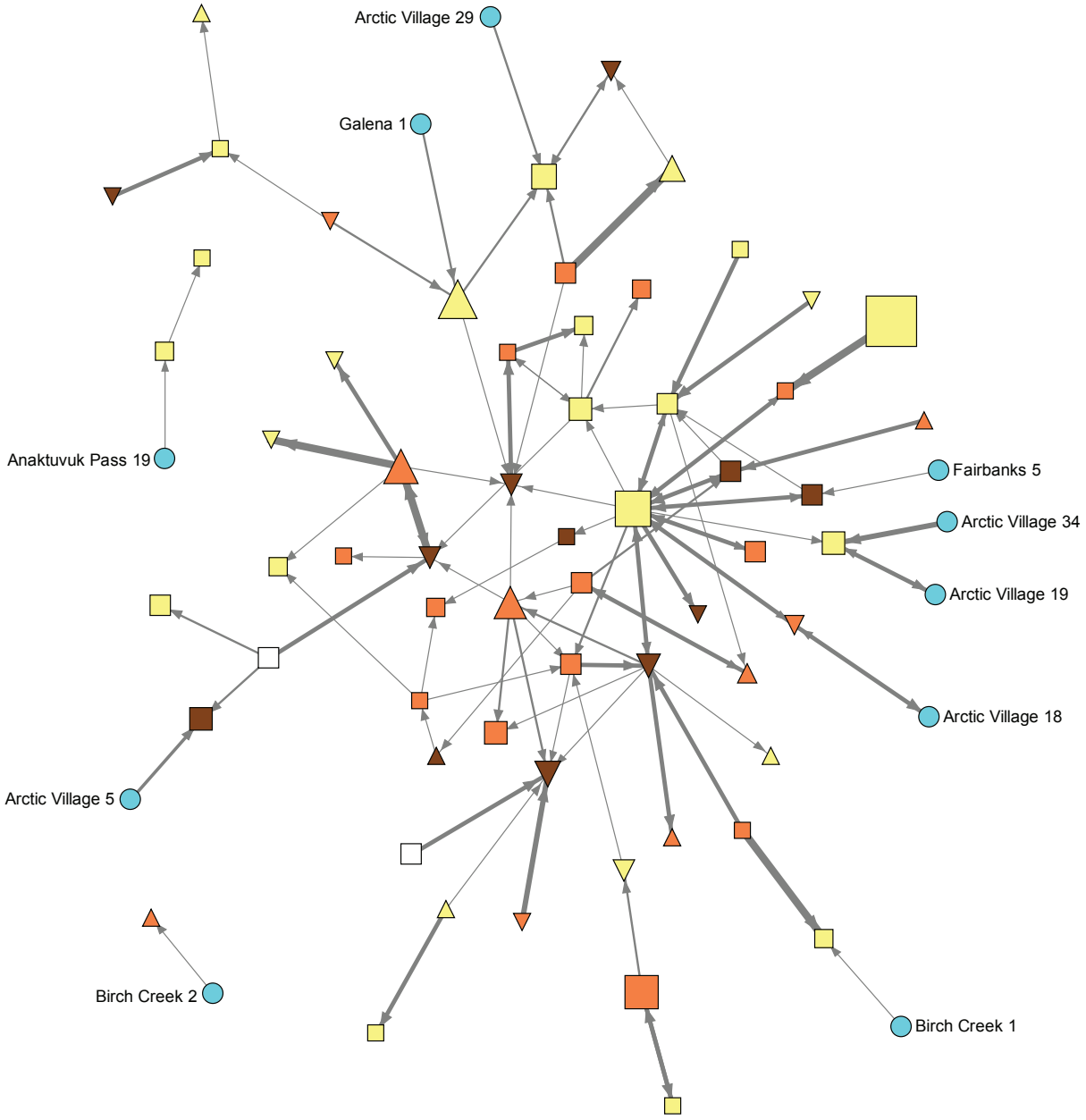


Figure 7.48
All duck relations, Venetie



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

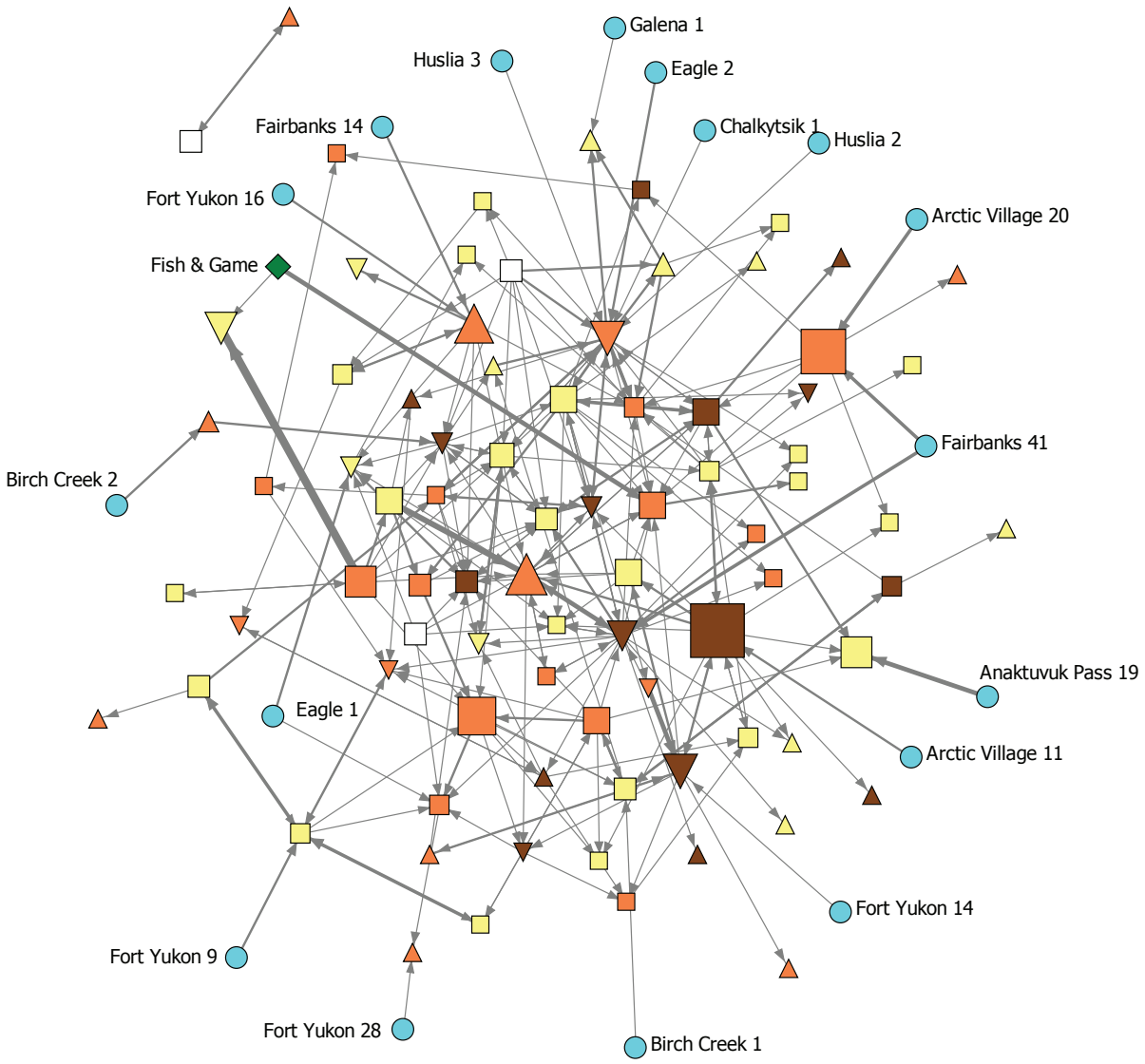
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	□	□	□	□
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◇			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.49
All moose relations, Venetie



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

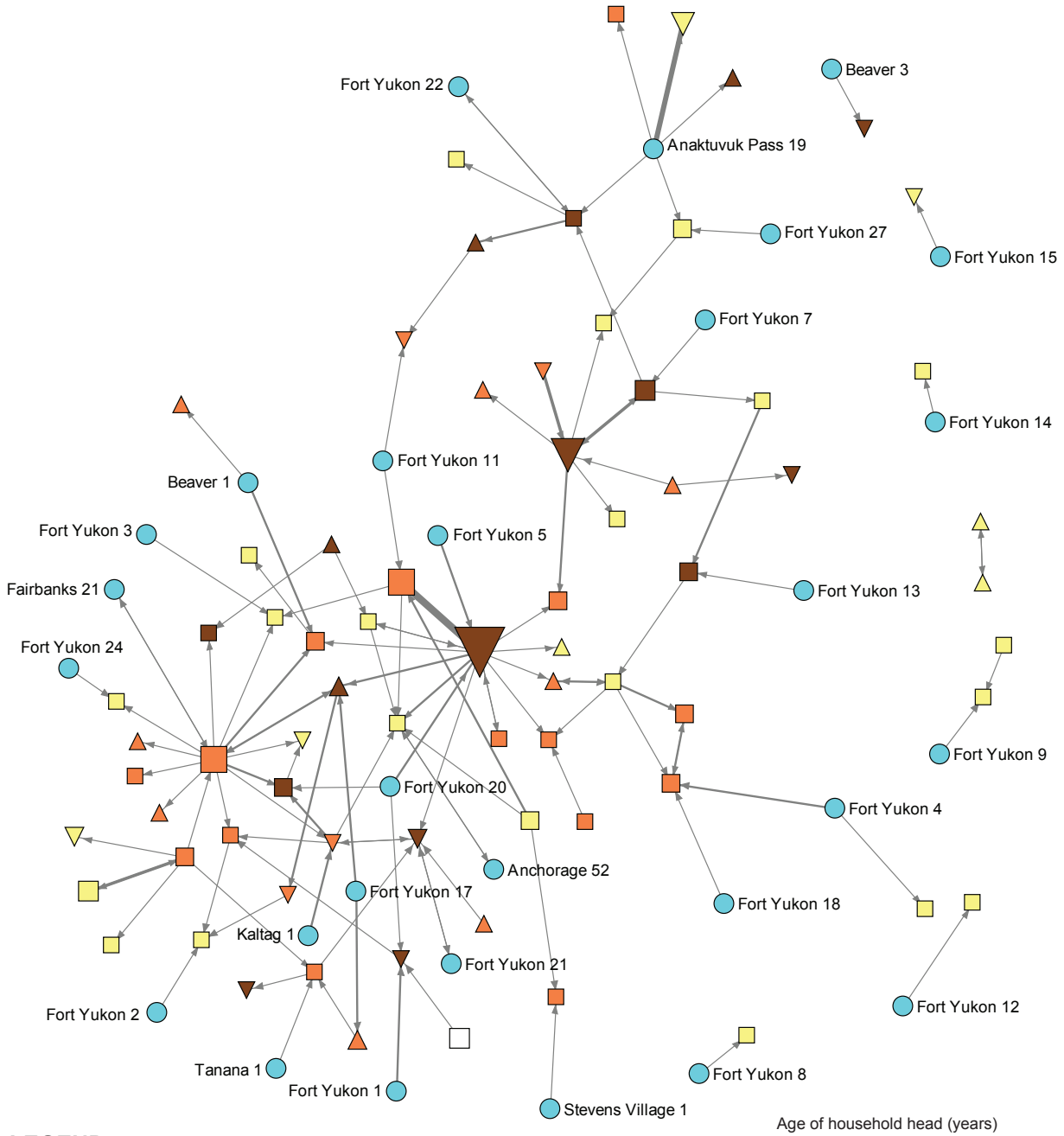
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head				
Single female head				
Single male head				
Crew, group, or organization				
Unsurveyed household				
Household in another community				

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.50
All salmon relations, Venetie



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head				
Single female head				
Single male head				
Crew, group, or organization				
Unsurveyed household				
Household in another community				

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.51
All Arctic grayling relations, Venetie

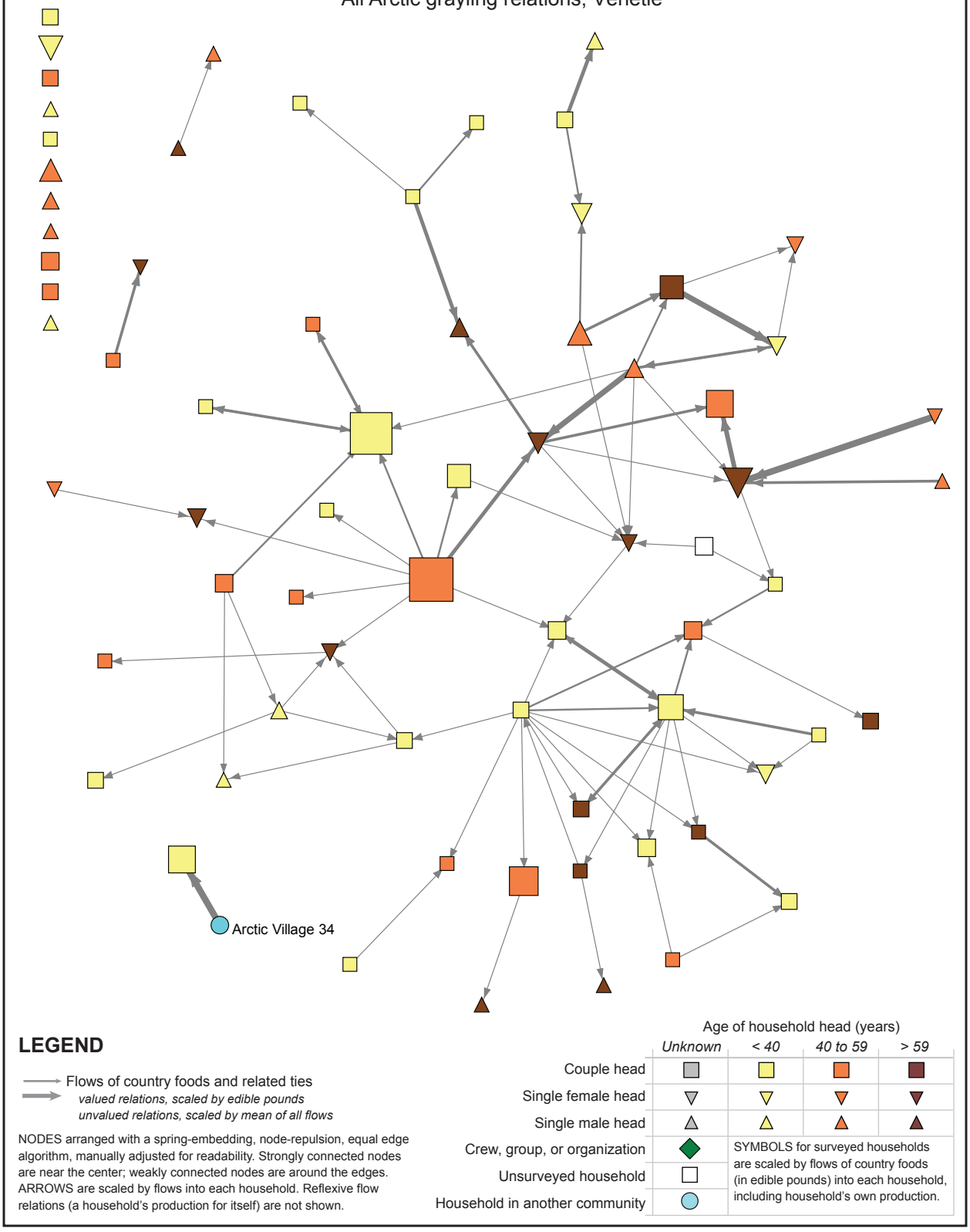
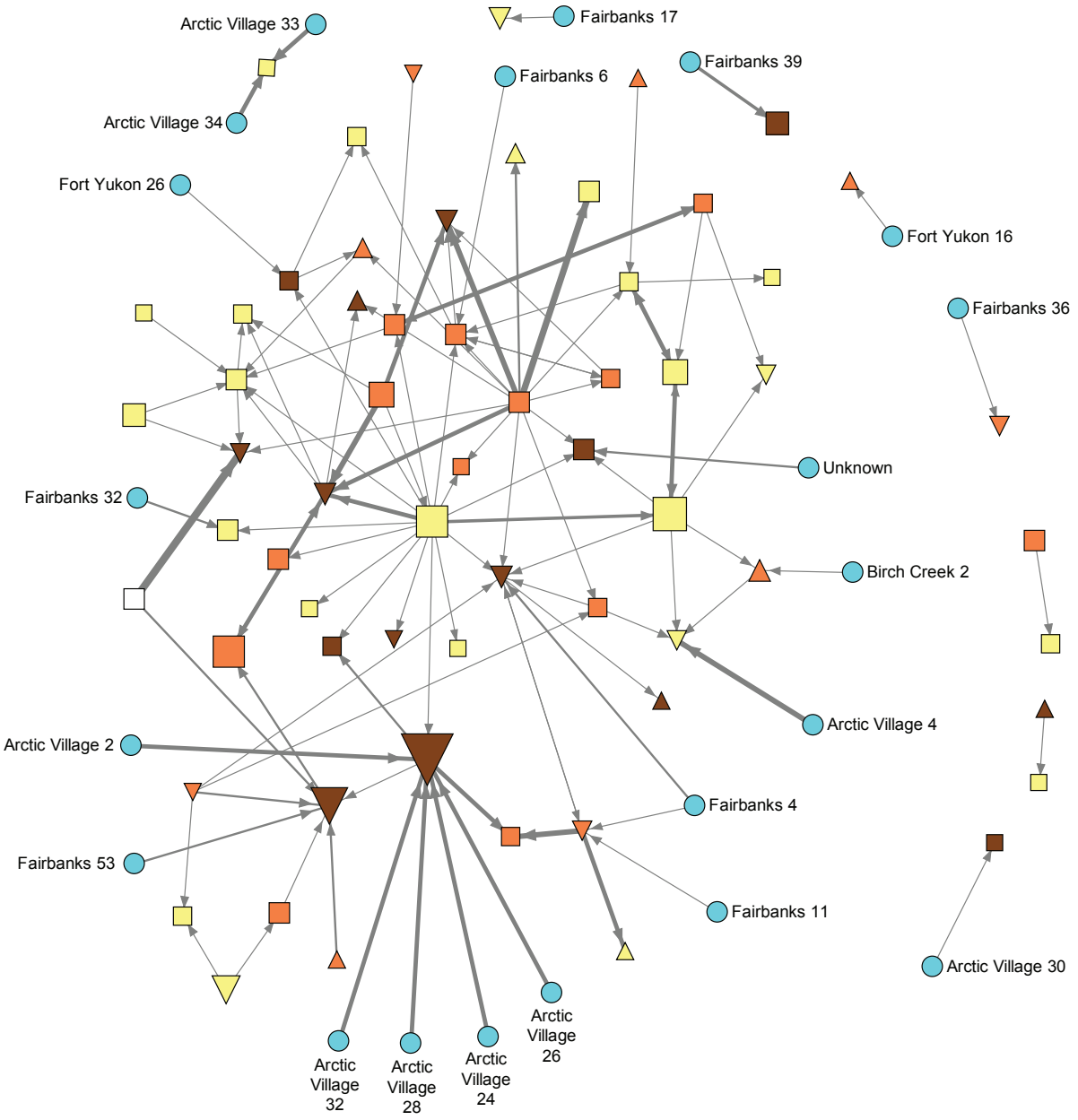


Figure 7.52
All berry relations, Venetie



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

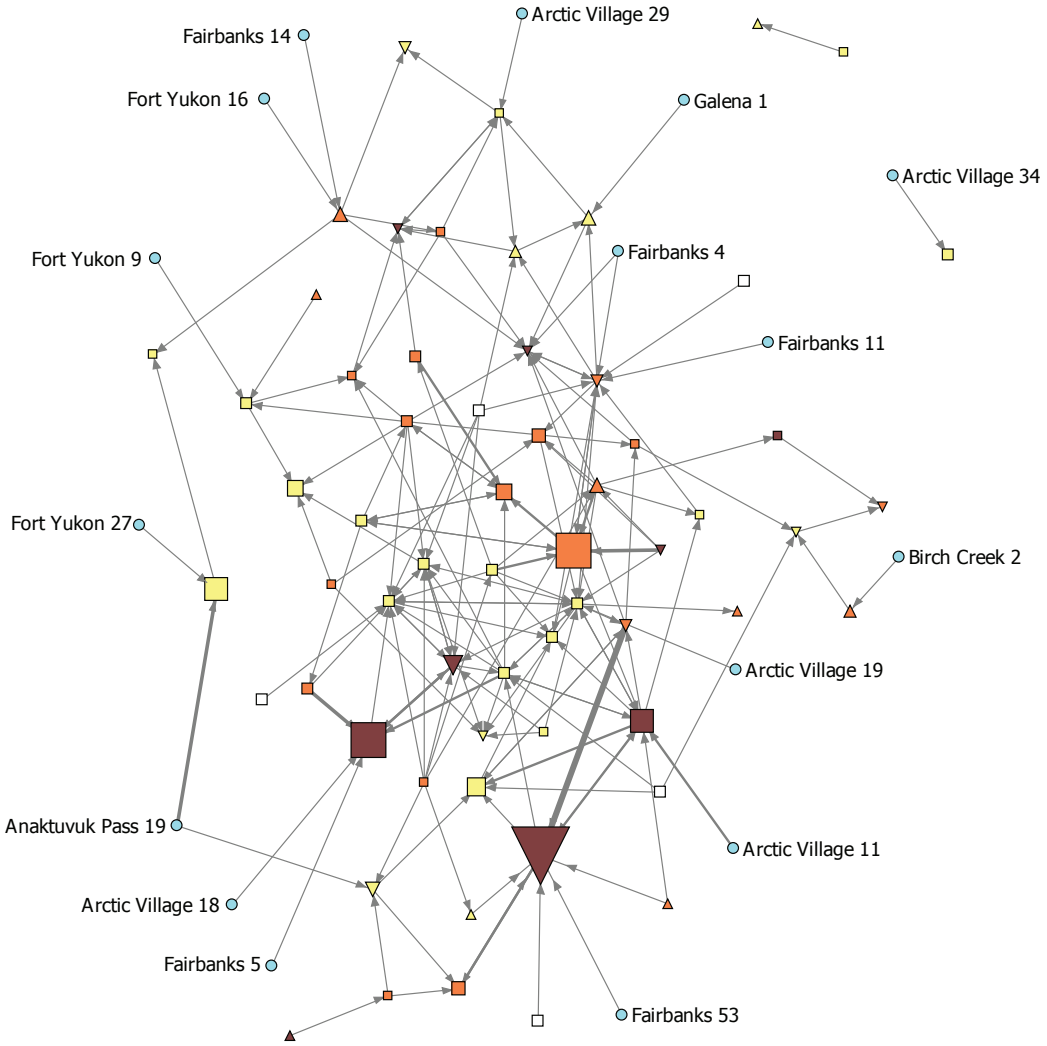
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head				
Single female head				
Single male head				
Crew, group, or organization				
Unsurveyed household				
Household in another community				

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.53
Cooperative harvesting relations, all resources, Venetie



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

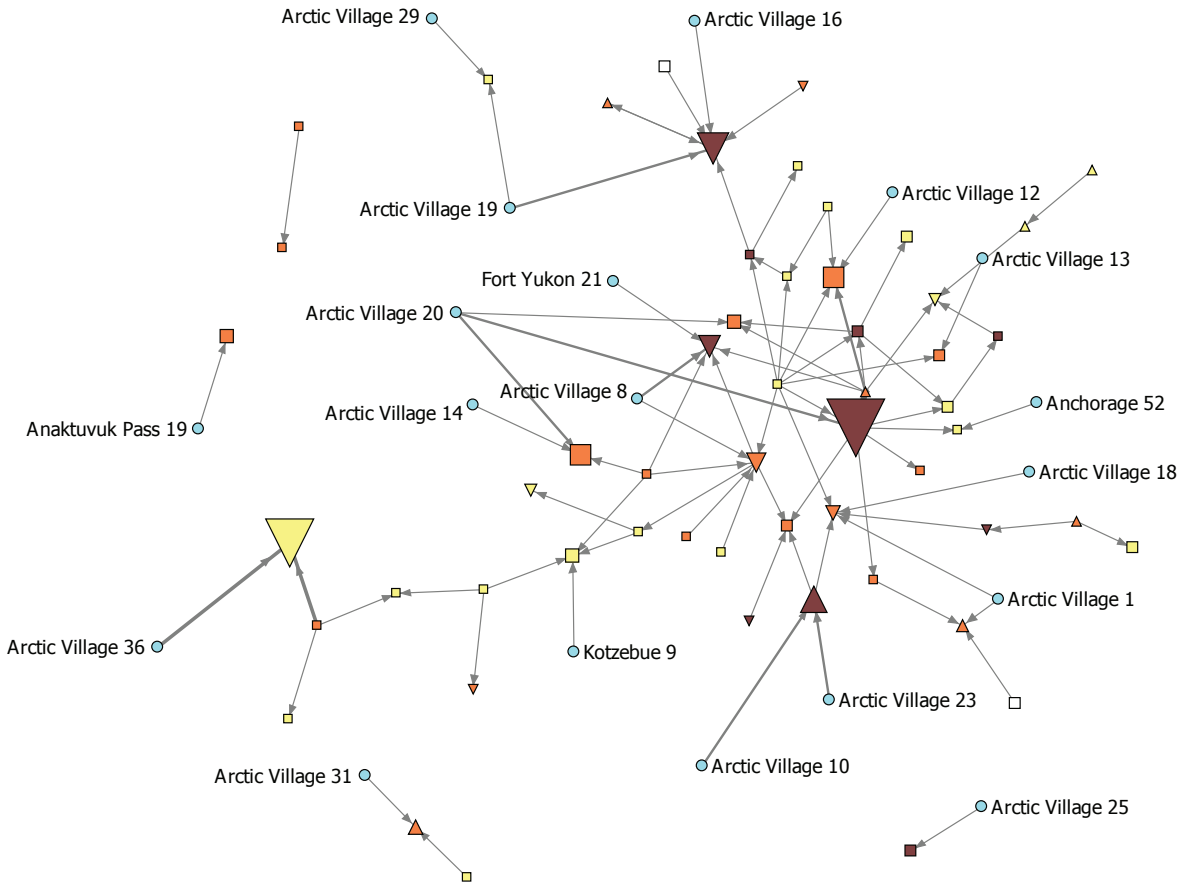
NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.54
Shares relations, all resources, Venetie



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.55 Processing relations (unvalued), all resources, Venetie

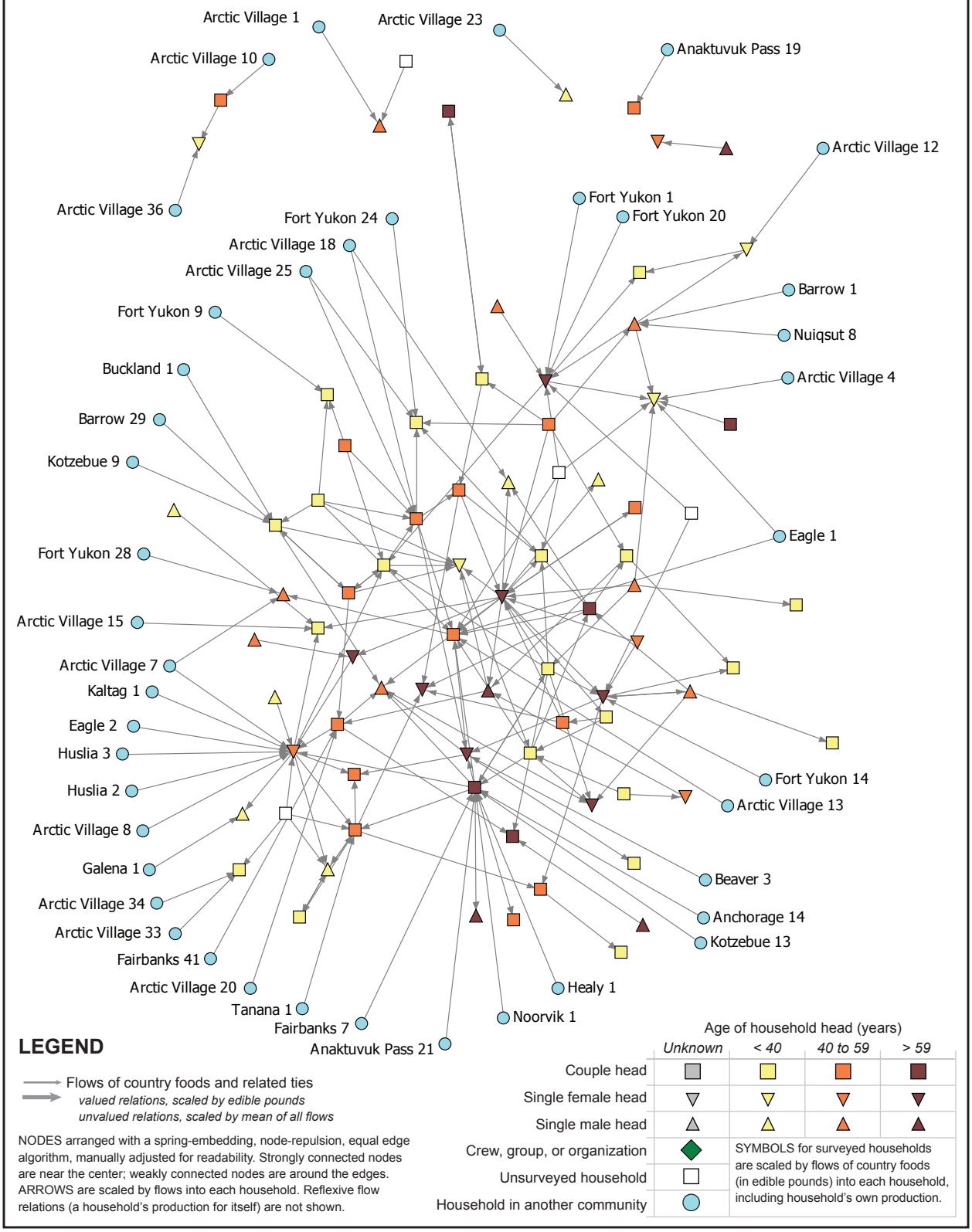
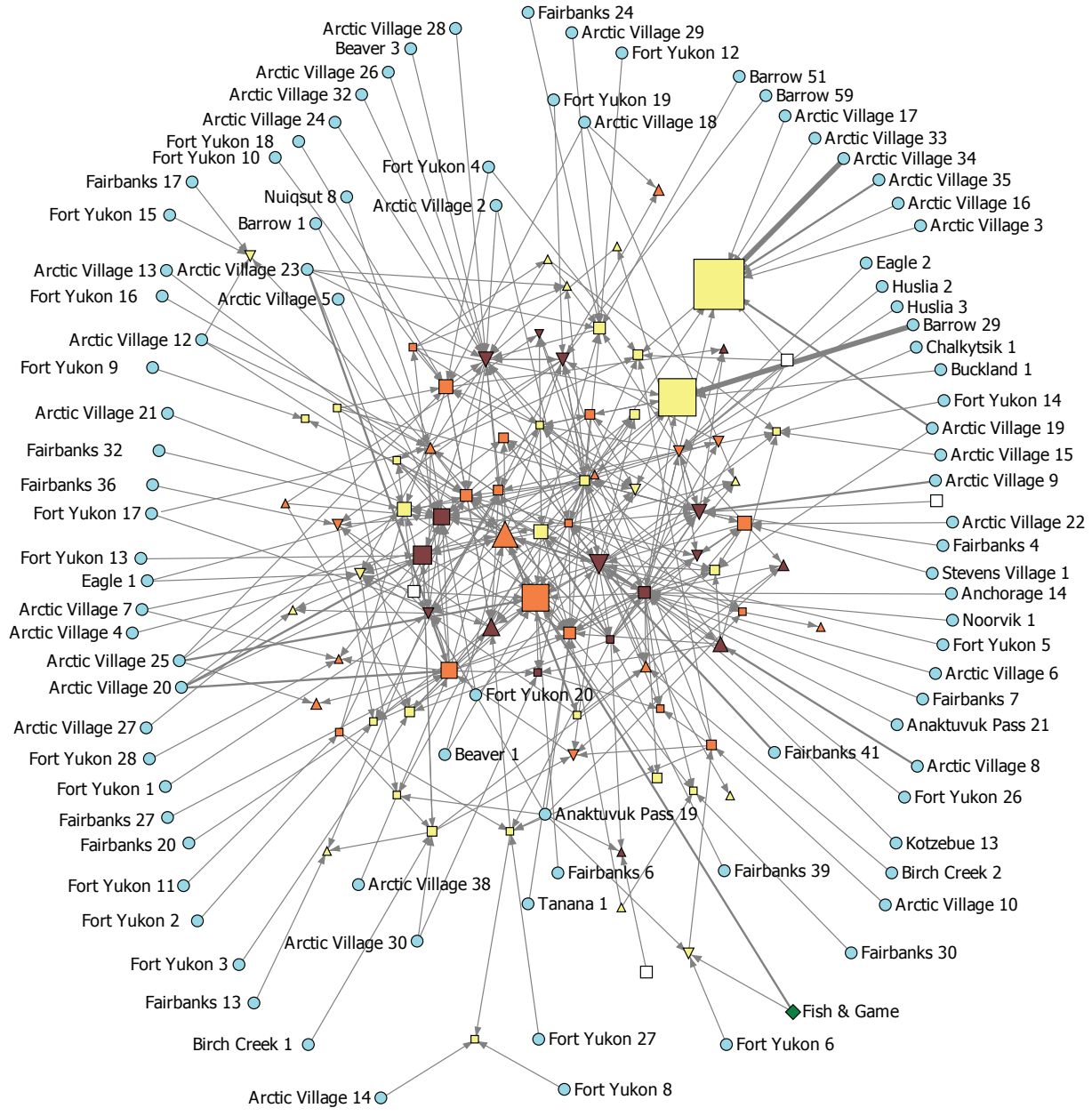


Figure 7.56
Sharing relations, all resources, Venetie



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head	■	■	■	■
Single female head	▽	▽	▽	▽
Single male head	△	△	△	△
Crew, group, or organization	◆			
Unsurveyed household	□			
Household in another community	○			

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

Figure 7.57
Reciprocal relations, all resources, Venetie

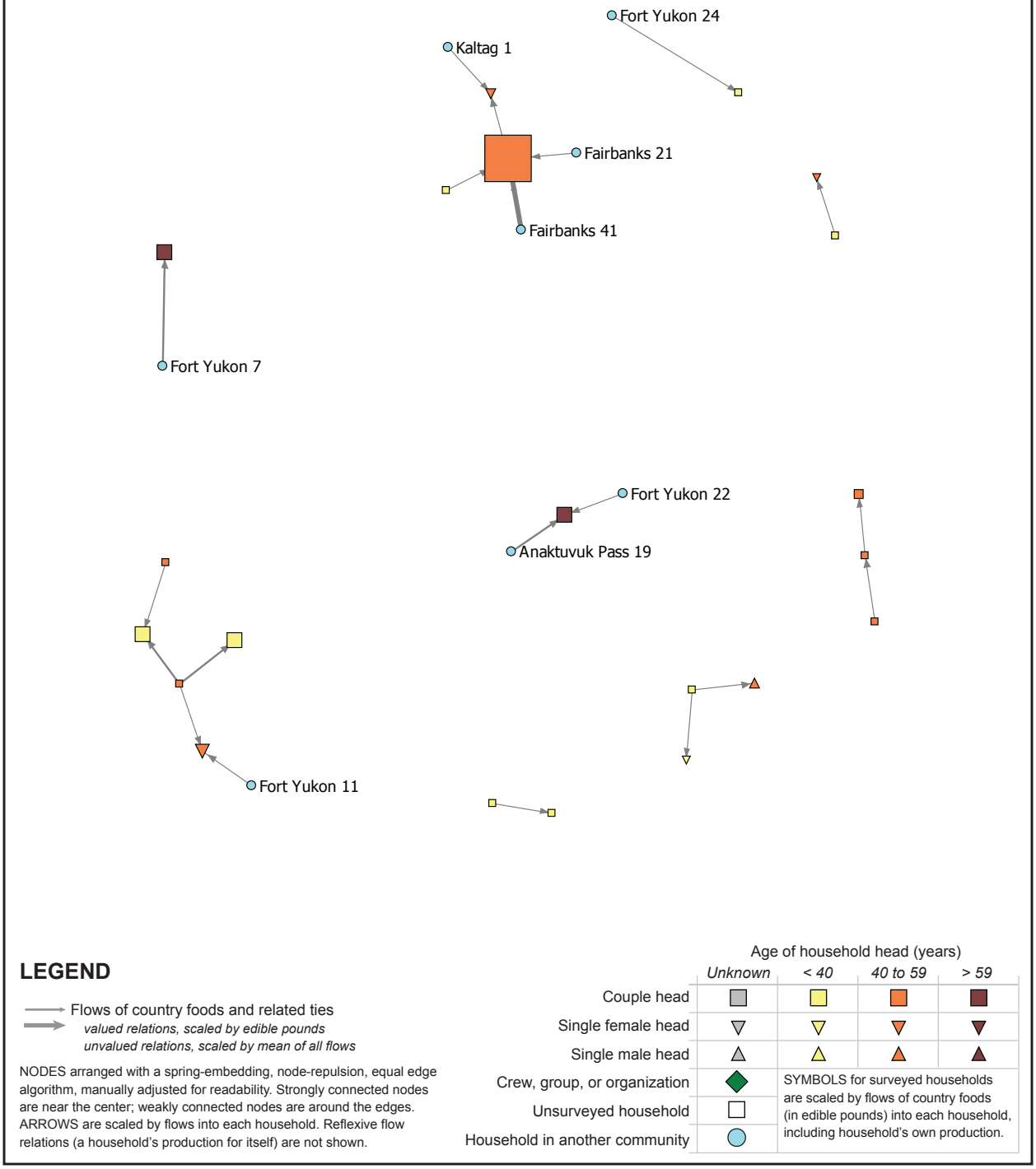
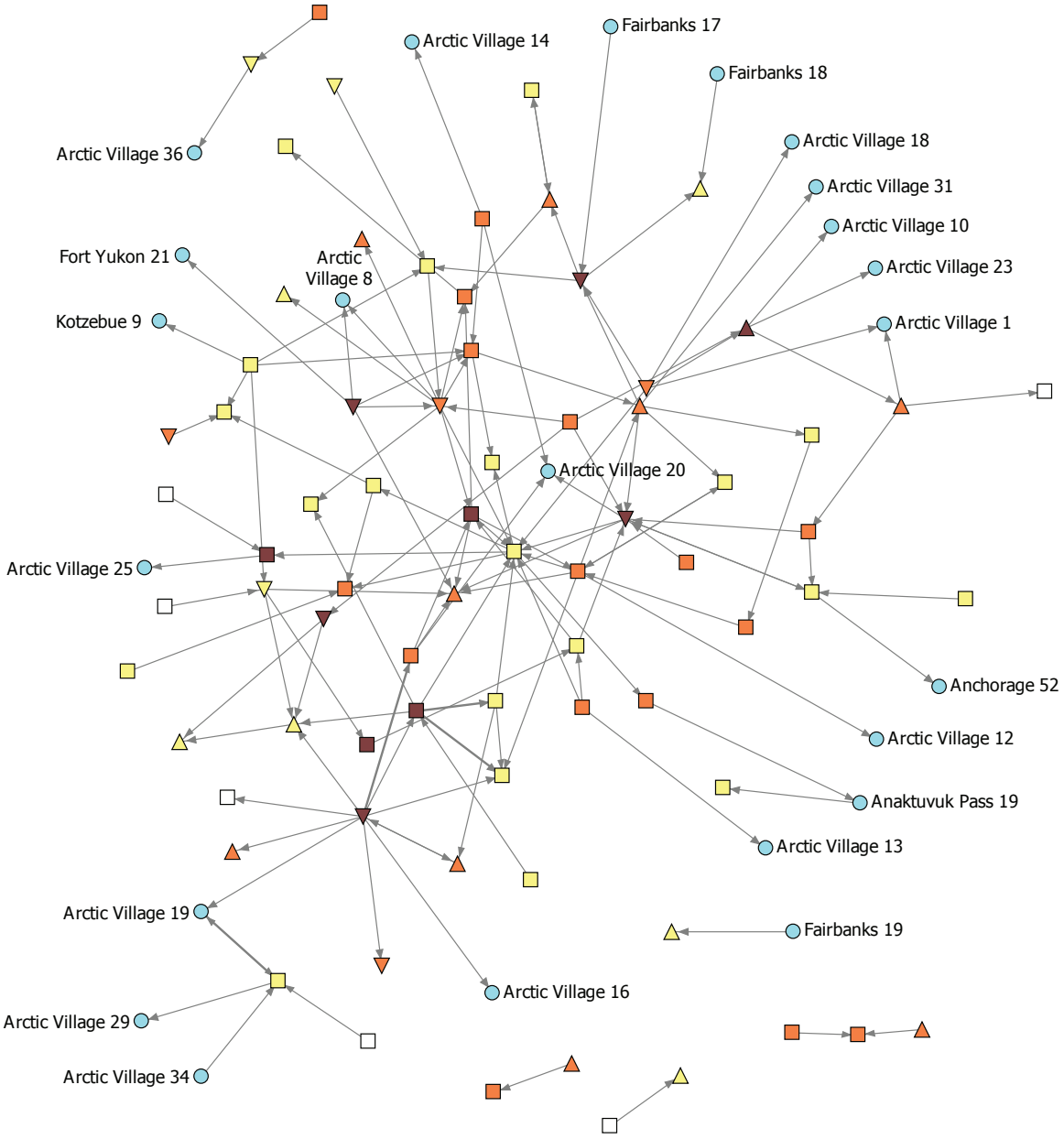


Figure 7.58
Other relations (unvalued), all resources, Venetie



LEGEND

Flows of country foods and related ties
valued relations, scaled by edible pounds
unvalued relations, scaled by mean of all flows

NODES arranged with a spring-embedding, node-repulsion, equal edge algorithm, manually adjusted for readability. Strongly connected nodes are near the center; weakly connected nodes are around the edges. ARROWS are scaled by flows into each household. Reflexive flow relations (a household's production for itself) are not shown.

Age of household head (years)

	Unknown	*< 40*	*40 to 59*	*> 59*
Couple head				
Single female head				
Single male head				
Crew, group, or organization				
Unsurveyed household				
Household in another community				

SYMBOLS for surveyed households are scaled by flows of country foods (in edible pounds) into each household, including household's own production.

PART III – INTEGRATION AND DISCUSSION

Chapter 8 - Persistence, Vulnerability, and Resilience

Chapter 9 - Discussion and Conclusion

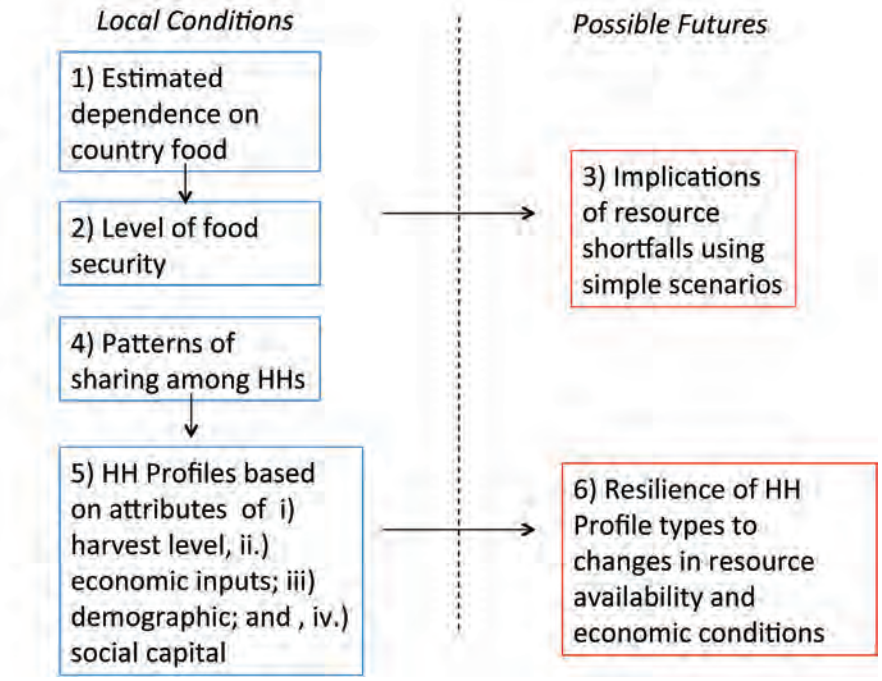
Chapter 8 - Persistence, Vulnerability, and Resilience

To what extent has the subsistence sector of community economies persisted with greater involvement in the cash economy? Are village households food secure and are particular household characteristics correlated with food insecurity? How might future conditions reflecting possible ecological and/or economic changes affect mixed community subsistence-cash systems? Are some communities and some households more resilient to change than others?

This chapter draws on findings from this study, as well as secondary data, to address these questions, exploring dimensions of persistence, vulnerability, and resilience of households and mixed subsistence-cash systems. Our analysis takes a broad and generic view of resilience, which is necessary given the great uncertainty in future changes likely to affect communities of northern villages. Because of limited available baseline data and a lack of longitudinal data on household sharing and socio-economic attributes, there are also many uncertainties associated with understanding possible human responses to change. As well, drivers of change are multiple and interacting, so it is likely that responses to a suite of changes at the household level would be highly complex. It is therefore necessary to understand questions about possible futures as "projections" vs. predictions (i.e., plausible futures and not likely futures).

The analysis here is undertaken in four stages (Figure 8.1). We first examine the persistence of subsistence as evidenced by the comparison of household employment and harvest data from 1977, 1988, and 2010 (the current study). Data from 1977 and 1988 are from North Slope Census data, provided and organized by Professor Matthew Berman of the Institute of Social and Economic Research at the University of Alaska Anchorage. Venetie, our Interior Alaska study community, is not included in this analysis because there are no comparable employment or harvest data. We then consider vulnerability in 3 ways. First, we examine levels of wild food dependence and food security

Figure 8.1. Parts of the analysis for Chapter 8.



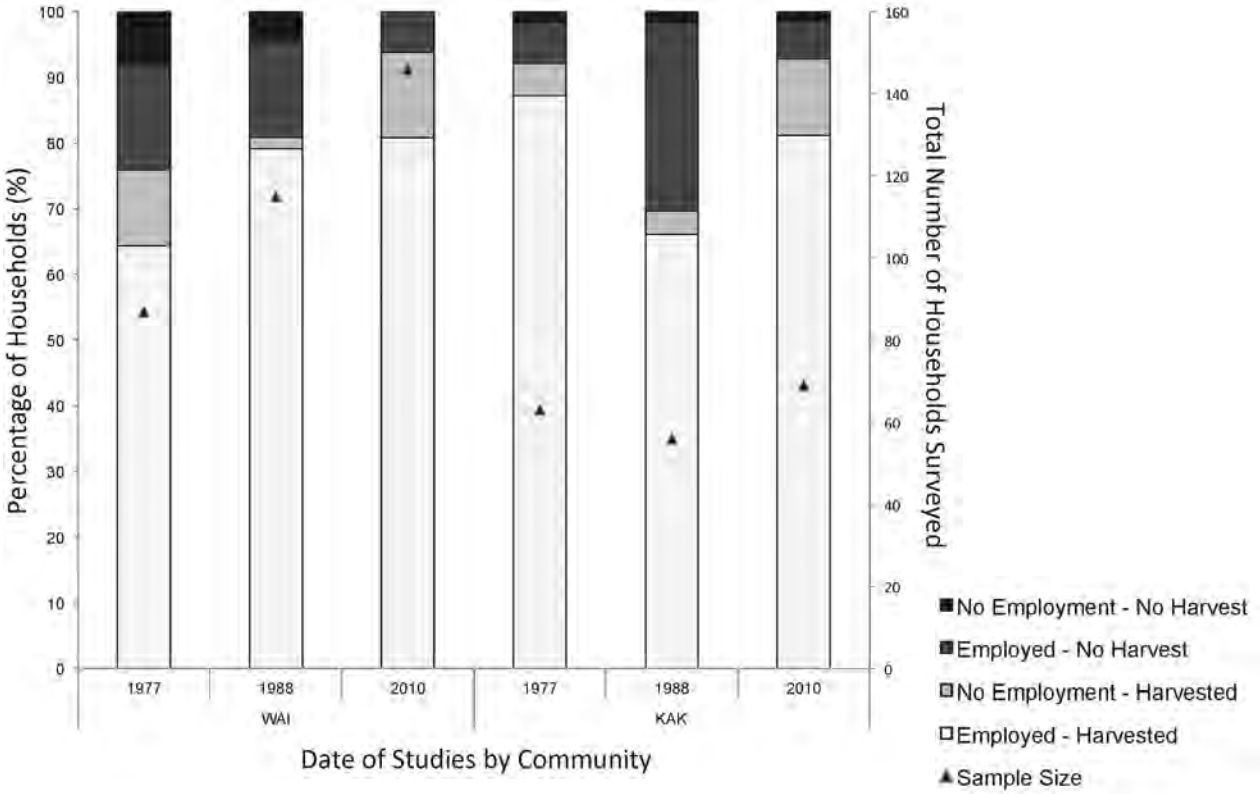
(and insecurity) at the household level as measured by our survey instrument. Next we assess the implications of 8 simple scenarios of potential shortfalls in the availability of core subsistence resources. Finally, households are grouped into 9 categories, created by ranking all households from high to low across 2 dimensions simultaneously—household income and household harvest (pounds). These distributions are then overlaid to create 9 groups of households ranging from High Harvest-High Income to Low Harvest-Low Income. Each of the 9 categories reflects unique categories at which households combine subsistence-cash activities and therefore reflect combinations of activities within a mixed economy. Vulnerability and resilience are then discussed as a potential outcome of other socio-economic household attributes. Four categories of household attributes, (i) harvest characteristics, (ii) economic inputs, (iii) household demographics, and (iv) social capital, across 12 key attributes are the basis for a discussion of household vulnerabilities and sources of resilience in the context of change.

Persistence of the Subsistence-Cash System – 1977, 1988, 2010

Figure 8.2 and Table 8.1 indicate that the percentage of Wainwright households engaged in a mixed subsistence-cash economy increased over time (from 64% in 1977 to 81% in 2010) while those not engaged in either harvest or employment decreased (from 8% of households in 1977 to 0.0% of households in 2010). The percentage of Wainwright households engaged in some level of harvest increased through time (with or without employment) from 76% in 1977, to 81% in 1988, to 94% in 2010. At the same time, the total percentage of the population employed (with or without harvest) increased from 1977 to 1988 (81% to 94%), but fell slightly between 1988 and 2010 (94% to 87%).

Data from Figure 8.2 and Table 8.1 show a different pattern in Kaktovik. The percentage of households combining employment with some level of harvest (i.e., pursuing a mixed economy) decreased from 1977 to 1988 (87% to 66%),

Figure 8.2. Evidence of persistence in the mixed economy: Household engagement in subsistence and the cash economy, Wainwright and Kaktovik.



increased from 1988 to 2010, but did not attain levels documented in 1977 (87% compared to 81%). The decline in the proportion of households that both hunted and worked from 1977 to 1988 corresponds with an increase in the percentage of households (from 4% to 16%) employed and not harvesting, while other activity combinations remained consistent. This situation reversed from 1988 to 2010, as the proportion of households employed but not harvesting decreased, while the proportion of households not employed but harvesting increased. The effect is a net increase in the proportion of households harvesting, regardless of employment level (from 70% to 93%) from 1988 to 2010. Overall, the percentage of households harvesting, regardless of employment status, increased from 92% to 93% over the 30-year period.

In 2010 (based on results from this study), more than 80% of households in both Wainwright and Kaktovik combined wage income and harvesting. In both villages, reported engagement in harvesting at some level, grew while employment fluctuated. The proportion of households employed but not harvesting in 1988 grew, and then declined from 1988 to 2010 in both Kaktovik and Wainwright. The proportion of households not employed but engaged in harvesting increased over the 30-year period in both villages.

In summary, these findings show strong persistence of the mixed subsistence-cash economy over the 3.5 decades in spite of significant changes in social and economic conditions, including greater cash household inputs, more jobs, more travel outside the village by residents, significant changes in governance structures, improved access to health care and education, improved communications with the greater world and better village infrastructure. The US Census data show household income rising in the years 1990, 2000, and 2009–2010 in Kaktovik: $10,078 to $22,031 to $31,809, and in Wainwright: $9,095 to $16,710 to $27,820 (US Census Bureau 1993, 2003; current project data 2009–2010), not accounting for inflation. These findings raise questions about common assumptions among some theorists and policy makers that greater engagement in the cash economy will inevitably result in a decrease in subsistence (See BurnSilver et al., 2016).

Table 8.1. Evidence of persistence.

		Employed - Harvested No. (%)	No Employment - Harvested No. (%)	Employed - No Harvest No. (%)	No Employment - No Harvest No. (%)	Sample Size No. HHs
WAI	1977	56 (64.4)	10 (11.5)	14 (16.1)	7 (8.1)	87
	1988	91 (79.1)	2 (1.7)	17 (14.8)	5 (4.4)	115
	2010	118 (80.8)	19 (13.0)	9 (6.2)	0 (0.0)	146
KAK	1976	55 (87.3)	3 (4.8)	4 (6.4)	1 (1.6)	63
	1988	37 (66.1)	2 (3.6)	16 (28.6)	1 (1.8)	56
	2010	56 (81.2)	8 (11.6)	4 (5.8)	1 (1.5)	69

Wild Food Consumption and Food Security

The Sharing Project survey asked household heads to estimate what proportion of their household food intake was wild food during the last 12 months. While surveys of household heads do not provide the level of precision of highly structured food consumption recall studies, they do give a rough measure of household dependence on wild foods, which serve as one proxy of household sensitivity to future changes in availability of wild foods. In addition to a USDA food security protocol, the question was posted: "If you think about all the food your household consumes as represented by 10 fingers, how many fingers would represent your household's wild food consumption and how many would represent your consumption of store-bought food?"

Across the 3 communities, 24%, 34% and 38% of households in Kaktovik, Wainwright, and Venetie, respectively, indicated that 50% of their diet was made up of wild foods (Figure 8.3a–c). Looking specifically at patterns by community, 15% of Kaktovik households reported they consumed a diet of 10% wild foods and 24% percent reported that their diet consisted of 25% wild foods. About

Figure 8.3a. Self-reported percentage of consumed foods that were wild food vs. store-bought, Kaktovik.

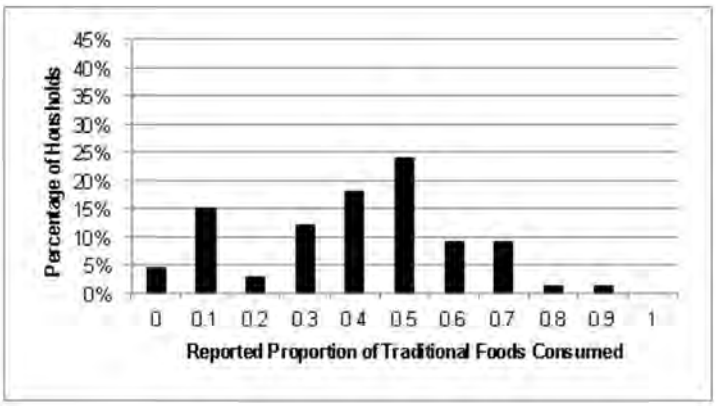


Figure 8.3b. Self-reported percentage of consumed foods that were wild food vs. store-bought, Wainwright.

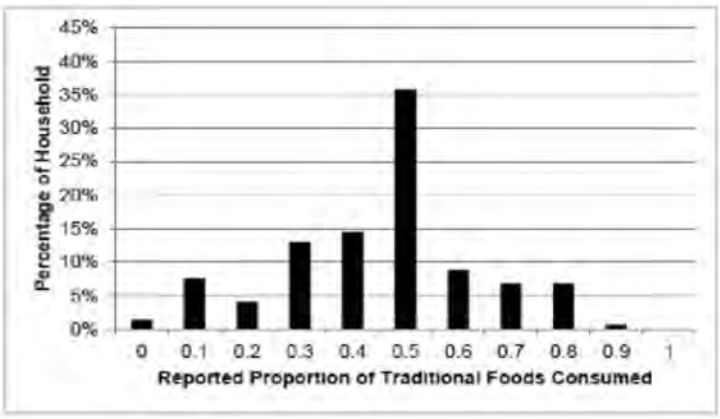
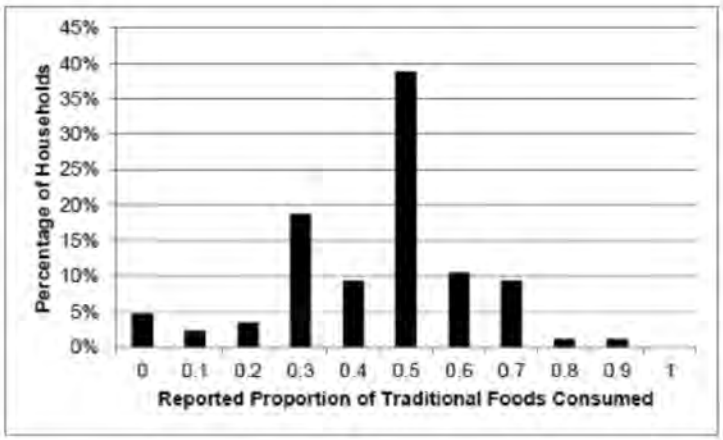


Figure 8.3c. Self-reported percentage of consumed foods that were wild food vs. store-bought, Venetie.



30% of Kaktovik households consumed between 30–40% wild foods. Four percent of households reported a diet of between 80–90% wild foods (Figure 8.3a). In Wainwright, about 28% of the households consumed between 30–40% wild foods. Seven percent of households reported a diet of between 80–90% wild foods and about 8% of households consumed a diet consisting of 10% wild foods (Figure 8.3b). Similar to Wainwright, about 28% of Venetie households consumed between 30–40% wild foods. Three percent of households reported a diet of between 80–90% wild foods. About 15% of households consumed a diet of 10% wild foods (Figure 8.3c). These findings do not reflect differences in consumption by members within a household, such as the extent to which older household members consumed wild foods as compared to younger members within the same households.

Measures of food security and insecurity were captured using a USDA food security assessment protocol, modified to differentiate subsistence and store-bought foods. (See Chapter 3, Methods, and interview instruments in Appendix I, questions on "Food Security".) The USDA protocol states that households that score "Low" or "Very Low" on a 12-point scale are considered "Food Insecure." Conversely, households that score as either "Marginal" or "High" on this scale are categorized as "Food Secure." The two North Slope study communities reported similar levels of household insecurity (Table 8.2). Kaktovik reported 40% of households as insecure (20% Low and 20% Very Low), and Wainwright reported 44% of households as insecure (23% Low and 21% Very Low). Venetie reported a lower level of food insecurity overall, at 34% (20% Low and 14% Very Low). All three communities reported similar proportions of households with "High" food security (35%, 38% and 38% for Kaktovik, Wainwright and Venetie, respectively).

Figure 8.4a. Food security, Kaktovik.

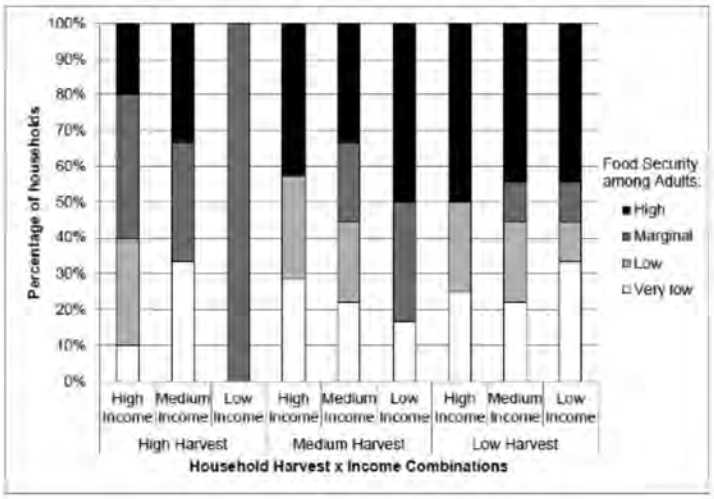


Figure 8.4b. Food security, Wainwright.

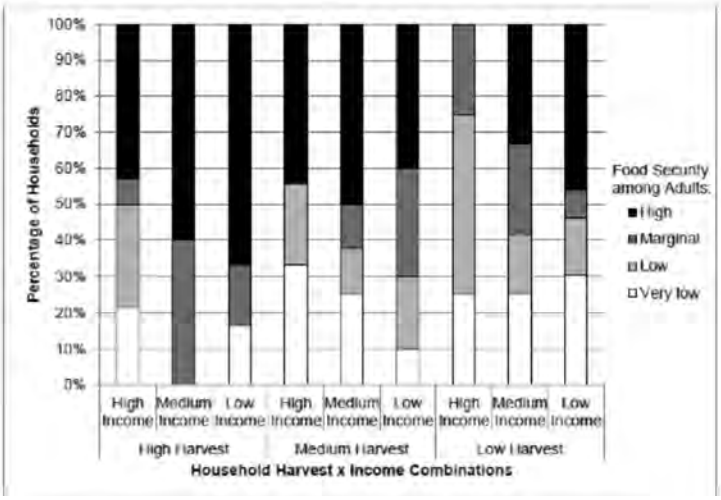
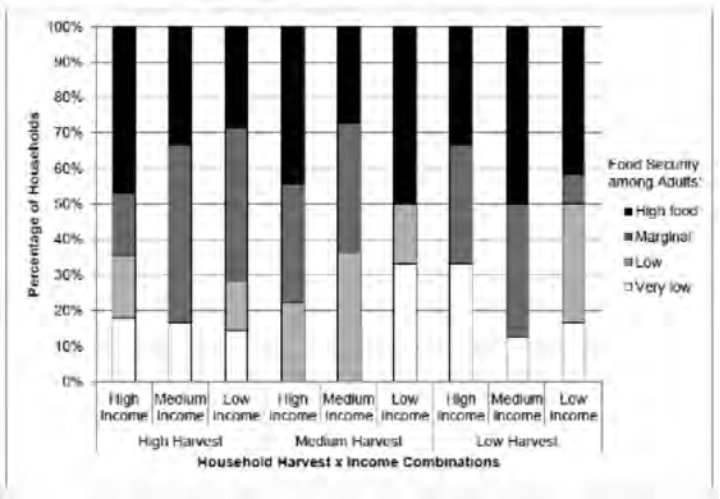


Figure 8.4c. Food security, Venetie.



Figures 8.4a–c present food security data broken down by income categories for households. Both high and low food security were found across the range of households, irrespective of harvest level or income. These findings suggest that at the community level there is little relationship between household subsistence harvest levels, total household income, and food security. In Kaktovik, 9 of the 23 households (39%) in the high harvest tercile were categorized as food insecure. In Wainwright, 9 of 27 households (33%) in the high harvest tercile were categorized as food insecure. In Venetie, 23 of 48 households (48%) in the high harvest tercile were categorized as food insecure. Considering both harvest and income, we found that 40% percent of Kaktovik, 48% of Wainwright, and 36% of Venetie households that had both high harvest and high incomes scored as Food Insecure. Only 20% of High Income–High Harvest households in Kaktovik reported high food security. In Wainwright and Venetie this value was higher: 43% in Wainwright and 48% in Venetie.

Spearman's rank order correlations were run between Food Security raw scores and a range of household socio-demographic, economic, and harvest variables. In general, there were few significant correlations and the relationships were not strong. Raw Food Security scores in Wainwright were positively correlated with household size ($r_s(8)$= 0.18, $p < 0.05$), the size of a households Permanent Fund Dividend ($r_s(8)$=.214, $p<0.01$) and the amount a HH received in public assistance ($r_s(8)$=.295, $p<0.01$). Food security was negatively related to HH job earnings ($r_s(8)$=-.268, $p<0.05$). In Kaktovik HH Development Stage was negatively correlated with Raw Food Security Scores ($r_s(8)$=-.278, $p<0.05$). No correlations were significant in Venetie.

Figures 8.5a–c depict categories of food security from a network perspective

Table 8.2. Cross tabulation of household food security status, 12-month period for the 3 study communities with shaded area indicating "food insecure".

	Kaktovik		Wainwright		Venetie		Total	
	Count	% Within community	Count	% Within community	Count	% Within community	Count	% Within community
1 High Food Security	23	35%	56	38%	32	38%	111	38%
2 Marginal Food Security	16	25%	26	18%	23	27%	65	22%
3 Low Food Security	13	20%	34	23%	17	20%	64	22%
4 Very Low Food Security	13	20%	30	21%	12	14%	55	19%
Total	65	100%	146	100%	84	100%	295	100%

across all local households in the three communities. Households are arranged within the graph based on overall connectedness across total flows of food across all social relationships. The size of each node represents the relative inflow of wild foods to households in pounds only from one social relationship—sharing. Household nodes are colored green if "food secure" (either high food security or marginally secure), and red if "food insecure" (either low or very low food security). Results illustrate somewhat counter-intuitively that food insecure households are located in diverse positions across community networks. Similarly, household actively receiving through sharing are dispersed throughout village networks. Some food insecure households are central within networks and others appear at the periphery. Some food insecure households are large receivers of food through sharing (large circles), but not all. Those receiving significant amounts of food through sharing scored as both food secure and food insecure (large circles are both red and green), suggesting that sharing could be mitigating food insecurity in some cases but not all. These results suggest that food security status in communities is complex. The USDA food security protocol is designed to measure current levels of food security. However, when preliminary food security results were discussed with communities, researchers asked why a high harvest-high income household might score as food insecure. The response was that successful hunters are keenly aware that hunting "success" is always fragile, so may "feel" food insecure even given significant previous success with provisioning. The food security protocol is structured in such a way that respondents are reporting on actual behaviors (i.e. Did you cut back on meals?, Did you lose weight?), and so ideally should avoid this perceptual bias. However, how and if these perceptions affected people's responses to the questions and, in turn, our calculations of food security scores are questions worthy of future consideration.

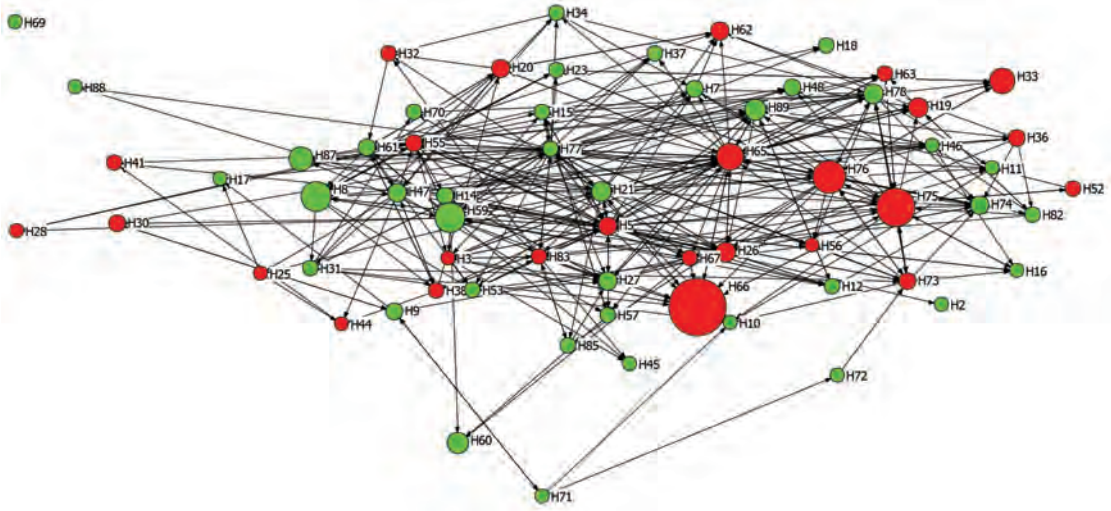
Household Harvest and Giving Levels: Do They Relate?

An important finding of this study is the high degree of heterogeneity in economic, social and harvest patterns among households in villages. Household socio-demographic and economic attributes vary widely (see Chapter 6) and consequently, we would expect households to have different degrees of adaptive capacity (i.e., based on a wide array of available assets) for responding to forces of change. This section highlights these differences in harvesting, receiving, and giving across households, which sets a foundation for assessing the implications for household vulnerability.

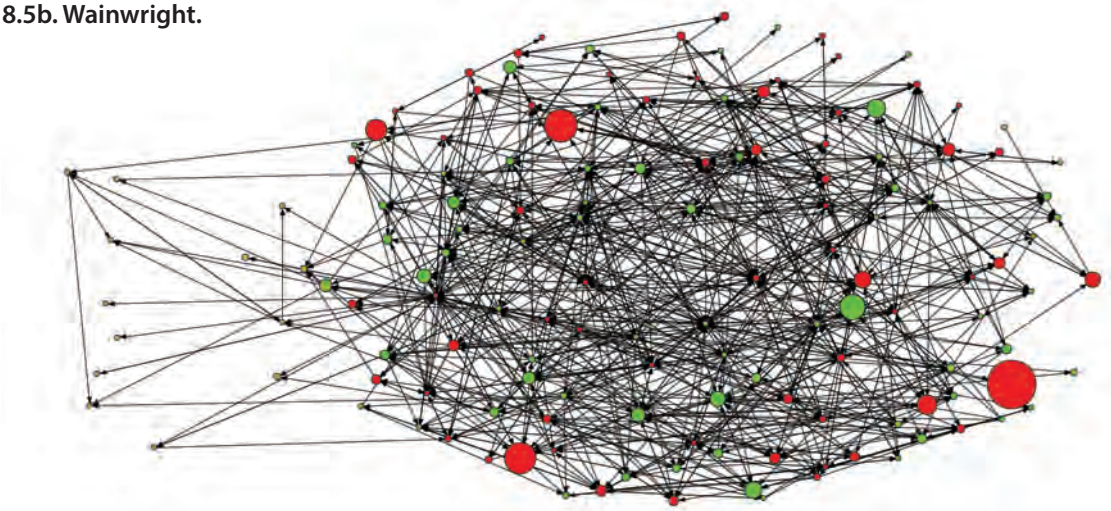
Patterns of household-level harvest and inflows by community were described in Chapter 7 (see Figures 7.2 for Kaktovik, 7.3 for Wainwright, and 7.4 for Venetie). These results highlight that not all households were equal in their level of inflow (pounds of wild foods flowing into households) and the number and diversity of social relationships that were sources of these flows. These results also illustrate that skewed relationship

Figure 8.5a–c. Food security represented in household sharing networks with magnitude of inflows.

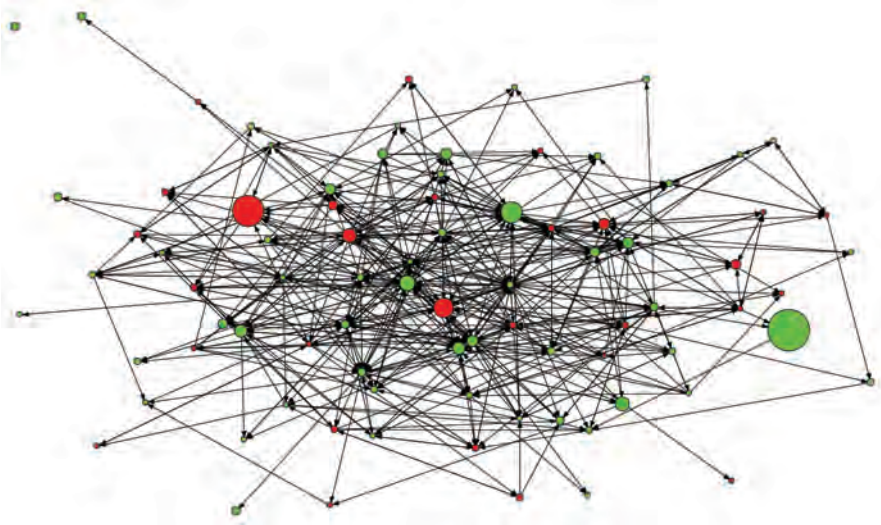
8.5a. Kaktovik.



8.5b. Wainwright.



8.5c. Venetie.



Red: Food insecure households

Green: Food secure households

Size: lbs of inflows

Figure 8.6. Shape of total inflow distributions in pounds for Kaktovik, Venetie, and Wainwright (from left to right).

characterizing the logic of the "30:70 rule" holds true in the 3 study communities (Figure 8.6). In Kaktovik and Venetie, household inflows were strongly skewed toward particular households as responsible for large proportions of total inflow within villages (30%:81% and 30%:93%, respectively). In Wainwright 30% of households were responsible for 76% of total flows of food.

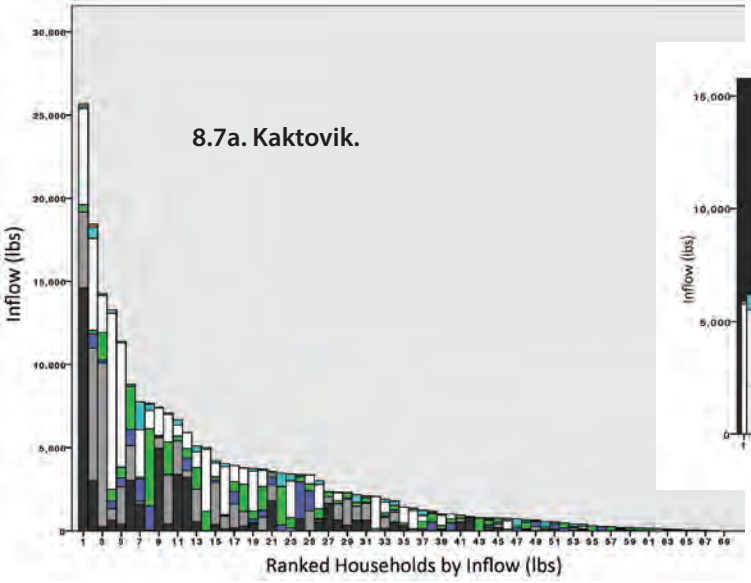
Figure 8.7a–e examines the sources of total inflow (in pounds) by the proportion of total flow represented by specific social relationships (Y-axis). Individual households are ranked by total inflow, high to low, on the X-axis. For households with high inflow, most of the food coming into households stems from own and cooperative harvest activities (black and grey colors within individual bars). Aggregated whaling relationships for Wainwright and Kaktovik (white color; Captains', Crew, Towing, Helper and Feasting shares) explain a significant proportion of inflows at the high and low ends of the distribution, although raw amounts are highest for households ranked highest for inflows (Figures 8a and 8c). These patterns are illustrated more clearly in Figures 8.7d and 8.7e, in which whaling flows for the North Slope villages are broken down further by feast shares and all other sources of whaling shares. Venetie total flows (Figure 8c) are lower overall than Wainwright and Kaktovik as they do not engage in whaling. However, the shape of the distribution and patterns of flow from high to low harvesters is remarkably similar to that observed in North Slope communities.

A few households were highly ranked in terms of total inflow based primarily on sharing and shares for helping (green and blue colors, respectively). However, these 3 graphs illustrate that for households at the low end of the inflow gradient, social relationships represent almost 100% of total pounds of food coming into households. There are exceptions, as households at the lower end do harvest (indicated by black color), but social relationships are disproportionately more important for households at the low end of the inflow gradient.

Figure 8.8 takes a similar approach to illustrate the relationship between harvest rank and households as sources and receivers of in-kind contributions. The X-axis in this diagram ranks households by harvest only (not by total inflow). Bars represent counts of ties. These graphs do not include bowhead or beluga harvests, as harvests for these species are crew and community-focused, not household based. Blue bars show contributions received by households (inDegree). Green bars illustrate contributions given by households (outDegree). Households that harvested intensively are also highly active in terms of in-kind giving to and receiving contributions from others. However, households that harvest little are also engaged in in-kind contributions around subsistence activities (labor, giving groceries, gas, ammunition, lending equipment, etc.), albeit at lower levels. The engagement of these households in wider subsistence activities would be invisible in a traditional harvest study but are clearly delineated in this network study.

Taking Figures 8.7 and 8.8 together illustrates layers of social relationships of harvest, cooperation and sharing. Some households are extremely active in harvesting, others less so. Combining food sharing, other social relationships and in-kind contributions suggests that additional lines of connectivity and cooperation exist (giving/receiving of

Figure 8.7. Distributions of food inflows by households, for a) Kaktovik, b) Wainwright, and c) Venetie.



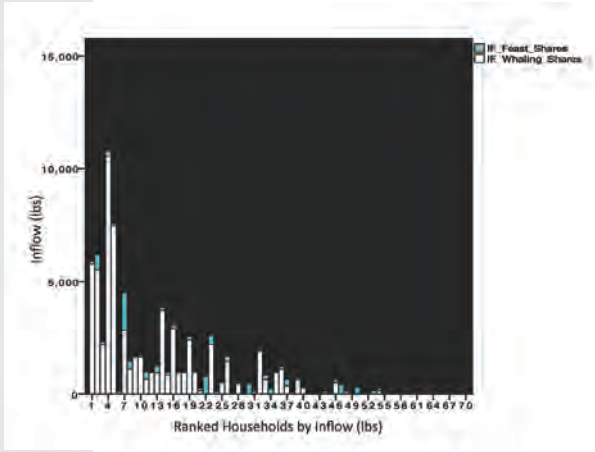
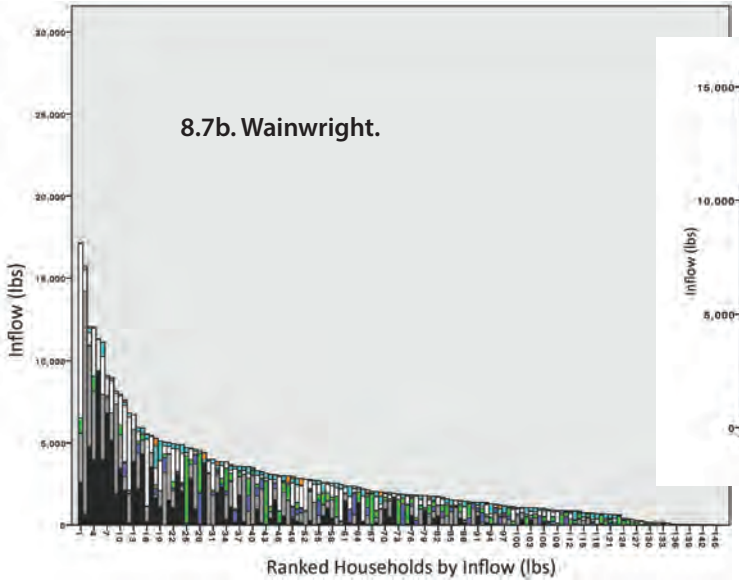


Figure 8.7d. Kaktovik whaling.



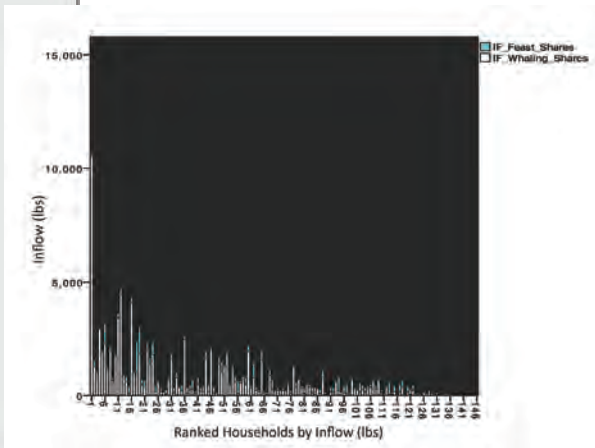


Figure 8.7e. Wainwright whaling.

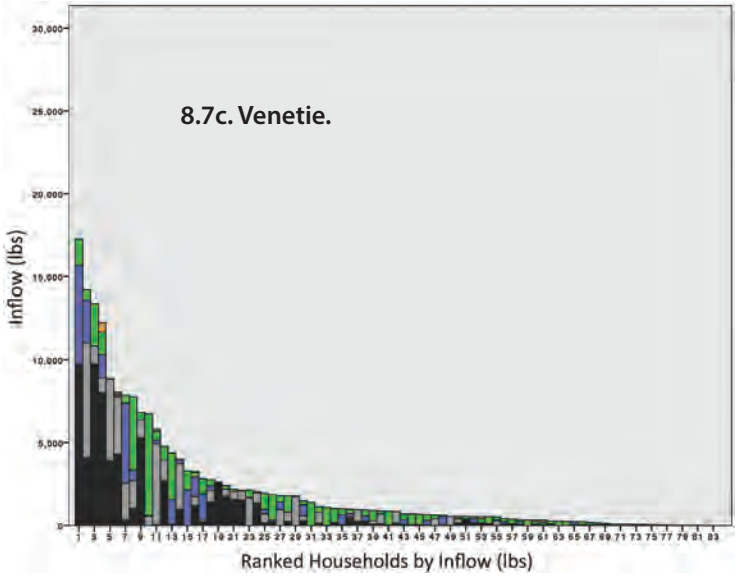
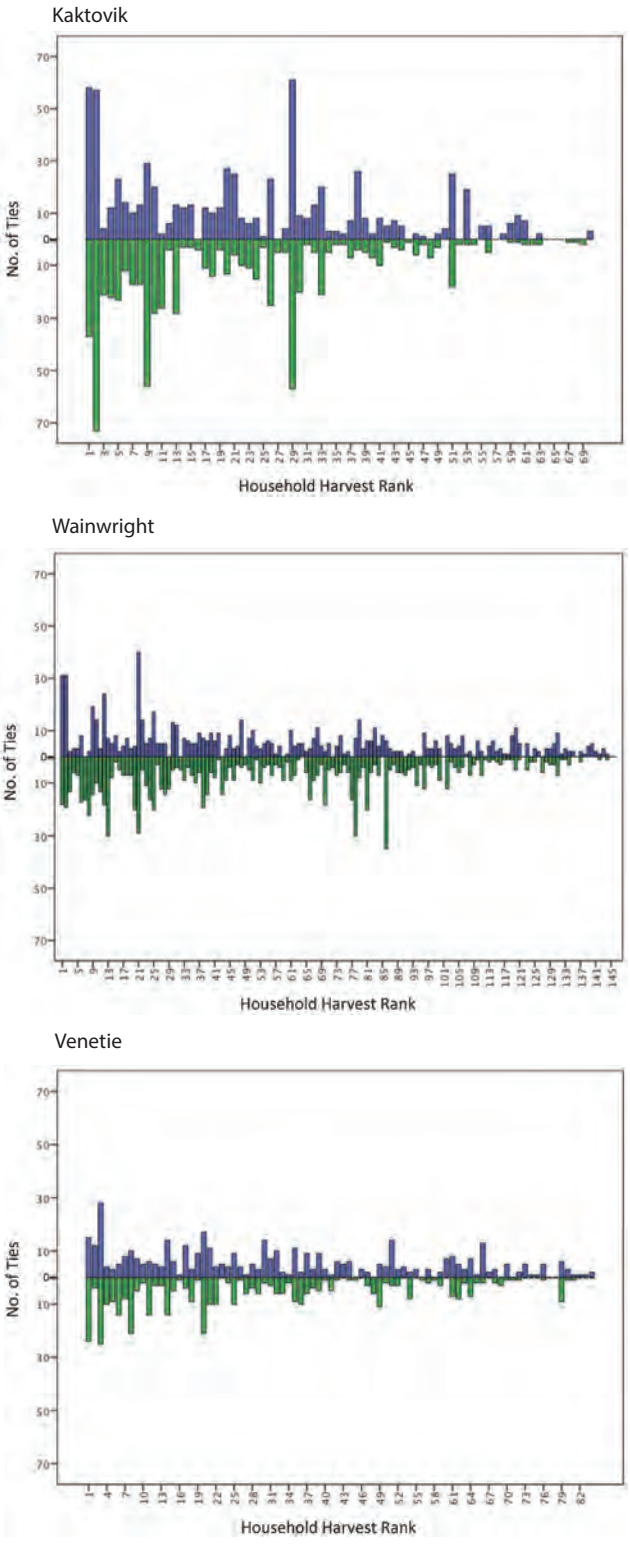


Figure 8.8. Comparing unvalued flows – Processing and in-kind contribution, all communities.
Blue = Processing and in-kind contributions – indegree (Labor, equipment, gas, groceries, cash.)

Green = Processing and in-kind contributions – outdegree (Labor, equipment, gas, groceries, cash.)



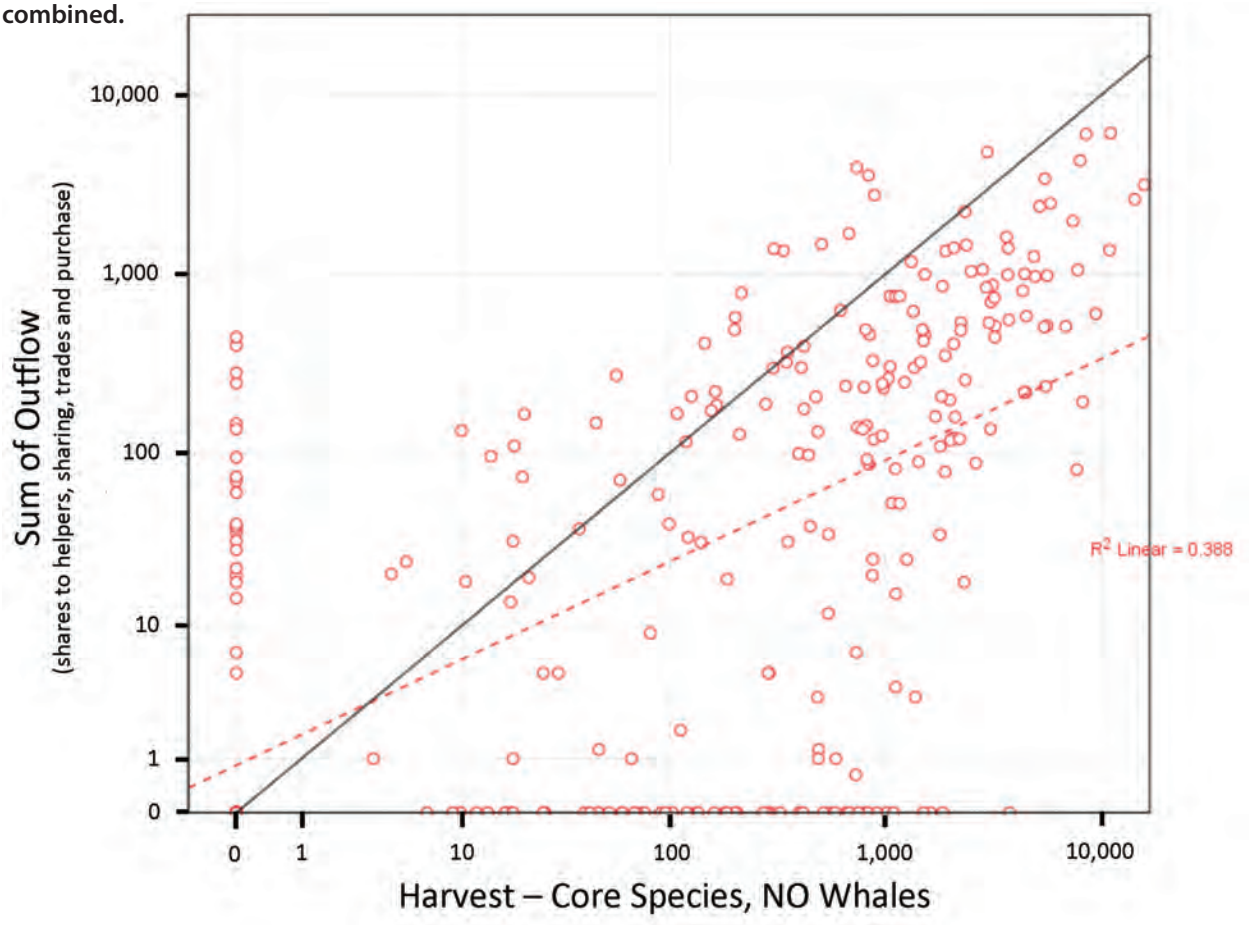
contributions) that could translate into a additional connectivity in times of need. As already noted, this study documented patterns of sharing and cooperation only during one 12-month study period. The time arch of cooperation and reciprocity across social relationships in these communities is clearly much longer than this time horizon. These contribution relationships represent a form of social capital that could become more active at some future time as relationships or conditions change.

Who Gives and Who Receives?

If sharing contributes to resilience of the community, we would expect that households with high harvest would contribute to those with less harvest. Figure 8.9 shows total household outflows for all three communities combined against household harvests on a log-log scale (again without beluga or bowhead whaling included). Outflows here represent the sum of all pounds from sharing, shares to helpers, trading and purchase as reported by receivers. Results indicate a positive relationship between harvest and outflows, i.e., households that harvest more or give more than households with lower harvests. The r^2 value for the relationship was 0.388 ($p < 0.01$). One hundred sixteen households (of 300) were not reported as sources of food to other households (0 line, X-axis), although they may have been cited as sources of other non-food contributions to others. Other households reported no harvest, and yet they were the reported source of outflows to other households (households located on 0 line, Y-axis). These households are redistributing food they received from others, through re-giving of food received primarily through sharing and helping shares. These households illustrate the process of redistribution. All households clustered at the origin (zero giving and zero inflow) are non-Native teacher households in these communities.

Linear regressions were run to predict who gives (dependent variable). Independent variables were i) pounds of harvested core species, ii) age of household head, iii) number of hunters in the household, iv) household income, and v) the household dependency ratio (household size:no. of dependents). Strong predictors were pounds of harvested core species in all three

Figure 8.9. Relationship between giving and harvest pounds represented on a log-log scale, all communities combined.



communities (β= .51, for Kaktovik, β= .30 for Wainwright, β= .32 for Wainwright). Age was also significant in Kaktovik and Venetie (β= .4.5 and 2.1, respectively) (Kaktovik: F-value=11.07, p<0.000; r^2 =.65, df=34; Wainwright: F-value=7.67, p<0.000; r^2 =.32, df=87; Venetie: F-value=8.54, p<0.000 ; r^2 =.46, df=54). (Table 8.3).

Table 8.3. Who gives? (184 of 300 households give)

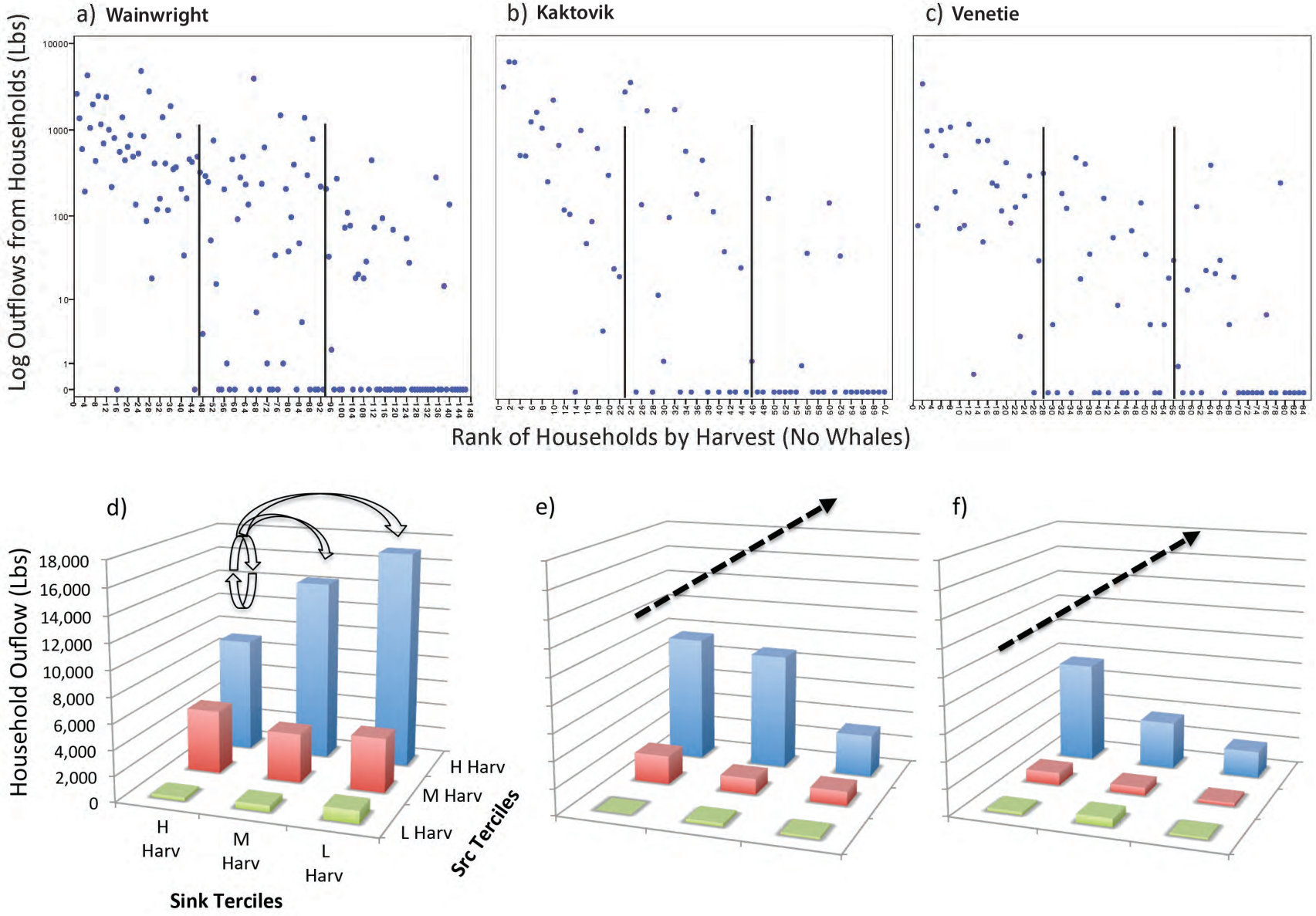
	Kaktovik	Wainwright	Venetie
Harvest Core (lbs)	.51***	.30***	.32***
Age	4.5 *	.61	2.1*
No. Hunters	-1.8	.50	-2.4
Income	15.8	-4.4	2.9
Dependency Ratio	-9.7	3.5	4.5

Kaktovik: F-value = 11.07, p<0.000; r^2 =.65, df =34
Wainwright: F-value = 7.67, p<0.000; r^2 =.32, df =87
Venetie: F-value = 8.54, p<0.000; r^2 =.46, df= 54

*** p-value <0.001, **p-value < 0.01, * p-value < .05

These results are disaggregated by community in Figure 8.10a–f. The X-axis in these figures is household ranked by total household harvest without whales included. Harvest terciles (High, Medium and Low – left to right) are indicated by vertical black lines. The patterns of outflow are similar across each community—high-ranked harvest households give more food to others (Note that the rank of households on the X-axis is reversed from the previous figure). As shown in Figure 8.10 (a–c), there are very few households in the top harvesting terciles that were not cited as sources of food (n = 1 in Kaktovik, n =1 in Wainwright, and n = 1 in Venetie). These analyses, however, do not indicate the directionality of flows of food. In other words, if a household is a source of food for others, in whose general direction does that food flow—other high harvesters, or to those who harvest little? To understand these patterns of directionality, we started with households harvest terciles (high, medium, low), calculated the amount of outflow generated within each tercile, and subsequently identified the

Figure 8.10. Log outflows of food from a) Wainwright, b) Kaktovik and c) Venetie households and flows between giving (source) and receiving (sink) households in d) Wainwright, e) Kaktovik and f) Venetie. Curved arrows in 8d illustrate directionality of flows from source to sink households. Black dotted arrows illustrate the hypothesized direction of flow based on Wolfe's 1987 description of super households.

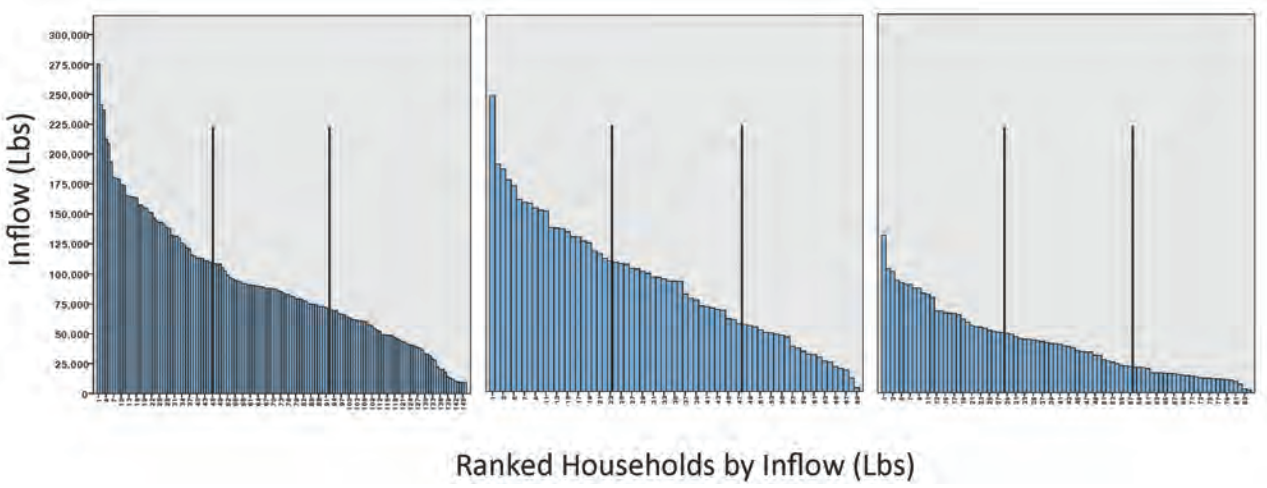


amount of outflow that stayed within that tercile, or flowed outward to households in other terciles. These results are graphed in Figure 8.10 (d–f). Terciles are represented in these graphs as both sources (givers of food – z axis) and sinks (receivers of food – x axis). If giving households were consistently giving to those with lower harvests, all outflow would flow from households in high harvest terciles into lower harvesting terciles and the height of bars would increase from left to right. This expected relationship is indicated by the black dotted lines. Results do support Wolfe's (1987) general hypothesis that super-households would also be the source of a majority of flow down the harvest distribution. Curved arrows above Figure 8d also illustrate that households give to households with like harvest levels, i.e. high harvesters give to other high harvesters. Results therefore indicate a pattern that is more complex than just high harvesters giving to those who harvest less. The pattern in Wainwright supports the hypothesized flow from high to low harvesters, where high harvesters (source tercile—blue columns) channel 8,000 pounds to medium harvesters and more than 14,000 pounds to low harvest households. Medium Wainwright harvesters (as sources—red columns) distribute more than 4,000 pounds to other medium harvesters (first red column), and send ~3,000 pounds and 3,400 pounds to other households in medium- and low-harvesting terciles, respectively. Even households from the low harvest tercile (green bars) give some food to high- and medium-harvest households, but a majority of food given by these households is given to other low-harvest households.

In Kaktovik and Venetie proportionally more harvested food is given to other high harvesting households (and other medium harvest households), although food does flow to low harvester households. Looking at medium-harvest households, the same pattern of decreasing flow exists in Kaktovik and Venetie. Interestingly, low harvest households in Wainwright, Kaktovik, and Venetie, respectively, give away 300%, 1030%, and 850% percent above what they harvested themselves by weight. Possible explanations are that these households were either able to give out more than they harvested because of food shared to them from other households (re-distributing shares or gifts they received) or they may have given food they still had stored from previous seasons (i.e. foods harvested at a time not covered by the study period). Aggregate movement of food based on sharing or shares for helping between high and medium harvest terciles ranges from a low of 14% (Wainwright medium-harvesting households) to a high of 54% (Kaktovik medium-harvesting households), with an average of 24 and 40% across the 3 communities.

Study findings describing outflows patterns so far have been presented in the context of only harvest. However, as households were engaged in a mixed economy, giving and receiving patterns may reflect local perceptions of "need" that incorporate

Figure 8.11. Income terciles, Wainwright, Kaktovik and Venetie (left to right).

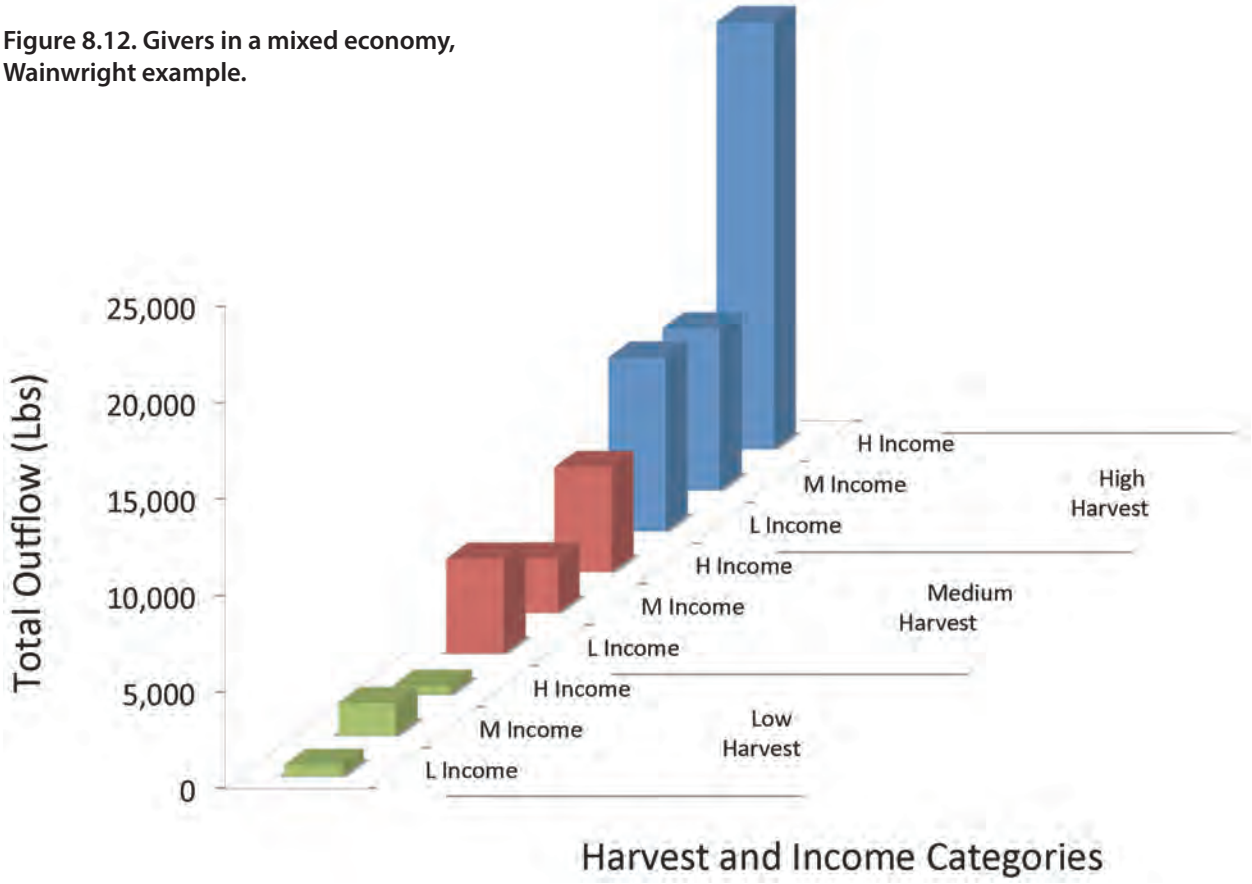


the cash and other economic resources available to households. Consequently, we incorporate income into the analysis below. Similar to the approach used for harvest, household income distributions are divided into high, medium, and low terciles (Figure 8.11). Gross household income inclusive of employment, assistance, retirement and dividends is the basis for income categories. Income terciles were subsequently overlaid onto existing household harvest terciles to produce nine categories. Households are members of one category across 9 possible harvest -income combinations. Distributions across these categories are the basis for a discussion of household adaptive capacity in the following section. First, we describe giving and receiving patterns within the mixed economy in detail using the example of Wainwright.

Similar to the preceding figures, in Figures 8.12 and 8.13 households are represented as sources and sinks for outflows of food based on their membership in the 9 harvest by income categories. The blue bars in both figures represent Wolfe's "super-households," or high harvest households. Within each harvest category there are high, medium, and low income households. High income–high harvest households in Wainwright are the sources of a majority of harvested food given to other households. There is variability across giving magnitude by income across all harvest categories, although clearly, high harvest–high income households give the most.

Figure 8.13 reverses the perspective and illustrates which harvest-income categories receive the most harvested food in the aggregate for Wainwright. The black dotted line illustrates expectations if low harvest households were recipients of giving from households at the high end of the harvest gradient. Patterns do illustrate that Low Harvest and Low Income households receive the most food by weight than other harvest-income categories, although high harvest–high income and medium harvest–medium income households also receive significant amounts of food from others. High income but low harvest households, however,

Figure 8.12. Givers in a mixed economy, Wainwright example.



do not receive nearly as much as low-income households, suggesting that givers differentiate those without access to fresh subsistence food and high income from those with low harvest and few economic resources. Results here suggest an interesting question. Who is "needy" within a mixed economy? Whereas it may have been clear who was in need when households depended historically on subsistence as a way of life, definitions of need may have changed with the rise in employment options. In qualitative interviews, respondents spoke of single mothers, the sick and elders as particularly in need. Is a household still in need however, if they work full time and cannot get out to hunt? Results here suggest that these households still receive food from others, but less so that other categories.

These findings support that social relations in the form of cooperation and sharing persist and may act as sources of resilience for community households. (See BurnSilver et al. 2016 for additional discussion on the dynamics of giving and receiving within the mixed economies of Kaktovik and Wainwright.)

Household Profiles of Adaptive Capacity

Assessing household adaptive capacity is a critical step in understanding household vulnerability to social-ecological changes. To use the concept of adaptive capacity in the context of household mixed subsistence-cash systems for the 3 communities, we created "mixed livelihood adaptive capacity profiles" by identifying 5 categories, each with quantifiable sub-variables (Table 8.4). The first category, Subsistence Engagement, measured the sub-variables (in blue):

- 1a) amount of equipment held by the household (no. of all-terrain vehicles, snowmobiles, and boats)
- 1b) number of hunters residing in the household,
- 1c) total pounds harvested by household members during the study period, and
- 1d) total pounds of core species inflows.

Figure 8.13. Who receives food in a mixed economy, Wainwright example.

The black arrow illustrates the hypothesized direction of food given based on Wolfe's 1987 description of super households giving to others who harvest less. Red arrows highlight potential need for food for High and Low Income households within the Low Harvest category.

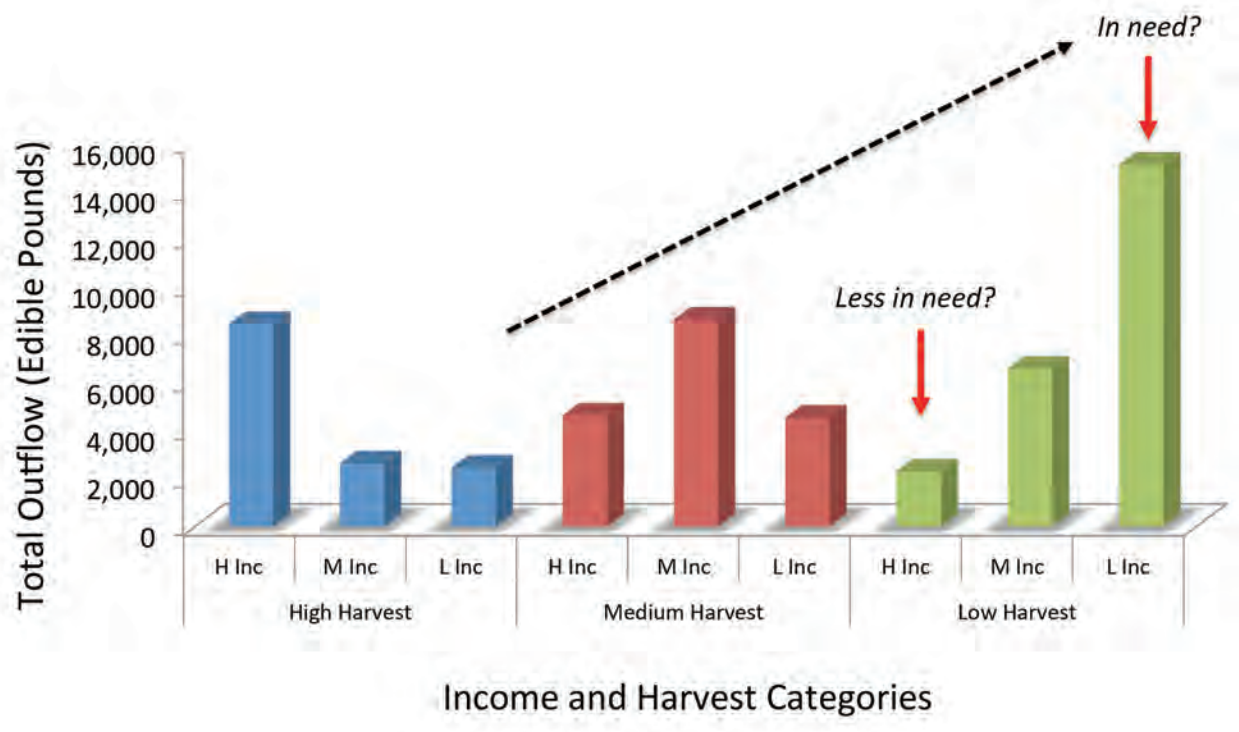


Table 8.4. Measures of household adaptive capacity in subsistence-cash system.

Variable Categories	Abbreviation	Variable Description	Implications for Adaptive Capacity
Subsistence Engagement	Equipment	Equipment (No.)	Allows hunters to access resources and in some cases do so on special conditions
	Hunters	Hunters per household (No.)	Labor force for harvesting and retrieving; more efficiency in hunting with more eyes and bodies
	Harvest Core	Total Harvest Core (lbs)	More food to use and less dependence on store
	Inflow Core	Total Inflow Core (lbs)	More food to use and less dependence on store
Economic	Job Mos:Adults	Ratio of Total Months Employed to No. of Adults in Household	Can substitute for harvested food if there is a shortfall; can allow for purchase of equipment if special needs are identified
	HH Income	Gross Household Income ($)	
	Wage Earnings	Wage Earnings ($)	
	Elders Income	Elders Income ($)	
	Dividend Income	Dividend Income ($)	
	Assist. Income	Assistance Income ($)	
Demographic	Household size	Household size (No.)	Labor force for processing food
	Depend. Ratio	No. Minors: No. Adults and Elders in Household	Fewer minors and elders, less non-producing members; greater number of elders, more knowledge
Social Capital	OutDegree Contributions	OutDegree Contributions (No. Ties)	Greater connectivity, greater likelihood of support in times of need; greater access to resources in times of scarcity; greater emotional support
	OutDegree Food	OutDegree Food (No. Ties)	
	InDegree Contributions	InDegree Contributions (No. Ties)	
	InDegree Food	InDegree Food (No. Ties)	

The economic category (in red) captured the cash sector, with measures including:

- 2a) the ratio of the number of months employed to the number of adults residing in the household,
- 2b) total gross household income,
- 2c) total wage earnings,
- 2d) total elders' retirement income, and
- 2e) household income from types of social assistance
- 2f) household dividend income (village and regional corporations and state).

The third category (in green) represents household demographics, including

- 3a) household size, and
- 3b) a dependency ratio reflecting minors:number of adults and elders in the household.

Social capital, the fifth category (in orange), included the variables

- 5a) out-degree of non-food contributions (number of ties),
- 5b) out-degree of food, measured by number of ties,
- 5c) in-degree of contributions as number of ties, and
- 5d) in-degree food as number of ties.

Contributions here sum processing ties between households and counts of categories for other non-food categories, including; equipment lent and repaired, cash, ammunition, supplies, and other labor.

Figures 8.14, 8.15 and 8.16 use spider graphs (also called radar graphs) to represent household adaptive capacity, simultaneously across each measure. Adaptive capacity is conceptualized as

Key to Radar Graph Variables (Figures 8.14–8.18)

Variable Categories	Abbreviation	Variable Description
Harvest	Equipment	Equipment (No.)
	Hunters	Hunters (No.)
	Harvest Core	Total Harvest Core (lbs)
	Inflow Core	Total Inflow Core (lbs)
Economic	Job Mos:Adults	No. of Months Employed: No. of Adults in Household
	HH Income	Household Income ($)
	Wage Earnings	Wage Earnings ($)
	Elders Income	Elders Income ($)
	Dividend Income	Dividend Income ($)
	Assist. Income	Assist. Income ($)
Demographic	Household size	Household size (No.)
	Depend. Ratio	No. Minors: No. Adults and Elders in Household
Social Capital	OutDegree Contr.	OutDegree Contributions (No. Ties)
	OutDegree Food	OutDegree Food (No. Ties)
	InDegree Contr.	InDegree Contributions (No. Ties)
	InDegree Food	InDegree Food (No. Ties)

Table 8.5. Distribution of households across harvest by income categories.

		Katkovik		Wainwright		Venetie	
Harvest x Income Categories		No.	%	No.	%	No.	%
High Harvest	High Income	10	14.3	22	15.1	16	19.1
	Med Income	8	11.4	16	11.0	8	9.5
	Low Income	5	7.1	10	6.9	4	4.8
Medium Harvest	High Income	6	8.6	11	7.5	7	8.3
	Med Income	11	15.7	17	11.6	14	16.7
	Low Income	7	10.0	21	14.4	7	8.3
Low Harvest	High Income	7	10.0	12	8.2	6	7.1
	Med Income	5	7.1	15	10.3	5	6.0
	Low Income	11	15.7	22	15.1	17	20.2
Total Households		70		146		84	

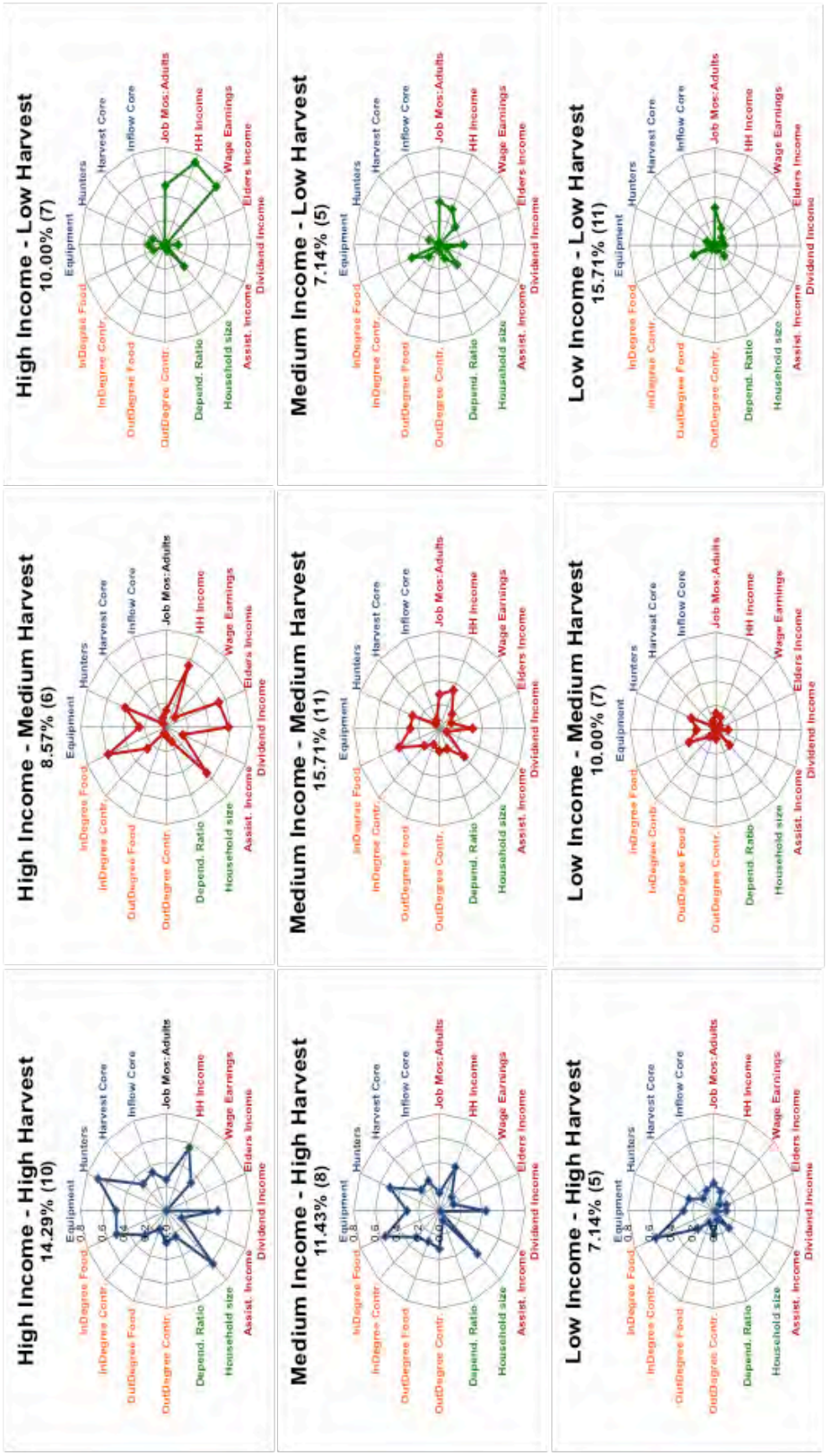


Figure 8.14. Household profiles, Kaktovik.

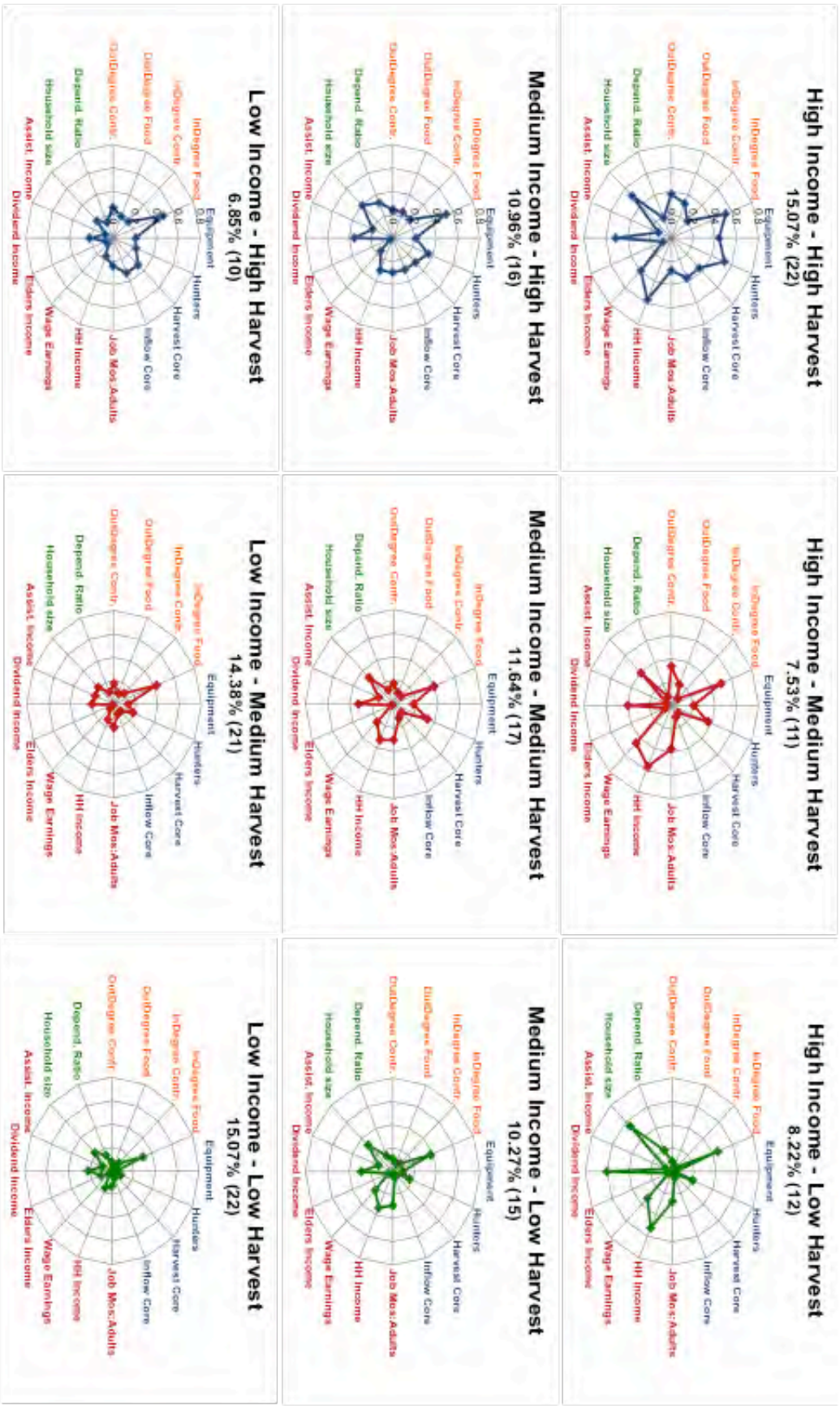


Figure 8.15. Household profiles, Wainwright.

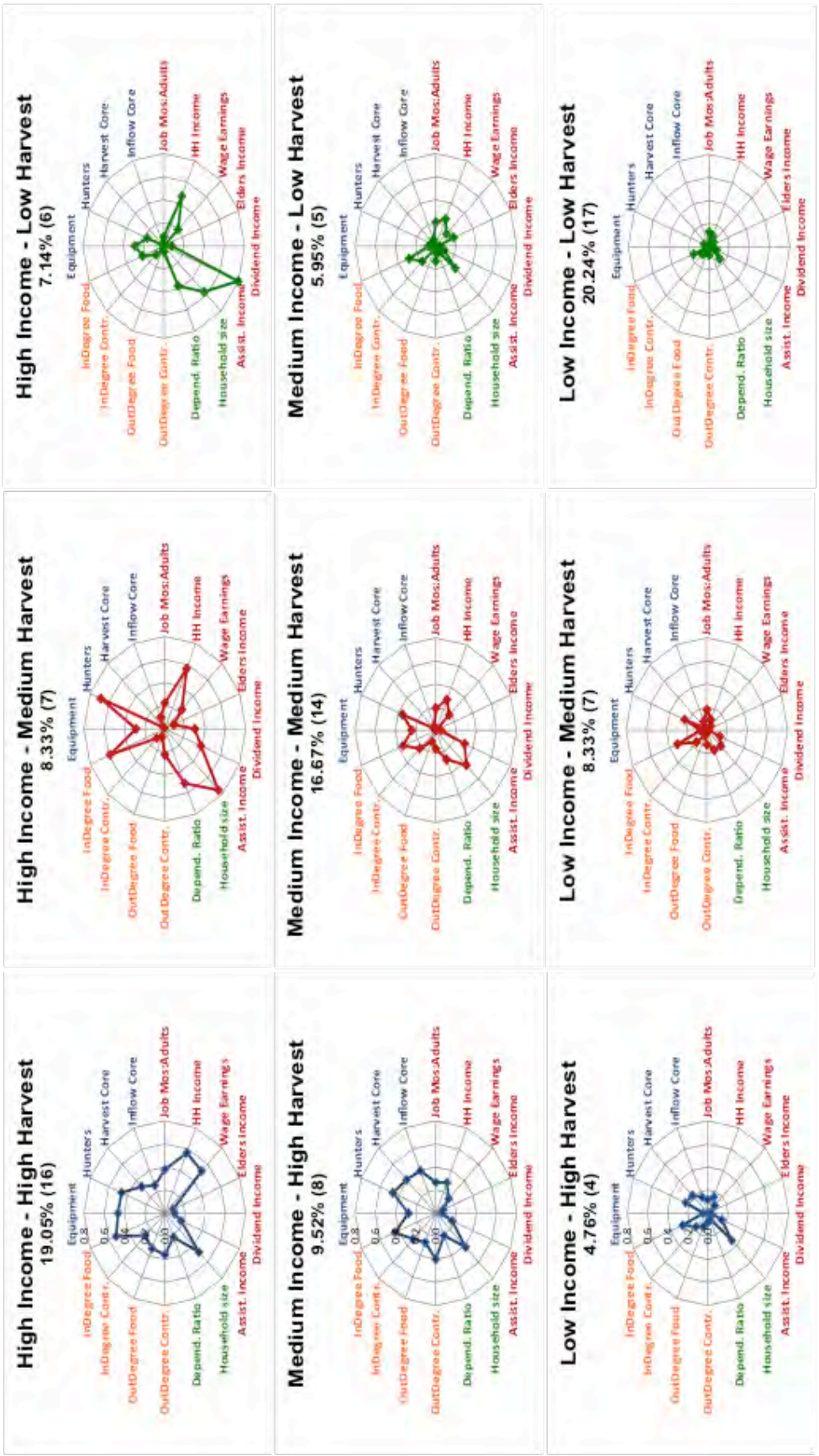


Figure 8.16. Household profiles, Venetie.

Figure 8.17. Radar graph of High Harvest - High Income Households, and one egonet of a household from this category, Kaktovik.

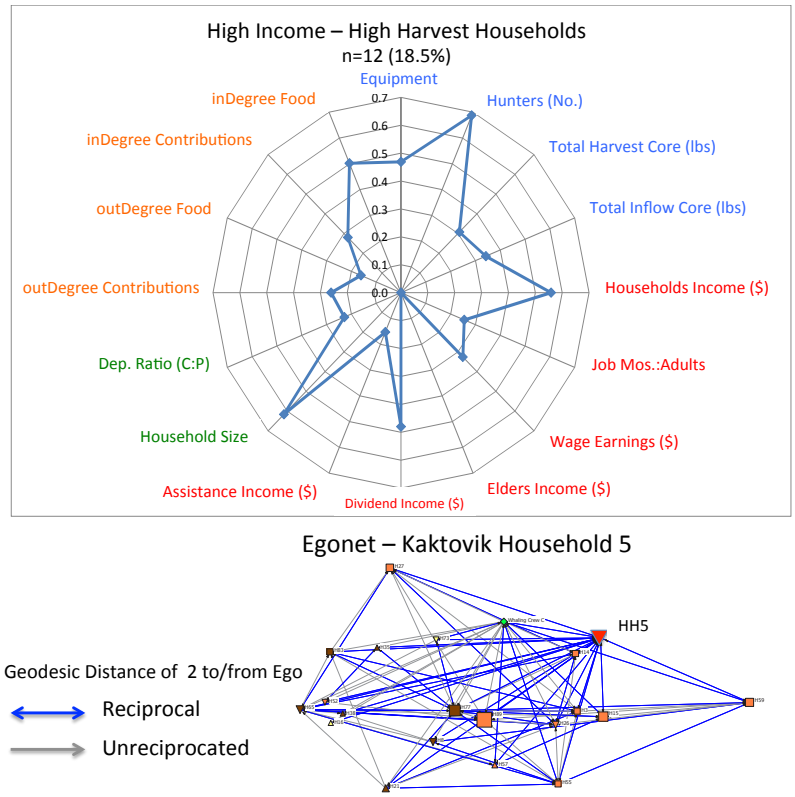
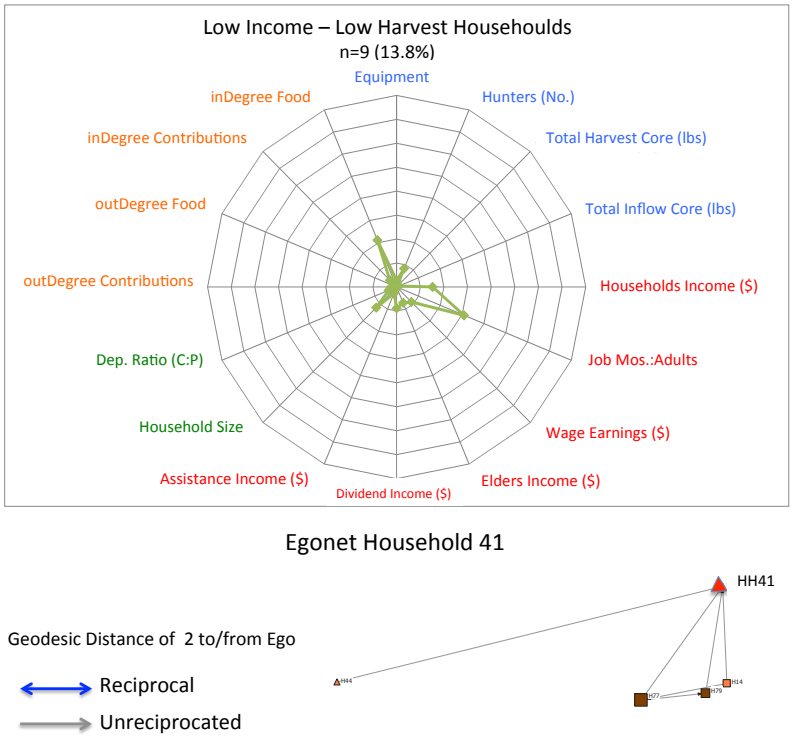


Figure 8.18. Radar graph of Low Harvest - Low Income Households, and one egonet of a household from this category, Kaktovik.



the capacity to adapt following based on a household's access to a range of resources and asset types (Kofinas et al. 2014, Berman et al., 2016). There are 9 radar graphs per village, reflecting the 9 harvest by income categories described earlier. The number of households within unique Harvest - Income groups varies (Table 8.5). Values are standardized from 0 to 1 by village (i.e., each household attribute value was divided by the highest value documented per village). The standardized means for each Harvest by Income category are represented on the spider graphs. As values were standardized separately for each community, the standardized values cannot be compared directly across communities. Attribute ranges for Kaktovik and Wainwright were similar, but as reported in the findings of Chapter 6, Venetie harvest and income household attributes are significantly lower than the North Slope villages, making direct comparisons problematic.

The percentage and number of households within each harvest by income group are displayed as 9 graph images that range from High Harvest – High Income households to Low Harvest – Low Income households (Figures 8.14–8.16). Looking at conditions across Harvest - Income categories, it is clear that there are differences between the financial, productive, demographic, and social capabilities (i.e., connectedness) of household groups within each community. We use these differences to inform a discussion of household-level vulnerability.

Table 8.5 describes the distribution of households across harvest by income groups. High Harvest- High Income, Medium Harvest – Medium Income and Low Harvest – Low Income categories have the highest frequencies of households across all three communities. High Harvest – Low Income households are the most infrequent, however, they are highly active givers and receivers within villages despite few economic resources (See Figures 8.14-8.16). The majority of non-local teachers are in the Low Harvest – High Income categories in all three communities. Visually there are intuitive and striking differences in the assets and capabilities of households across these income categories by harvest groups. High harvest – high income households on average have many subsistence assets (both hunters and equipment), hunt actively, have high average inflows, have significant economic resources, tend to have larger families, and are highly connected (both giving and receiving food and contributions). These households are diversified economically and have deep and numerous connections with others. In contrast, Low Income – Low Harvest households across the 3 communities generally depend on a much more constricted set of livelihood activities, economic resources and social relationships. An important take away message is that households in villages are not homogeneous in their activities, assets, or connectedness and these differences have implications in terms of the relative abilities of households to adapt to changing conditions.

As an example here we presented 2 households from Kaktovik, HH5 and HH41. Figures 8.17 and 8.18 replicate the radar graphs for Kaktovik, High Harvest - High Income households (Figure 8.17) and Low Harvest – Low Income categories (Figure 8.18). Each figure also shows the egonets of these 2 households. Egonets represent all existing ties between a household (ego) and all other households with which it is connected. All ties from ego to other households in Kaktovik are graphed up to a path length of 2 (i.e., all households located along a unique path of 2 steps to and from each ego household). Reciprocated and non-reciprocated ties within egonets are also indicated. HH5 in Kaktovik was a High Harvest - High Income household with 7 members, 4 of whom were fully employed. All members were active hunters and the household represented 3 generations (an Elder household). Hunters actively hunted and fished for all core Kaktovik species as well as 4 other non-core species, harvesting 18,000+ lbs. The household received 620 lbs of meat/fish from other households across 74 inDegree ties, and gave out 3,141 lbs, across 94 outDegree ties. This was a household active in both the cash and subsistence side of the mixed economy that had many hunters and was strongly connected to other households through both giving and receiving relationships – some reciprocated and some not. In contrast, HH41 was a Low Income - Low Harvest household was a single 38-year-old man (i.e., a developing household), who was employed for 3 months (of 12), hunted 1 species (for 14 lbs), gave 2 contributions to others (outDegree ties), but received 161 lbs between attending whaling feasts and *Nalukataq* and from other households (across 17 inDegree ties). Pounds of whale represented 65% of his total wild food inflow and he gave no food to others. The egonet of this individual is very small and consists of unreciprocated ties to himself from others.

Vulnerability theory (Adger 2006) would suggest that these 2 households do not have the same level of vulnerability to different types of shocks and stresses because their adaptive capacity differs, even assuming a similar level of sensitivity and set of exposures. Inclusion of social ties in the analysis implies that the absence of household assets could be mitigated through sharing and cooperation with other households, although the possible extent of such cooperation is not predicted here.

Scenarios of Change: Part 1– Gross-Level Implications of Change

In this section we present a set of hypothetical scenarios to reveal potential gross-level implications of change within the 3 communities (See Table 8.6). Our simple approach was to subtract the contributions of specific resources or groups of resources, and calculate the total shortfall within communities as a percentage of pounds lost. These calculations are based on our findings for Kaktovik, which had a total of 223,615 pounds of inflow during the study period, Wainwright with 404,082

Table 8.6. Scenarios of change in harvested ecosystem services at the community level.

a) Scenario #1 - Assumes total loss in core marine and coastal ecosystem services (i.e., no bearded seal, smelt, Dolly Varden, beluga, and bowhead)			
	Total lbs of flow	Lbs from loss of resources	% of loss
Wainwright	404,082	193,011	48
Kaktovik	223,615	135,182	60
Total	**627,697**	**328,193**	**52**
b) Scenario #2 - Assumes total loss in core coastal ecosystem services (i.e., no geese, ducks, smelt, Seal, beluga and bowhead)			
Wainwright	404,082	206,015	51
Kaktovik	223,615	138,192	62
Total	**627,697**	**344,207**	**55**
c) Scenario #3 - Assumes total loss in core marine mammals (i.e., bearded Seal, beluga and bowhead)			
Wainwright	404,082	169,798	42
Kaktovik	223,615	113,576	51
Total	**627,697**	**283,373**	**45**
d) Scenario #4 - Assumes total loss in caribou			
Wainwright	404,082	198,067	49
Kaktovik	223,615	72,449	32
Total	**627,697**	**270,516**	**43**
Interior Alaska Community/ Venetie Scenarios			
e) Scenario #5 - Assumes total loss in moose			
	Total #	# moose	% of loss
Venetie	92,034	28,320	31
f) Scenario #6 - Assumes total loss in caribou			
Venetie	92,034	29,925	33
g) Scenario #7 - Assumes total loss in caribou and moose			
Venetie	92,034	59,244	64
h) scenario #8 - Assumes total loss in core fish (greyling and salmon)			
Venetie	92,034	22,916	25

pounds, and Venetie with 92,034 total pounds. We present the scenarios geographically, first the scenarios for the 2 North Slope communities, and then for the interior Alaska community, Venetie. These scenarios present a rough assessment of possible impacts and do not consider how communities could exercise agency by re-organizing or making use of existing or new social networks to compensate for shortfalls (e.g., gifts or exchanges received from another region). The section that follows considers the heterogeneity of households, or differences in their level adaptive capacity as described in previous section, and how changes in ecosystem services or economic conditions may affect households with different levels of assets.

Clearly, subtracting the pounds harvested of 1 or more species from the total inflows to a community is a simplistic approach to understanding the impacts of change on communities. The approach does, however, highlight the level of dependence communities have on subsistence

harvesting and thus, their potential sensitivity to changes in these ecosystem services. It also provides a method for describing community sensitivity where few quantifiable measures are available.

Scenario #1 – Loss of All Core Marine Resources (Table 8.6a): Scenario #1 considers the implications of a total loss of core marine species for Kaktovik and Wainwright studied in this project. Those core species include bearded seal, smelt, Dolly varden, beluga, and bowhead. Such a hypothetical scenario could be the consequence of these species being deemed at a regional level to be unhealthy to consume and therefore not hunted, such as a catastrophic shock to the marine system resulting from a large-scale and highly dispersed offshore oil spill. The findings for Scenario #1 show that Kaktovik had the greatest proportion of its harvest from these core species, and thus, the scenario resulted in a 60% loss of total pounds harvested for the study period. Wainwright's loss would also be significant, resulting in a 48% shortfall.

Scenario #2 - Loss of all Core Coastal Resources (Table 8.65b): Scenario #2 considers a loss of all core coastal ecosystem services and foods, including geese, ducks, smelt, Dolly varden, beluga, and bowhead. The cause of this scenario could be similar to #1, but with the added impact on the near-shore coastal system used by waterfowl. Here we find that a possible loss of these resources would reduce both communities' harvest by 51 to 62% for Wainwright and Kaktovik, respectively. Combining the harvested pounds of both communities, the decline would be 344,207 pounds of wild foods in a one-year period.

Scenario #3 - Loss of 3 largest Marine Resources (Table 8.6c): This scenario assumes the total loss of the 3 largest marine subsistence resources—bearded seal, beluga, and the culturally important critical bowhead. The result shows that these resources are a high proportion of total take of the 2 North Slope communities, representing 45% of total pounds. This value does not account for the implications of such a loss to people who strongly identify with these species, nor the food that is additionally distributed outside of Wainwright and Kaktovik to other communities.

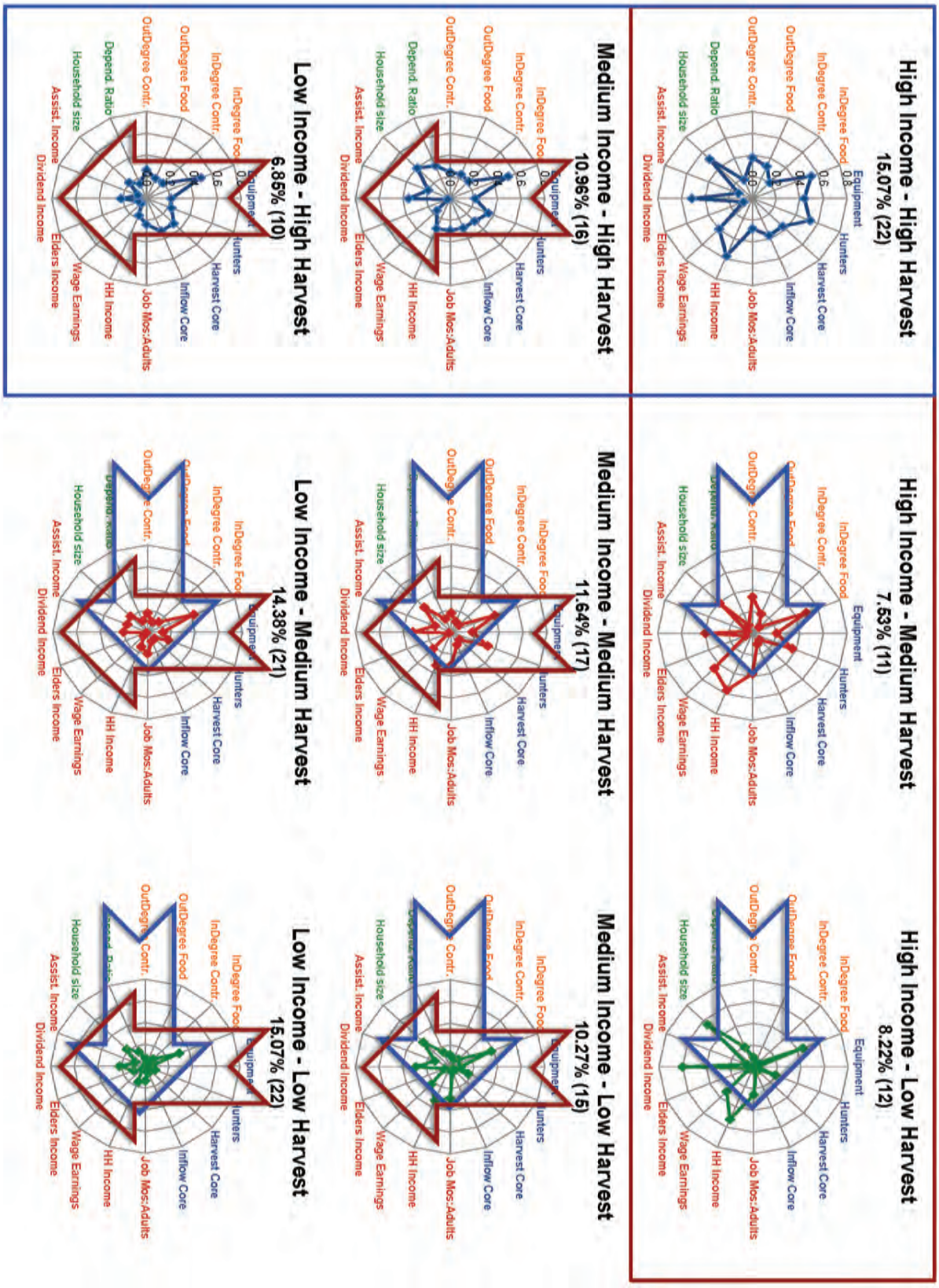
Scenario #4 – Loss of Caribou on North Slope (Table 8.6d): Scenario #4 assumes a total loss of caribou for the 2 North Slope communities, which could be a consequence of caribou population cycles, climate change, or a landscape change that redirected herd movements, making it impossible for hunters to access this species. While both of the coastal communities are known as "whalers" and self-identify as such, the results of this scenario reveal the high dependence on this terrestrial resource, particularly for Wainwright where 49% of total inflows are caribou meat.

Scenarios #5–Loss of Interior Alaska Core Species (Table 8.5e–h): These scenarios examine the potential loss for Venetie represented by core subsistence resources in several combinations—the loss of caribou, moose, caribou and moose, and the 2 core fish species, grayling and salmon. Interestingly, caribou and moose are almost equal in magnitude for Venetie, representing declines of 31% and 33%, respectively, in spite of the community's location at the margin of the range of the Porcupine and Central Arctic Herd ranges (Table 8.5e–f). The close geography and kinship relationships of Venetie with Arctic Village residents provide a source of resilience as caribou harvested in Arctic Village commonly make their way to Venetie, either as sharing or as exchanges for species like salmon that are not easily harvested in Arctic Village or as non-food contributions (i.e. gas, supplies, ammunition). Changes in moose habitat quality, a shift in the migratory patterns of caribou, or a change in hunting regulations that would dramatically reduce hunting of these species could therefore have a significant impact on the community's access to foods. The magnitude of decline represented by catastrophic declines in both these species is 64% (Table 8.5g). A decline in grayling and salmon fishery could result in a 25% decrease in pounds harvested (Table 8.5h).

Scenarios of Change: Part Two—the Household Level

We use the table of household attributes (Figure 8.19) and the 9 Harvest – Income categories of households to consider the implications of scenarios of change at the household level. As noted, our results indicate significant heterogeneity

Figure 8.19. Thinking about resilience – Exposures ripple through communities, Wainwright.



An economic shock (red box) might affect low income households first, while an ecological shock (blue box) could negatively affect the success of high harvesting households initially. However, the dynamics of social relationships suggest that there would be ripple effects of both these exposures as lower income households may contribute less to hunting efforts of others (red arrow), or there is less for successful hunters to redistribute (blue arrows).

of access to particular combinations of economic, productive, social, and demographic assets within communities. How does the distribution of assets across these household groups help to assess the capacity of different types of households to respond to change? This study has highlighted the role of social structures and relationships to redistribute food and resources within communities, but these patterns differ significantly across households. So how might changes ripple through communities to affect community scale resilience? Below, we outline a series of thought experiments around specific types of potential exposures (i.e., sources of change within villages) that were described to researchers during focus groups, interviews, and community meetings.

Scenario 1: Harvest Shortfall - In times of resource shortfall, it is clear that social capital (networks of sharing and cooperation) could potentially buffer against food insecurity. Results show that high harvesters are the source of significant wild foods for other high harvesters as well as other households within communities. Medium and low harvesters also give and redistribute food and other resources to others, such as equipment and labor. If the changes resulted in significant decreases in overall harvest or harvest of a traditionally harvested species representing significant resource flows (i.e., bowhead, caribou, or moose), high-income households theoretically would be more capable of replacing wild foods with store-bought foods in the short term, and thus be more likely to meet their nutritional needs. If overall harvest declined, then flows through the sharing network could decline, thereby decreasing flows of wild food down the harvest distribution (high to low harvesters). In our interviews (as reported in Chapter 5), respondents reported that "if there is less available, sharing would not stop, but everyone could receive less overall." Food security particularly for low-harvest households could decline under this scenario. Shortfalls in wild foods may be made up by store-bought food if cash or assistance is available. However, the replacement of wild foods with store-bought foods over the short and long term could come with significant social costs that extend beyond the realm of nutrition, such as changes in dietary patterns of youth who are being socialized to a traditional diet, and the anxiety over loss of culture.

Scenario 2: Change in Resource Distribution or Hunters' Access - This scenario explores how various household characteristics may allow limited or ongoing harvesting in the event of changes in resource distribution (e.g., a change in caribou migration patterns) or a resource becoming less accessible (i.e., lowering of river levels or trail blockage because of forest fires). In this scenario we could expect that equipment and income would be important either to allow households to go farther or to access a resource in a different way. High-income households would have the resources (gear and money) to go farther and faster, whereas those same resources could be out of reach for low-income households. Having a diversity of gear types (boat with a propeller and jet options, and an all-terrain vehicle) would also enhance adaptive capacity. The number of hunters in a household may also be helpful in these cases, as harvesters could be more available to match with resource availability (versus being constrained when a household has one harvester who must work certain hours). Social relationships may offset this situation, however, if households without resources to purchase or update equipment can borrow equipment from others or travel with other households who own this equipment.

Scenario 3: An Increase in the Cost of Hunting - There are several variants of this scenario worthy of consideration. One is a dramatic increase in fuel costs at the pump, affecting the costs of traveling on the land to access important resources. Like the scenario described above, we can anticipate that households economically at the margin would be most dramatically affected, while households with higher cash availability might still have enough of an economic buffer to travel as needed. Again, social relationships (i.e., social capital) could potentially be an important source of adaptive capacity through sharing and cooperation (i.e., cooperative hunting or contributing in return for shares). Even cash-poor households could contribute money or gas to others who are active.

Scenario 4: Change in Employment - What is the consequence of the loss of a job or jobs by high harvesters or members of high harvesting households, or if unemployed households become employed? The household profiles illustrate that

there are individuals within households who are very productive harvesters, and who work full-time and manage their weekends and off-work periods to maximize hunting and fishing (High Income - High Harvest households; n = 10, 12, and 16 in Kaktovik, Wainwright, and Venetie, respectively). Likewise, there are households with individuals who do not work, but who are prolific hunters with great importance within local sharing and cooperation networks (n = 5, 10, and 4 households in Kaktovik, Wainwright, and Venetie, respectively). In either case, one may ask what happens if these individuals either become employed (losing time to be out on the land) or lose a job (losing economic resources they had available to do subsistence)? Because both these types of households are disproportionately important in terms of sharing food, equipment, etc., across households within communities, a change in their status may have ramifications beyond just their respective households. Respondents discussed this with researchers informally and described how experienced hunters made an effort to "train up" younger hunters so they could take over, and pointed out individuals who did not engage in subsistence when younger, only to become more involved with experience and maturity. There is a lack of longitudinal data that combines economic, subsistence and social information that could track such transitions.

The research of Magdanz et al. (2009) on salmon fishing in Teller, Alaska provides a glimpse into the potential flexibility of super-household status in villages. Using 10-year panel data, they found that the super-household role might more flexible than assumed. Households among the top tercile of salmon harvesters in one year moved between the middle and bottom terciles of harvesters in other years. An explanation is that different households in communities assume the super-household role over time.

Combining Scenarios—Harvest and Economic Changes

Combining scenarios provides a greater appreciation for how multiple exposures could ripple through households within a community. Figure 8.19 reproduces the adaptive capacity spider graphs for the example of Wainwright. A decline in employment or a decrease in availability of a particular resource might affect only a proportion of households within a village. However, given the structure of networks and the flows of food and contributions through these communities highlighted by this study, it is likely that the effects would be more widespread than just those initially impacted. For example, an ecological shock might negatively affect the success of high harvesting households (Figure 8.19 – blue box), but may have disproportionately negative community-wide effects on distribution as high harvesters redistribute more food on aggregate (blue arrows). There is less overall for successful hunters to redistribute. In contrast, the loss of employment opportunities – for example a downturn in high-paying borough employment - might strongly affect high income households (Figure 8.19 – red box). With fewer economic resources, high income HHs may be less able to contribute less to subsistence efforts of others (red arrows). In contrast, if food costs rise, these changes affect low income households disproportionately. Lower income households might be less able to contribute important subsistence resources to active hunters/fishers and the situation could place additional pressure on successful harvesters to share with those in need.

In short, these thought experiments suggest that households will be differentially affected by presses and pulses of change, based on the adaptive capacity conferred by assets available to them. We therefore suggest that households with more economic resources in combination with important productive, demographic, and social attributes are likely to be less vulnerable to change. Those without either economic or social connections (i.e., those at the edge of village social networks) may have very low adaptive capacity and in turn be more vulnerable.

Conclusion

Community resilience is a dynamic process that is extremely difficult to predict a priori, especially given the tremendous capacity for human agency—for people to re-organize, re-invent, and extend their social networks and economic and subsistence activities to new spheres when faced

with adversity and the need for survival. The data from this study illustrate considerable complexity within communities, but a strong dependence on subsistence resources. There would be considerable social and economic costs if key resources were no longer available. Study findings, however, present a single-year snapshot of conditions of households within these three communities. How will household attributes contribute or subtract from shortfalls at the community level? Can the mobilization of resources and efforts at collective action involving many community households result in innovative responses to these scenarios? What is the level of flexibility within communities to respond to the loss of important hunters and providers? While it is difficult to answer these questions, it is clear that persistence, resilience, and vulnerability at the household and community levels are related to a great degree to the role of social relationships, such as sharing and cooperation. That said, discussions with household heads suggested that while communities depend on high levels of social capital in subsistence, they are flexible and thus able to adapt to many emerging conditions, the combinations of exposures could present significant difficulties. Longitudinal testing of the validity of adaptive capacity indicators under cumulative conditions of change emerges here as a key area for future research.

Chapter 9 - Discussion and Conclusion

The Sharing Project applied social science research methods, including social network analysis, to document the subsistence-cash system of 3 Alaska rural communities, capturing sharing and cooperation with quantifiable measures. The study marks the first time that the magnitude of food flowing between households was documented, with measures based on literature of subsistence and ethnographically informed categories that represent subsistence household sharing and cooperation. The project generated an extensive and rich dataset on a number of aspects about communities—household demographics and types of employment, the cash sector of household economies, harvest—including level of engagement in household and cooperative hunting across multiple species, patterns and magnitudes of sharing, shares, and other forms of material and non-material exchange of subsistence resources, qualitative accounts of why community residents share, and measurements of household food security. The study is unique in that it documented 3 components of these mixed economies simultaneously—harvest, economic activities and the social relationships that commonly knit subsistence activities together in northern communities.

It's not surprising that the results of the study echo what local residents have articulated for years—that subsistence sharing and cooperation are extensive and actively practiced as elements of Alaska Native culture, and thus, reflect traditional values and an underlying indigenous worldview. In addition to the project's findings on sharing and cooperation, the study explored questions related to community vulnerability and resilience by examining the persistence of subsistence-cash economic activities through time, the degree of dependence on subsistence foods, levels of household food security, characteristics that reflect potential household-level vulnerabilities, and the relationships between household harvesting and total household inflows of subsistence foods and household income. These findings aid decision makers at all level to understand better how communities may respond to the future conditions of ecological, economic, climatic, social, and or cultural change.

Among the most important contributions of the project are that resource management agencies and local communities now have detailed and quantified data on subsistence patterns and cultural norms that represent a baseline against which future changes can be measured. These data can be used in NEPA assessments to avoid, mitigate, and evaluate impacts associated with oil and gas development. Resource management and other government agencies can also make use of the study's findings to assess the implications of possible disruption of subsistence resources and subsistence activities from multiple drivers of change (e.g., development with climate change) on various criteria of household well-being. Researchers can also draw on study findings to address important questions about the dynamics of community mixed economies and the vulnerabilities and resilience of these systems, and using empirically based evidence, begin the difficult process of identifying indicators of adaptive capacity at the community level.

In the sections below we provide a set of middle-rage propositions (Glaser and Strausss 1967) based on findings of the study, followed by general discussion, outstanding questions, and recommendations for future research. The discussion included here is not exhaustive. Entire volumes can be written about several sub-findings of study.

1. Meaningful partnerships with local communities are important in achieving research success.

The success of this project can be attributed, in large part, to the team's directed efforts at achieving a meaningful and high level of community participation in the study, which can be attributed to i) a long period of trust building (i.e., researchers' time in community) before the survey was administered; ii.) forming and working closely with Local Project Advisory Committees in each community that informed project decisions on design; iii.) having continuity in members of the research team who were interacting with local residents; iv.) local leaders who were outspoken about their support of the study and who encouraged residents to participate; v.) co-interviewing of household heads by select local residents with UAF graduate students; active and repeated communication of project results to various entities (i.e., to community leaders, community residents at large, co-management boards); and vi.) disseminating a series of "Community Reports of Sharing Project Findings" to individual households written in plain language, which made the study accessible to local residents. Consequently, the initial study preparation resulted in an extraordinarily high level of participation in the survey by household head respondents and thus, generated one of the best datasets on subsistence-cash economies for communities of Alaska.

It is noteworthy that in Kaktovik the research team consistently heard considerable concern about participation (more than in other communities), with expressions of fear that the project's results may be "used against the community." At the recommendation of the Local Project Advisor Committee we produced and distributing a short video about the study that sought to clarify project objectives, methods and potential benefits, made in collaboration with two local Harold Haveolook School students. The video included local leaders endorsing the study and a DVD copy of the video was distributed to all households before administering the survey. It was agreed beforehand the film was only for local viewing and thus, is not included with this report.

Two of the three successful Kaktovik whaling captains in fall of 2009 ultimately chose not to be interviewed, resulting in an incomplete picture of the community's whaling network. However, 80% of household heads did participate in the survey. It is impossible to know now, if and how the video increased the level of participation in the survey, however, anecdotal discussions with community members suggest that it did alleviate some community concerns. With humility we mention that in 2011 the Sharing Project and its community partners were honored to receive the Secretary of the Department of the Interior's "Partnerships in Conservation Award."

2. In small, naturally bounded populations, survey methods can quantify flows of food and key resources among households, providing a new quantitative social indicator of important social structures in communities over time.

Development of a method for successfully documenting the magnitude of flows of food and resources from subsistence sharing and cooperation within communities is a major contribution of this study, with the method significantly informed through ethnography. We found that household heads were capable of recalling inflows to their households with good detail, identifying both sources and quantities. Estimating pounds of food often required substantial "back of the envelope" calculations of reported quantities. The study's interview process put a greater burden on respondents, requiring additional time in interviews, with whaling captain interviews in some cases being several hours in duration. Documenting the magnitude of resource flows also extended to non-material contributions, such as loaning of equipment to a neighbor for a hunting trip or providing cash for gas in exchange for receiving shares of the harvest. These findings suggest that future studies can be replicated with good accuracy and comparability.

3. Social relations involving inter-household cooperation represent a significant portion of household inflows.

A major finding of the study is that between 67–75% of all food flowing between households in all three communities is the result of social relationships. Only approximately one-quarter of

documented subsistence food flowing into households in Kaktovik and Wainwright was based on household members' hunting/fishing/gathering of subsistence foods by themselves. In Venetie, own hunting constituted about one-third of all subsistence foods flowing to and between households within the village. While food sharing has received the majority of attention in the qualitative ethnographic literature and in popular and policy narratives around subsistence, other social relationships important within community networks are understudied and not well understood. This study documented significant sharing of food and non-food resources. However, cooperative harvesting was a particularly important mechanism of food flow across all villages and "shares for helping" also emerged as significant sources of food and other resources for households. Cooperative hunting in Kaktovik and Wainwright includes cooperative hunting for both non-whale species and bowhead and beluga whales (shown in Tables 7.5, and 7.13 as "Crew Shares, Towing Shares, and Captains' Shares" – an average of 2,309 lbs per 33 crew members in Kaktovik and 1,500 lbs per 53 crew members in Wainwright). From 3 harvested bowhead whales, 102,600 lbs flowed into Kaktovik households and an additional 18,800 from beluga. From 3 whales in Wainwright, ~132,300 lbs of bowhead was received and an additional 11,800 lbs of beluga.

Ethnographic accounts have previously noted the critical role of group cooperation in harvesting in pre-contact times, such as groups' pre-contact use of Inukshuks (i.e., human-made landmarks made of stone) by Iñupiat to direct animals to hunters (Burch 1972, Burch 1972) and fences by Gwich'in for capturing large numbers of caribou (Nelson 1973, Warbelow et al. 1975). Anthropologists have also suggested that the introduction of firearms and the repeating rifle in particular changed the social organization of hunting by making harvesting a more individualistic activity (e.g., Caulfield 1983). While that change did affect the size of the cooperative harvesting groups (e.g., fewer large communal hunts than in the past for species like caribou), the findings of this study show that the cultural practice of cooperative hunting persists across species in all three of the communities (Tables 7.6, 7.14 and 7.21). Why? Cooperative harvesting has many benefits, such as adding a social dimension to being out "on the land" with friends or kin, teaching younger hunters, increasing safety in case of accident (i.e., safety in numbers), additional labor when butchering and transporting large animals such as moose, and increasing the number of observers when looking for game. The formalized and highly structured whaling crews of Wainwright and Kaktovik represent classic examples of large-scale cooperation in subsistence. Crew relationships also extend beyond the harvest of bowhead to other subsistence species (e.g., ducks) to meet crew members' needs as well as for formal sharing events staged by the crews (e.g., Nalukatuk in both North Slope villages). Examples of cooperation also extend beyond hunting/fishing and gathering, to include labor exchanges (cooking, child care, etc.), subsistence food processing, gear lending/exchanges, and contributions of and trading for fuel and ammunition. Many speculate and even question to what extent cooperation remains a part of today's modern-day subsistence economy in Alaska Native rural villages. The findings from this study demonstrated that in many ways these communities continue to realize the ideals of cooperation that are a central tenet of their traditional culture. Cultural norms are not static and there have been changes over time in hunting techniques, technology and hunting patterns based on household employment patterns. However, results presented here suggest that the residents of these communities are making a conscious effort (i.e., exercising human agency) to maintain aspects of their traditional culture. The spectra of total assimilation into the dominant society predicted by researchers in the 1960s (e.g., (Chance and Trudeau 1963; Murphy and Steward 1956, Chabot 2003) has not occurred.

4. There are disparities in cash household income in each community, however, differences in household income were not systematically reflected in households' engagement and production of subsistence foods.

Findings show that income levels in communities are variable, and range from low to high (Figure 8.11). Average household income in Venetie was less than 50% that of Wainwright

and Kaktovik ($36,500 compared to $82,845 in Kaktovik and $91,191 in Wainwright). While various forms of non-employment cash income (i.e., state, village, and regional corporation dividends and social assistance) to households contribute to household income, employment income is the primary sources of cash for most households. Government-related employment in all three village economies represented the largest source of employment (55% in Wainwright, 61% in Kaktovik and Venetie), with high-paying jobs on the North Slope accounting for the difference between low household income levels in Venetie versus higher levels in the two Iñupiat communities.

Higher income at the household level typically translated into more and better equipment for subsistence, more funds for fuel, and potentially more resources to purchase store-bought foods both in the event of harvesting shortfalls and as a primary source of food for some households. This finding alone suggests a greater vulnerability for Venetie households where cash availability is more limited. Higher dependence on cash can also require greater adjustment if there is a change in employment. Employment income in all three villages is positively correlated with subsistence harvest and total inflows of food to households, although many correlations are not strong (Tables 6.43-6.48). We found that many households with moderate and high total incomes and levels of employment are engaged in subsistence activities in terms of hunting and processing. Similarly, many households who do not hunt actively still contribute to the hunting of others and help to process food and attend feasts. This pattern is clear across all three communities regardless of household income levels. In spite of low overall income, comparable numbers of Venetie households are engaged in subsistence activities. Food security goals, cultural norms and cultural identity emphasizing subsistence values are possible explanations as to why the pattern is found across all three communities.

Not captured in our data or the discussion here are levels of household financial support available to community members beyond the categories of transfer payments and employment. Key here are social and health services and subsidies for housing and fuel costs. These cash inputs are derived through government services and support, such as the at-the-pump fuel subsidies of the North Slope Borough.

5) Respondents' narratives about sharing indicate that households share with relatives and both share and "help" other households who are "in need."

Patterns of outflows indicate that a significant proportion of food does flow from households with high producers to households in lower-producing harvest terciles (Figure 8.10d-f), supporting the "need-based" giving of food and help to those with "less." This suggests that sharing serves a social welfare function for community well-being. Qualitative results support this narrative of giving. People reported many reasons for sharing, from spiritual and worldview rationales, including a "good feeling" that follows from giving, contributions to community cohesion, and tradition. Clearly there is no single stated rationale. Those "in need" were described as single mothers, households without hunters, and elders, who had "given to many over the years, so should receive now that they aren't active anymore."

Additionally, results indicate substantial food flows between high producers and medium producers and within producer categories (high to high producers, medium to medium producers). Some food flowed even between low producers and from low producers upward to medium and high producers. Low harvest households in Wainwright, Kaktovik, and Venetie, respectively, gave away 300%, 1,030%, and 850% percent above what they harvested themselves by weight, presumably because of food they had received from others and then redistributed or they were giving away food they had stored from the previous year. Bodenhorn (2000) articulated multiple narratives for giving and cooperation in the title of her seminal paper as "It's good to know who your relatives are, but we were taught to share with everybody." Qualitative results indicate that when hunting was poor, kinship relationships become important when deciding with whom to share. Some respondents stated that sharing declined when game was scarce, while others described sharing more widely when game was less available,

so that more people could "get a taste". Based on the findings of this study, we hypothesize that patterns of connectivity can be explained in additional detail by accounting for kinship relationships. Evidence from northwest Alaska ADFG studies have found similar results (Magdanz et al. 2002). No data on kinship relationships between households were gathered in this study and thus, further research will be needed to explore this hypothesis.

6) Women and men play different roles in the subsistence-cash economy of the three study communities.

While gender was not a primary focus of this study, results indicate that men and women engaged in subsistence activities differently across communities. Generally, men were named more frequently as the sources of food (Table 7.24 and 7.25 shaded areas) and the flows associated with food were greater for men in all communities. However, results show clearly that women were active in subsistence activities and responsible for between 29-38% of total ties by count across social relationships. They were particularly important for the flows of particular species between households, for instance beluga in Wainwright, berries in Venetie and Dolly varden in Kaktovik. Women accounted for between 37-46% of processing ties within respondent households.

7) Patterns of sharing and cooperation varied by the resource and type of interaction.

The social organization as shown by social networks underlying hunting and distribution patterns reflect the abundance of the resource per unit harvested, timing within a hunting season, geographic distribution of the resource by origin, the food's role in the subsistence diet, household preferences, the social organization of the hunt by communities, and other factors. Network graphs by resource and relation illustrate both the variability and similarities of distribution patterns across communities. For example, patterns of ties for caribou in Wainwright, Kaktovik and Venetie illustrate how important the species is by weight, but also socially. Caribou is generally harvested by partners or small groups of hunters. Total flow for caribou is highest for Venetie of all species and 2nd highest for Kaktovik and Wainwright after Bowhead (Tables 7.8, 7.16 and 7.23). Caribou ties were the most numerous in Kaktovik and Wainwright and second highest (after moose) in Venetie. Average degree per network node for caribou followed the same pattern. Caribou-based ties in the North Slope communities evidenced the highest density of all species across all social relationships (cooperative hunting, helper shares, sharing, processing, contributions, etc.). This contrasts sharply from patterns identified for beluga in Kaktovik and Wainwright. While beluga harvesting in both Wainwright and Kaktovik occurs based primarily on a community hunt, distribution patterns differ markedly. Wainwright distribution is undertaken from the beach at the community scale (i.e. a central star pattern). Successful Kaktovik beluga hunting groups, however, distribute directly from one of the hunters' homes. Households receive shares from individual hunters rather than from the community hunt. In contrast, Bearded seal relations in Kaktovik illustrate the role played by a limited set of high-producing households and sharing relations with Inuvialuit of the Western Canadian Arctic, many of whom have kinship relations with Kaktovik Inuvialuit (Chance 1990, Freeman et al. 1992). Bowhead distribution patterns are clearly differentiated from other resources in terms of the important role of crews in community-scale distribution of food through captain's feasts and *Nalukatuq* and the critical role that the wider community plays in contributing to the efforts of the whaling crew annually.

The sparse pattern of sharing money, which contrasts strongly with those found for subsistence resources, provides an interesting case of how the cash economy functions based on a set of parallel but potentially very different set of behavioral rules than does subsistence cooperation and sharing. Networks of cash relations are generally much less dense than those for food resources. Results here echo those of Magdanz (2011) and Collings (2011), suggesting that cash occupies a different meaning than food within the context of subsistence.

8) The diversity of cooperative and sharing patterns for different resources reflects a polycentric (i.e., not centralized or uniform in all cases) configuration of

subsistence behaviors that potentially contribute to the overall resilience of the system.

In their study of social institutions, Ostrom (2010) and others discussed the contributions of "polycentric institutions" to the resilience of a social-ecological system. Polycentric refers to a multi-dimensional, multi-level authority system of decision-making (i.e., not centralized). Applying that definition to networks of subsistence sharing as informal community institutions implies they function with no central authority and are instead an emergent behavior of people (i.e., households), often working independently as well as interdependently. The theory of polycentric institutions argues that this strategy of decision making is self-organized, and therefore more responsive to change. If we view each type of resource x social relationship network (e.g., caribou-sharing or cooperative moose-hunting) as characterized by a unique set of high producers, distributors, and receivers, the suite of networks in a community are theoretically capable of responding to a diverse set of conditions of resource availability. This description corresponds to the concept of network multiplexity in that most households are engaged with others through more than one kind of network. The idea of different sharing and cooperative networks as an assemblage of polycentric informal institutions is an idea worthy of further exploration. The logic here is that being connected to other households through multiple networks is better (i.e., is more stable or confers greater food security for households) than being connected through, few and sparse networks. These concepts contribute to a broader understanding of "connectivity" and its outcomes for households within mixed economies in the context of adapting to change.

9) The pattern of production to total inflow is similar to the prediction of Wolfe's (2009) "30:70 rule", although more skewed based on a smaller proportion of harvesters

This study extended Wolfe's "30:70 rule" on harvesting and redistribution to study harvest and inflow relationships between households and their roles within community subsistence production systems. In Wainwright, 30% of households accounted for 76% of the total inflow of food to households. In Kaktovik and Venetie, distributions were more skewed. Thirty percent of Kaktovik households accounted for 81% of the total inflow of food to households, while in Venetie, 30% of households accounted for 93% of total food flowing between HHs (Figure 8.6). Social relationships of sharing and shares were particularly important for households at the low end of the harvest distribution (Figures 8.7a, 8.7c and 8.7e). These patterns raise several questions with respect to community resilience and vulnerability. On the one hand, a small and core number of subsistence food producers suggests a persistent division of hunting effort in subsistence at the community level, leaving other households to engage in subsistence in other ways (processing, contributing, redistributing through sharing) (Figure 8.8), and be highly productive in the wage economy. Results indicate that even this level of production generates additional food that is redistributed. However, dependence on a small proportion of producers also sets up vulnerabilities. Would a dramatic decrease in the proportion of harvesting households seriously affect food production and ultimately households meeting their food needs? Should we assume this type of change would have implications to total redistribution? This change is plausible if there were a dramatic increase in kinds of employment for key hunters that limited time for hunting or a change in fuel prices affecting the ability of hunters to get out, or if there were a change in culture affecting motivation to hunt. Viewed from a more longitudinal perspective, these patterns of subsistence, sharing and cooperation raise the question whether the more recent findings of this study represent a greater polarization of hunting effort from those documented by Wolfe in the 1980s.

10) There was a positive relationship between high household harvest and outflow (i.e., giving) to others.

We calculated outflows from "source" households to other households in communities by summing pounds of food from gifting, helper shares, and trading. There is a positive relationship between hunting productivity across core species and outflows to other households, i.e. those who

hunt more give more (Figure 8.9 - $r^2 = 0.388$). This result does not include whaling as these activities are not undertaken individually. However, there is substantial variability in this relationship. Not all highly productive households are the source of significant outflows (Figures 8.10a–c). Some households that hunt or fish little on their own remain the source of significant food given to others based on redistribution of food they received. One clear subgroup with negligible harvest, few ties, receiving or giving of food were a majority of non-Native teachers in the study communities.

Results support the suggestion made by Wolfe and Walker (1987) that at the community scale, super-households (i.e., households with high levels of hunting productivity) would also act as super-providers. But again, the study documented substantial variability in the directionality of giving (Figure 8.10d–f).

We examined a set of predictors to see which ones best explained household outflows (in pounds). Independent variables considered included harvest (lbs), age of household head, number of hunters in households, income and household dependency ratio. Household hunting productivity in pounds was the strongest predictor of giving across all communities (Wainwright, ß = 0.30; Kaktovik ß = 0.51; and Venetie, ß= 0.32; $p < .01$), while age was a significant positive predictor of giving in Kaktovik and Venetie (Kaktovik ß = 4.5; and Venetie, ß= 2.1; $p < .05$).

11) Households across the 3 communities were highly connected, but super households play a key role in distribution.

While the three communities studied all evidence households strongly connected in networks, a range of network metrics (i.e., degree distribution, level of reciprocity, modularity) shows that some households are more connected and important within networks than others. There are few outliers and separated components within villages although clearly, some households remain at the edge of community networks. Some highly connected households conform to Wolfe's (1987) description of "super-hunting households." However, households other than super-households also lie at the center of community networks based on their overall connectedness (i.e. combined indegree and outdegree ties).

Inflow distributions demonstrate the expected skewed shape within villages (30:70 rule) and suggest that in Kaktovik and Venetie, there is even stronger dependence on fewer key hunters. The analysis discussed in Chapter 8 and point #9 above illustrate that if conditions change such that key individuals are less able to successfully hunt or share/redistribute subsistence foods. Longitudinal data presented in Chapter 8 illustrate that communities have been able to adapt to a variety of social and economic changes. Past adaptations, however, do not guarantee adaptation in the future.

Although results presented in this study provide important clues to existing structures and patterns of sharing and cooperation, a weakness associated with the data is that results represent sharing and cooperation relationships for only one point in time. While results indicate the characteristics of households that share and cooperate significantly and hunt productively, they do not indicate conclusively how these households would respond to potential perturbations; including higher prices, conditions of resource scarcity, or greater opportunities for employment. In other words, we are left to ask how flexible are these documented sharing and cooperative networks? When one super-household hunts less, does another step in and fulfill their role within a community? Without longitudinal data there are serious limitations associated with answering this question with any certainty.

Magdanz et al. (2009) explored the super-household phenomenon with 10-year panel data of household salmon harvests for multiple Alaska villages, and found that the super-household role might be more flexible than assumed. Households among the top tercile of salmon harvesters in one year fell to the middle or bottom terciles of harvesters in other years. Likewise, households in the middle tercile occupied top-producer status in other years. An explanation is that different households in communities may assume the super-household role over time. Nonetheless, mixed livelihoods in communities have exhibited

considerable stability, which intuitively implies some flexibility in hunting and provider roles through time at the household level. However, the sources of that stability cannot be discerned from single species harvest data alone, or from one year of comprehensive harvest data, or from the economic attributes of individuals and households. This finding represents a challenge in thinking forward about what results in this study imply for household vulnerability and resilience. There may be some built-in social flexibility in communities to respond to changing household circumstances that dictate hunting productivity (i.e., job opportunities, sickness or injury, age limitations, etc.), but less flexibility to respond to ecological changes through distributive mechanisms of cooperation and sharing affect both hunters and receiving households alike. Thus, the ability of households and communities to respond to change in resource availability remains a key question to answer in arctic research.

12) Households both gave and received subsistence foods through networks that extend beyond the home community.

The structure of the survey instrument focused attention on village households as receivers. Using this approach, networks of both receivers and givers within villages were constructed. However, one page at the end of the survey also documented "giving" by Kaktovik and Wainwright households to other households outside of their communities. The specific question posed was:

> In most of this survey, we have asked how your household got your traditional foods. On this page, we ask the opposite question, with much less detail. During the last 12 months, did anyone in your household GIVE traditional foods or provide equipment, or other help to someone in [study community name] or ANOTHER community? (Emphasis original).

Results from this question were not species-specific as gifting responses were aggregated into four categories (marine mammals, fish, game, and equipment) and no magnitudes were reported associated with this gifting data (Figures 7.40 and 7.40).

Results indicate that households give subsistence food and minimal equipment widely beyond village boundaries. Respondent households reported 1,572 total instances of gifting, across all species groups to households in other Alaska communities and towns. Of the 1,572 total gifting reports, 69 reports (4.4%) were for gifts to people who did not live in Alaska, and 42 of those reports (3%) were to people who lived in Inuvialuit communities just across the border in Canada.

- Alaska 1,503 ties (96%)
- Other States 24 ties (2%)
- Canada 42 ties (3%)
- Norway 2 ties (0.1%)
- U.K. 1 tie (0.1%)

All but three of the international gifting cases were gifts to residents of Aklavik and Inuvik, Northwest Territories from residents of Kaktovik. The remaining gifts to international persons occurred face to face with individuals present at the time in Kaktovik and Wainwright. To consider these cases of gifting in the context of ALL sharing data from our study, we can combine data from the gifting question above with all other reported inflows and outflows ("sharing"). There was a total of 12,061 ties or flows from individual sources received by households or individuals. For the project as a whole, 99.43% of all reported ties and flows were within Alaska. This sharing occurred in a culture where working together and sharing traditional food are foundational values.

13) Subsistence has persisted in spite of residents' greater engagement in the cash sector of the economy.

Perhaps one of the most telling sources of evidence of social resilience is the persistence of behavior and system elements through time (Chapin et al. 2009). There has been considerable debate and speculation about the long-term persistence (and degradation) of subsistence activities in rural Alaska communities since engagement in the market economy. A comparative analysis of past household data for North Slope communities of Kaktovik and Wainwright, along with findings from this study, show that subsistence systems

in these three villages persist in spite of households' continued and increased engagement in the cash sector of the economy. Currently there is concern regarding the implications of oil and gas development in combination with climate change as a likely future for the region (BurnSilver et al submitted). Assessing the vulnerability of households and communities in this scenario is not a simple task. As is often the case, projecting future conditions requires that assumptions be made, meaningful indicators or variables of change be identified, and key relationships capturing system dynamics be established and applied. This study, while providing rich and detailed findings about the subsistence-cash economy of community households in three villages, is limited in what can be said about responses to future conditions. One aspect of that limitation is that little is known about the dynamics of sharing and cooperation in times of resource scarcity or with landscape and seascape change, as noted above. As well, human agency adds more complexity to the question of emergent responses. In spite of these deficiencies and limitations, there are dimensions of community and household vulnerability that were explored in this study. (See Chapter 8.) In spite of these uncertainties, it is evident from the findings in this study that sharing and cooperation are elements of an active and historically resilient subsistent-cash economy, providing many households with a level of food security that would not be available otherwise.

14) There was significant household food insecurity across the range of household types in all three communities, as measured by the USDA food security instrument protocol, which raises considerable concern and several questions.

We were surprised to find that households of all three communities reported high food insecurity (Kaktovik 45%; Wainwright 43%; Venetie 35%), results which are similar to food security studies undertaken in the Canadian Arctic (Academies 2014). Interestingly, correlations between household scale characteristics and level of food security were found. Despite high inflows, some households reported food insecurity, suggesting that the insecurity may be seasonal, or respondents perceived food as potentially insecure. However, the USDA questions are about actual behavior (e.g., did you miss meals or go hungry) and not perceptions. If the measures are correct, the findings suggest that a total decrease in subsistence food inflows at the village level would have implications for a significant portion of the community's households. More research in both the methods and findings related to household and community food security are needed.

15) Households heterogeneity translates into different levels of household and community adaptive capacity.

Many arctic studies describe community vulnerability based on coarse or non-existing household-level data. Our results indicated significant heterogeneity in the combinations of economic, socioeconomic and productive circumstances characterizing households across all three communities (see #4 above), and indicates that this tendency to portray community vulnerability as "monolithic" or homogeneous is highly problematic. The adaptive capacity of households in the communities studied here is dependent on the combination of abilities, economic capital and social relationships available to them. Scaling-up from household to community vulnerability may be additionally dependent on additional community-scale variables not focused on here, such as community leadership

The findings of this study illustrate that household diversity within communities in terms of productive and demographic characteristics, social relationships (diversity, strength and magnitude) and economic activities matter to vulnerability. The broader vulnerability literature suggests that diversity in household characteristics can translate into different sensitivities and adaptive capacity, and therefore heterogeneous outcomes as households encounter opportunities and constraints. Therefore, profiles of communities as homogeneously "resilient" or "vulnerable" archetypes are problematic. At the least, these analyses should carefully distinguish potential outcomes across the range of household variability whenever possible. This study's categorization of households by 9 income and harvest groups suggests, for example, that some

households are more vulnerable than others under different conditions of change (i.e., low-income, unconnected, and low-harvest households are more vulnerable to high food and fuel prices than high-income, connected, and high-harvest households). These measures serve as a starting point for much-needed empirically testing the sensitivity of indicator of household adaptive capacity. Questions regarding sharing and cooperation (i.e., collective action) under future conditions, however, are difficult to assess, especially given the one-time nature of our data (see #11 above). The consequence of households experiencing stress that affects access to subsistence foods could result in significant food insecurity, out-migration of certain members of the community population, and other forms of social disruption. This finding suggests that policy makers should be vigilant in decisions that could negative affect the flow subsistence foods.

Recommendations and outstanding questions for future research

While this study presents many conclusive findings, the assessment of vulnerability and resilience of northern communities to oil and gas development, climate change, and economic change are best characterized as exploratory. While findings show that the 3 communities have a high dependence on subsistence foods, that sharing and cooperation among household members contribute significantly to community well-being, and disruption of the subsistence system would potentially have a negative effect, knowledge of specific responses to future conditions is not well understood.

To advance the study of subsistence sharing and to assess the potential implications of social-ecological changes on subsistence, additional research is needed. First, research is needed to explore alternative methodologies for capturing community-level sharing that do not require a census interviewing of all community household heads. To arrive at such methods would require experimentation and careful statistical analysis. From our experience with this study, further investigations are worth the effort, particularly given the current problem of respondent burnout and the high cost of research. Second, there is a need to repeat a similar research protocol during several seasons for comparable results, especially when harvesting and/or economic conditions differ. The flexibility to conduct research in a year when there is fewer caribou or a limited number of whales harvested would likely advance our understanding of the ways households respond to varying conditions and the variability characterizing dynamics of sharing and cooperation. This area of research may also identify how resource shortfalls manifest at the household level and what resources are needed to assist communities as a whole and highly vulnerable households in particular under conditions of hardship. Third, the study's findings on food security (i.e. high levels of food insecurity) raise questions about the method for the assessment. Follow-up questions and perhaps food recall studies paired with the food security survey of this study may test its validity and reliability. Four, in spite of findings that subsistence systems have persisted for decades in combination with a cash economy, questions regarding future culture change should not be ignored. Past persistence cannot be used to assume future resilience. How then will the subsistence sector respond to greater infusions of cash? While addressing this line of questioning is important, it is equally important that it be addressed without assumptions of inevitable decline. We should not be surprised to find that the subsistence sector increases as more cash finds its way to villages through new oil and gas development. Finally, it is also important to consider scenarios in which North Slope oil and gas production decline to very low levels and thus affect employment, social services, and fuel subsidies. How would communities and households respond to significant reductions in services and subsidies if these lead to a reduced access to commodity goods? These are some of the questions that are worthy of study and build on the results of this project, contribute to the policy process, and advance understanding of social-ecological system dynamics in northern Alaska.

Conclusion

Alaskan Natives of the North Slope and interior Alaska have maintained traditional practices of extensive sharing and cooperation in subsistence. Practices are underpinned by a worldview

and cosmology of respect through reciprocity in human-environment and human-human relationships. This study successfully quantified how that worldview manifests among households within 3 Alaskan Native communities as sharing and cooperation. Today community residents of Kaktovik, Wainwright, and Venetie can rightfully take pride in the extent to which their cultural traditions persist and provide for the well-being of others. In this way, sharing and cooperation in subsistence connects households together into networks and is a measurable form of community resilience. Evidence from this study also demonstrates that while some households of communities are more vulnerable than others, communities as a whole are also vulnerable to particular kinds of change. Policy makers are advised to take notice and maintain, and where possible, strengthen the community attributes that support sharing and cooperation, while at the same time being mindful of the level of risk and potential harm of some policy decisions. The study concludes by recommending more studies on community and household resilience and vulnerability, using strong empirically based analyses, which lead to a better understanding of the consequence of future actions. As demonstrated by this study, it is imperative that such studies be undertaken in strong collaboration with study communities to ensure the best possible research results and to appropriately learn with and from the subjects of the research.

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Appendix I - Survey Instruments

Appendix II - Conversion Table

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APPENDIX I

The Survey Instrument

THE SHARING PROJECT SURVEY
KAKTOVIK, ALASKA

COOPERATING ORGANIZATIONS

NATIVE VILLAGE OF KAKTOVIK
PO BOX 42
KAKTOVIK, AK 99747

907-640-2042

SCHOOL OF NATURAL RESOURCES & AGRICULTURAL SCIENCES
UNIVERSITY OF ALASKA - FAIRBANKS
BOX 75700
FAIRBANKS, AK 99775

907-474-7078

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

800-478-3420

ENVIRONMENTAL STUDIES SECTION
BUREAU OF OCEAN ENERGY MANAGEMENT, REGULATION AND ENFORCEMENT
3801 CENTERPOINT DRIVE, SUITE 500
ANCHORAGE, AK 99503-5202

907-334-5283

For more information about the project, contact Gary Kofinas
School of Natural Resources & Agricultural Sciences, UAF
(907) 474-7078, gpkofinas@alaska.edu

OMB Control # 1010-0184
Expiration Date: 09-30-2013

HOUSEHOLD ID:		
COMMUNITY ID:	**KAKTOVIK**	**177**
RESPONDENT ID:		
INTERVIEWER:		
INTERVIEW DATE:		
START TIME:		
STOP TIME:		
DATA CHECKED BY:		
DATA CODED BY:		
DATA ENTERED BY:		
SUPERVISOR:		

Consent Form

Study of Sharing to Assess Community Resilience

Identify who is the "head" or "heads" of the household. Give copy of one-page summary about the project to respondent. Read or summarize to person/people to be interviewed.

The University of Alaska Fairbanks and the Native Village of Kaktovik are partnering in a project on sharing relationships that are part of the mixed economy of the North Slope and Interior Alaska. The project is funded by BOEMRE (The Bureau of Ocean Environment Management, Regulation and Enforcement). As a part of the project, I would like to interview you about the ways your household is supported economically and the ways traditional foods come into your household.

Many studies have tried to document the harvest of wild foods, but they have not accounted for the sharing that helps to support families in village Alaska. This project is different. Similar to other projects, we would like to ask how much wild food your household harvested last year, who lived in your household, and what kind of jobs and income your family members had last year. But we would also like to ask you about the ways that traditional foods came into your household – either through sharing, cooperative hunting, exchanges of equipment, gifting, or other forms of help. We are documenting sharing to understand how households manage for environmental and economic changes, such as oil and gas development and climate change. Having this information now will help Kaktovik document the effects of these changes in the future.

This project involves the villages of Wainwright, Kaktovik and Venetie. It is our goal to interview the heads of every household in all three villages.

We expect that the interview will take about 1 to 1 1/2 hours to complete. As a thank you for your time, we would like to give you $50 per hour of interviewing time, up to a maximum of $100.

Your participation is completely voluntary. You may choose to not answer certain questions. Your name will remain anonymous. We will not put your name or the name and location of any households in our reports. If you would like to complete this interview in your own language, we will arrange to have a translator join us. Please do not hesitate to ask questions or clarification at any time during the interview. Once the survey is completed, the connection between respondents and responses will be destroyed.

All the information from the project will be returned to the Native Village of Kaktovik for its review before the information is released as a report. A summary about the project will be made available to residents of each village through posters, reports, and public meetings. A copy of the summary report will be mailed to you. As well, we will use the information from our study to write papers to be presented at conferences or written for professional journals.

To summarize:

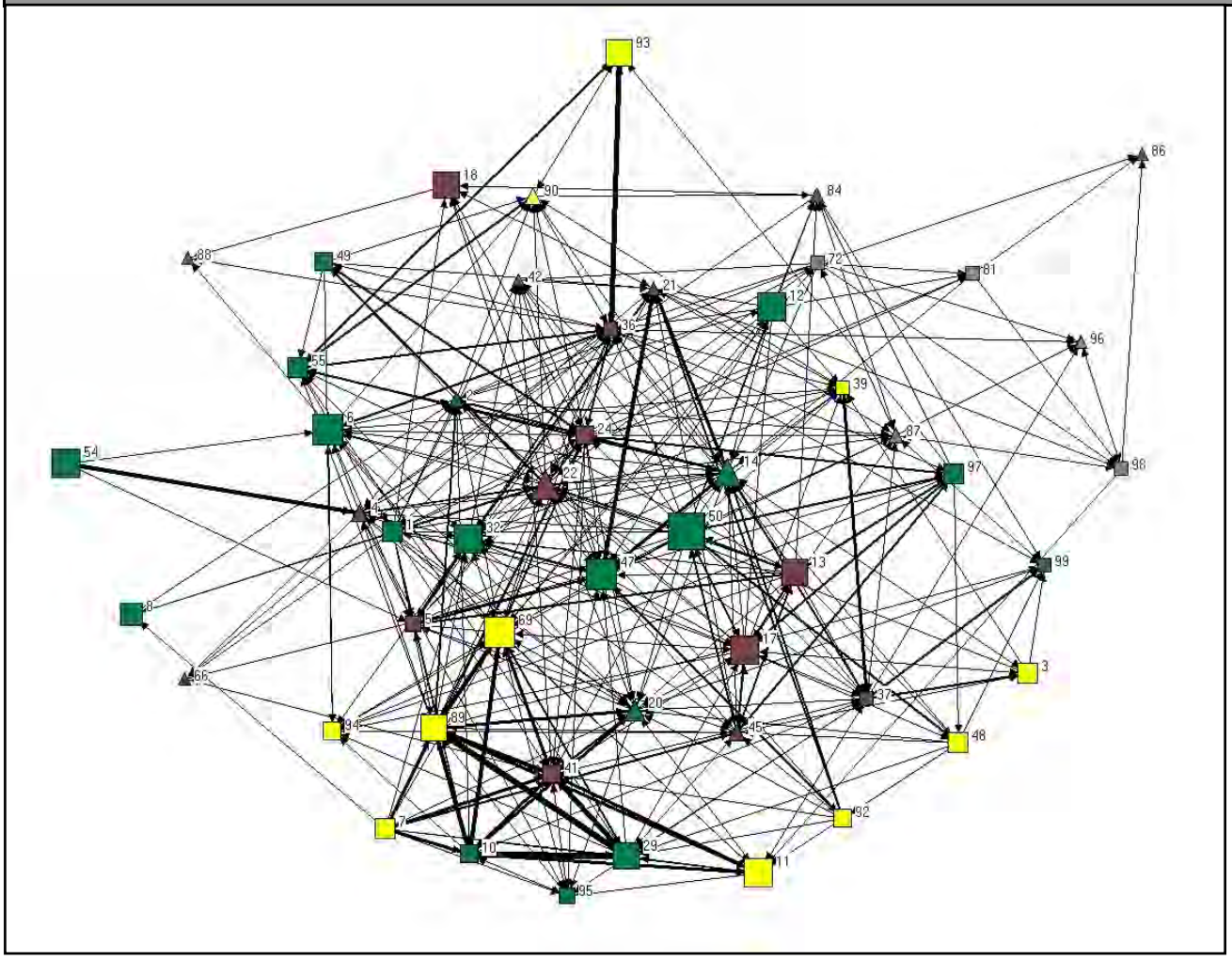
- Participation in the interview and parts of the interview is voluntary and anonymity will be maintained.
- Your name will not appear on the survey.
- Neither your name nor the name of anyone else will appear in any reports or papers.
- The Native Village of Kaktovik will review the final report before it is released.
- Results from interviews will be summarized, returned to the communities, and distributed for discussion.
- A copy of the summary report will be mailed to you.

►**Are you willing to be interviewed?** ..... ☐Yes ☐No

If NO, stop interview. If YES, continue and read the following example.

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of subsistence issues in Alaska communities and how they relate to future oil and gas drilling. Responses are voluntary. Proprietary data are covered under FOIA. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB Control Number. Public reporting for this study, is estimated to average 1.5 hours per response. This includes the time for reviewing instructions and answering the questions. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 5438, Minerals Management Service, 1849 C Street, N.W., Washington D.C. 20240

THANK YOU!



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. Many of the elder households (brown boxes) and 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 helped with your household bills?

Your answers to these questions help us describe sharing and cooperation, important parts of life in Kaktovik. 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 anonymity, this sheet will be removed from the survey.

HOUSEHOLD (HH) MEMBERS

HH ID

First, I would like to ask about the people in your HH. By this, I mean the people who sleep at your house and are permanent members of your family. This includes college or high school students who return home every summer. I am NOT interested in people who lived with you temporarily, even if they stayed several months. I will not ask questions about them in the rest of the survey.

During the last 12 MONTHS,
WHO lived in this HH?

									If NOT here since birth…		
	Person Code	Is this person answering questions on this survey?	How is this person related to HEAD 1?	Is this person MALE or FEMALE?	Is this person Alaska Native?	How old is this person?	Last grade completed in school?	Lived in this village since birth?	Where is this person's birth home?	When did this person move here?	From where did this person move?
ID#	*00000*	*circle*	*relation*	*circle*	*circle*	*age*	*grade*	*circle*	*community*	*year*	*community*
HEAD		Y N		M F	Y N			Y N			
01											
Next, enter spouse or partner. If HH has a SINGLE HEAD, leave next row BLANK.											
HEAD		Y N		M F	Y N			Y N			
02											
Below, enter children first (oldest to youngest), then grandchildren, grandparents, brothers, sisters, and other HH members.											
03		Y N		M F	Y N			Y N			
04		Y N		M F	Y N			Y N			
05		Y N		M F	Y N			Y N			
06		Y N		M F	Y N			Y N			
07		Y N		M F	Y N			Y N			
08		Y N		M F	Y N			Y N			
09		Y N		M F	Y N			Y N			
10		Y N		M F	Y N			Y N			
11		Y N		M F	Y N			Y N			
12		Y N		M F	Y N			Y N			
13		Y N		M F	Y N			Y N			
14		Y N		M F	Y N			Y N			
15		Y N		M F	Y N			Y N			
16		Y N		M F	Y N			Y N			
17		Y N		M F	Y N			Y N			

DEMOGRAPHICS **SHARING SURVEY: 177**

DIVIDEND INCOME

THIS PAGE IS ONLY FOR DIVIDEND INCOME

HH ID

Next, I have some questions about your HH's income and expenses.
During the last 12 MONTHS, did any members of your HH receive a dividend
from the Alaska PERMANENT FUND, from a REGIONAL or VILLAGE Native Corporation, or from other investments?..... Y N (Circle)

IF NO, go to the next page.

If YES, continue below…

			2010 PFD* $1,281 / PERSON		2009-10 ASRC** $5,439 / 100 SHRS	KIC $ / 100 SHRS		
		Person Code	Did this person receive a FULL Alaska PFD in 2010?	IF NO…. how much was this person's Alaska PFD in 2010?	In 2009, how much DIVIDEND income did this person receive from…			
		Use same code as *previous page			Alaska Native REGIONAL Corporations?	Alaska Native VILLAGE Corporations?	Other Dividend Income (Stocks, Bonds)	Comments?
order	*role*	*00000*	*circle*	*dollars*	*dollars*	*dollars*	*dollars*	*enter text*
	HEAD 01 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
1	6 910000000							
	Next, enter dividend income for spouse or partner. If HH has a SINGLE HEAD, leave next row BLANK.							
	HEAD 02 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
2	6 910000000							
	Below, enter dividend income for the rest of the HH in the same order as the previous page.							
	PERSON 03 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
3	6 910000000							
	PERSON 04 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
4	6 910000000							
	PERSON 05 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
5	6 910000000							
	PERSON 06 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
6	6 910000000							
	PERSON 07 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
7	6 910000000							
	PERSON 08 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
8	6 910000000							
	PERSON 09 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
9	6 910000000							
	PERSON 10 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
10	6 910000000							
	PERSON 11 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
11	6 910000000							
	PERSON 12 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
12	6 910000000							
	PERSON 13 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
13	6 910000000							
	PERSON 14 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
14	6 910000000							
	PERSON 15 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
15	6 910000000							
	PERSON 16 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
16	6 910000000							
	PERSON 17 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
17	6 910000000							

* PFD is Permanent Fund Dividend; **ANRC is Alaska Native Regional Corporation; ***ANVC is Alaska Native Village Corporation

NETWORK: 67 COMPOSITE SHARING SURVEY: 0

JOBS — FOR EACH PERSON IN THE HH, 16 YEARS OLD AND OLDER — HH ID

This page asks about jobs and income. 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 their hunting/fishing/gathering activities.

During the last 12 MONTHS,
did any members of your HH earn money from a JOB or from SELF EMPLOYMENT?..... Y N (Circle)

For each member of this HH born before 1994, please list EACH JOB held during the last 12 months. For HH members who did not have a job, write: RETIRED, UNEMPLOYED, STUDENT, HOMEMAKER, etc. There should be ONE ROW FOR EACH JOB held by a member of this HH born before 1994. There should be AT LEAST one row for each member of this HH born before 1994 (this includes anyone who is 16 years old or older).

			Person Code	What kind of work did he or she do in this job?	For whom did he or she work in this job?	In the past year, what months did he or she work in this job?	WORK SCHEDULE... FULL TIME	PART TIME	SHIFT - FULL TIME	ON-CALL, VARIES	SHIFT - PART TIME	In the past year how much did he or she earn in this job?
order	role	res.	00000	job title	employer	circle each month worked	circle one					gross income
		1ST JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
1	6	910100000										
		2ND JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
2	6	910100000										
		3RD JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
3	6	910100000										
		4TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
4	6	910100000										
		5TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
5	6	910100000										
		6TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
6	6	910100000										
		7TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
7	6	910100000										
		8TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
8	6	910100000										
		9TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
9	6	910100000										
		10TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
10	6	910100000										
		11TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
11	6	910100000										
		12TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
12	6	910100000										

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, SEWING, or CARVING 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
0 - Unemployed

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

EMPLOYMENT: 23 **SHARING SURVEY: 177**

OTHER INCOME

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

HH ID

During the last 12 MONTHS, did any member of your HH receive any kind of OTHER INCOME,
such as UNEMPLOYMENT, ...SOCIAL SECURITY , or ...CHILD SUPPORT?..... Y N (Circle)

IF NO, go to the next page.

If YES, continue on this page…

During the last 12 MONTHS, how much did YOUR HH receive from…

				HH ASSISTANCE PROGRAMS													
				...Energy Assistance		…CITCO		….Weather-ization		WIC*		Food Stamps					
OTHER INCOME RECEIVED BY ENTIRE HH				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
1	6	910000000		9		34		11									

During the last 12 MONTHS, how much did ELDERS in your HH receive from…

				ELDER ASSISTANCE PROGRAMS													
order | role | res.			Person Code	...Social Security		...Pensions & Retirement		...Senior Care (Longevity)									
1ST ELDER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
1	6	910000000		7		5		6									
2ND ELDER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
2	6	910000000		7		5		6									
3RD ELDER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
3	6	910000000		7		5		6									
4TH ELDER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
4	6	910000000		7		5		6									

During the last 12 MONTHS, how much did OTHER MEMBERS of your HH receive from…

				JOB PROGRAMS				CHILD PROGRAMS **						PUBLIC ASSISTANCE			
order | role | res.			Person Code	Unemployment		...Workers' Compensation		...Supplemental Security		...Foster Care		...Child Support		...Adullt Public Assistance		...Temporary Assistance	
1ST OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
1	6	910000000		12		8		10		41		15		3		52	
2ND OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
2	6	910000000		12		8		10		41		15		3		52	
3RD OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
3	6	910000000		12		8		10		41		15		3		52	
4TH OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
4	6	910000000		12		8		10		41		15		3		52	
5TH OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
5	6	910000000		12		8		10		41		15		3		52	
6TH OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
6	6	910000000		12		8		10		41		15		3		52	
7TH OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
7	6	910000000		12		8		10		41		15		3		52	
8TH OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
8	6	910000000		12		8		10		41		15		3		52	

**WIC is The Special Supplemental Nutrition Program for Women, Infants, and Children; ** Children's programs like foster care and child support are considered as parent or guardian income, not child income.*

NOTE: IF a respondent gives you MONTHLY income, calculate ANNUAL INCOME. This is (monthly amount) x (months received) = (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.

NETWORK: 67 **SHARING SURVEY: 177**

MONTHLY HOUSEHOLD EXPENSES

HH ID

We've heard from many people that it is VERY expensive to live in Wainwright. This page tries to capture how much your HH is spending on basic bil
I'm going to read a list of typical HH costs. Please tell me HOW MUCH your HH usually spent on each bill in a MONTH last year.

GAS	HOUSING	HEATING FUELS			UTILITIES				GROCERIES
Boat, 4x4, Truck, Snowgo	Rent or Mortagage?	Fuel Oil in Summer?	Fuel Oil in Winter?	Propane	Electricity	Water & Sewer?	Phone Internet?	Cable Television?	Groceries?
$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo

During the last 12 months, WHO from OUTSIDE your HH contributed to paying your HH's bills? Include anyone who helped even one time.

		Person Code	In a TYPICAL MONTH, how much did this person contribute to YOUR HH'S expenses for…				
			…GAS / HOUSING	…HEATING FUELS	…UTILITIES	…GROCERIES	Comments?
order, res. & role		*00000*	*$*	*$*	*$*	*$*	*enter text*
	1ST CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
1	6 910000000						
	2ND CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
2	6 910000000						
	3RD CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
3	6 910000000						
	4TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
4	6 910000000						
	5TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
5	6 910000000						
	6TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
6	6 910000000						
	7TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
7	6 910000000						
	8TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
8	6 910000000						
	9TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
9	6 910000000						
	10TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
10	6 910000000						
	11TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
11	6 910000000						
	12TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
12	6 910000000						

NOTES	HH ID	

COMMENTS: 30	SHARING SURVEY: 177

EQUIPMENT

HH ID

During the last 12 MONTHS,
did members of your HH use equipment like boats,*snowmachines (snowmobiles),
or freezers to harvest or transport or store traditional foods?..... Y N (Circle)

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

I am going to read a list of some equipment and supplies that people use in Wainwright. Please tell me if someone in your HH OWNED or USED this equipment in the last 12 months. For equipment that your HH owned, I would like to know how much your HH spent in the last 12 months to buy, repair, and supply this equipment.

			For each equipment type OWNED by this household in 2010, ask…			
			PURCHASES		REPAIRS	
	…. did your HH use _____?	Over 12 mos. how many _____ did your HH own?	… how many did your HH buy?	… how much did your HH spend TO BUY _____?	… how much did your HH spend TO REPAIR _____?	Comments
	circle	*number*	*number*	*dollars*	*dollars*	*enter text*
BOAT(S)	Y N			$ / Yr	$ / Yr	
980110000						
OUTBOARD MOTOR(S)	Y N			$ / Yr	$ / Yr	
980120000						
SNOWMACHINE(S)	Y N			$ / Yr	$ / Yr	
980210100						
ATV(S), 4-WHEELER(S)	Y N			$ / Yr	$ / Yr	
980210200						
FREEZER(S)	Y N			$ / Yr	$ / Yr	
980600100						
TRUCK(S)	Y N			$ / Yr	$ / Yr	
980220100						
				$ / Yr	$ / Yr	
SUBSISTENCE SUPPLIES				$ / Yr		
950000000						

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

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

SUBSISTENCE SUPPLIES include:
ammunition, nets, hunting and fishing clothes, buckets, tubs, camp supplies, etc.

*Local terminology for "snowmobile" is "snowmachine". The term "snowmachine" is used throughout the rest of the survey instrument.

NETWORK: 67 **SHARING SURVEY: 177**

EQUIPMENT SOURCES

HH ID

If HH did NOT use equipment for to hunt/fish/gather/process traditional food, skip to the next page.

If HH DID use equipment for to hunt/fish/gather/process traditional foods, continue on this page…

	During the last 12 months…							During the last 12 months…	
	..What other HHs lent your HH equipment for hunting or fishing?	…WHAT equipment did this person provide for your HH's use?						*NOTE: This list is for people OUTSIDE your own HH*	Who are the pple from other HHs who repaired the equipment your HH used to hunt/fish/gather?
		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK	OTHER		
order | role | res.	*00000*	*circle ALL that apply*						*order | role | res.*	*00000*
1ST EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		1ST REPAIR SOURCE	
1 9								1 7	
2ND EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		2ND REPAIR SOURCE	
2 9								2 7	
3RD EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		3RD REPAIR SOURCE	
3 9								3 7	
4TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		4TH REPAIR SOURCE	
4 9								4 7	
5TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		5TH REPAIR SOURCE	
5 9								5 7	
6TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		6TH REPAIR SOURCE	
6 9								6 7	
7TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		7TH REPAIR SOURCE	
7 9								7 7	
8TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		8TH REPAIR SOURCE	
8 9								8 7	
9TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		9TH REPAIR SOURCE	
9 9								9 7	
10TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		10TH REPAIR SOURCE	
10 9								10 7	
11TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		11TH REPAIR SOURCE	
11 9								11 7	
12TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		12TH REPAIR SOURCE	
12 9								12 7	
13TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE		CAR OR TRUCK		13TH REPAIR SOURCE	
13 9								13 7	
14TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		14TH REPAIR SOURCE	
14 9								14 7	
15TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		15TH REPAIR SOURCE	
15 9								15 7	
16TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK		16TH REPAIR SOURCE	
16 9								16 7	

NETWORK: 67 **SHARING SURVEY: 177**

NOTES	HH ID

COMMENTS: 30	SHARING SURVEY: 177

The next section asks about subsistence foods.

For most foods, we will briefly ask how much your HH got last year between May 1, 2010 and April 30, 2011.

But for seven important foods, we will ask about the different ways those foods came into your HH, for example; through 1) your own HH hunting, 2) hunting with others, 3) your contributions to the hunting of other HHs, and 4) sharing or trading.

The foods we will ask about are:

CARIBOU
DALL SHEEP
GEESE
ARCTIC CHAR
BELUGA WHALE
BOWHEAD WHALE
BEARDED SEAL

CARIBOU SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

In the last 12 months, did members of your household:

	circle one	
Use Caribou (eat, sew, carve)?	Y	N
Receive Caribou?	Y	N
Give Caribou away?	Y	N
Try to harvest Caribou?	Y	N

Now we'll begin to go through the different ways that caribou might have come into your HH…During the last 12 MONTHS, did anyone in your HH kill any CARIBOU while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many caribou EACH MEMBER OF THEIR HH HARVESTED during the last 12 months. INCLUDE caribou the HH members gave away, even if they gave it away without bringing it home. Include caribou the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HHonly										
Who in your HH killed CARIBOU last year?		How many CARIBOU did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	***specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 211000000									
2ND HUNTER IN THIS HOUSE									
2 1 211000000									
3RD HUNTER IN THIS HOUSE									
3 1 211000000									
4TH HUNTER IN THIS HOUSE									
4 1 211000000									
5TH HUNTER IN THIS HOUSE									
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6TH HUNTER IN THIS HOUSE									
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7TH HUNTER IN THIS HOUSE									
7 1 211000000									
8TH HUNTER IN THIS HOUSE									
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9TH HUNTER IN THIS HOUSE									
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10TH HUNTER IN THIS HOUSE									
10 1 211000000									
11TH HUNTER IN THIS HOUSE									
11 1 211000000									
12TH HUNTER IN THIS HOUSE									
12 1 211000000									
13TH HUNTER IN THIS HOUSE									
13 1 211000000									

CARIBOU SOURCES: SHARES FROM COOPERATIVE HUNTING

HHID

During the last 12 MONTHS, did you or anyone from your HH
receive CARIBOU as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many caribou each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the take. INCLUDE caribou the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH				HUNTERS from OTHER HHS					
Who received CARIBOU as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 211000000									
2ND HUNTER IN THIS HOUSE									
2 1 211000000									
3RD HUNTER IN THIS HOUSE									
3 1 211000000									
4TH HUNTER IN THIS HOUSE									
4 1 211000000									
5TH HUNTER IN THIS HOUSE									
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6TH HUNTER IN THIS HOUSE									
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7TH HUNTER IN THIS HOUSE									
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8TH HUNTER IN THIS HOUSE									
8 1 211000000									
9TH HUNTER IN THIS HOUSE									
9 1 211000000									
10TH HUNTER IN THIS HOUSE									
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11TH HUNTER IN THIS HOUSE									
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12TH HUNTER IN THIS HOUSE									
12 1 211000000									
13TH HUNTER IN THIS HOUSE									
13 1 211000000									
14TH HUNTER IN THIS HOUSE									
14 1 211000000									
15TH HUNTER IN THIS HOUSE									
15 1 211000000									
16TH HUNTER IN THIS HOUSE									
16 1 211000000									

CARIBOU SOURCES: SHARES FOR HELPING WITH THE HUNTING OF OTHERS HHID

During the last 12 MONTHS, did anyone in your HH get any SHARES of CARIBOU
because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if caribou was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of CARIBOU?	How much CARIBOU did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	00000	number	*specify	circle ALL that apply							enter text
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 211000000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 211000000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 211000000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 211000000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 211000000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 211000000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 211000000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 211000000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 211000000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 211000000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 211000000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 211000000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 211000000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 211000000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 211000000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 211000000											

NETWORK: 67 **SHARING SURVEY: 177**

CARIBOU SOURCES: SHARING, TRADES, & PURCHASES

HHID

During the last 12 MONTHS, did anyone give CARIBOU to your HH, or did you receive CARIBOU by trading or buying it from someone living in a Kaktovik HH or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive CARIBOU?	Did this person KILL the CARIBOU ?	How much CARIBOU did your HH receive from this person? Amount Received	Units	Was this SHARING, TRADE, or PURCHASE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 211000000												
2ND HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 211000000												
3RD HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 211000000												
4TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 211000000												
5TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 211000000												
6TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 211000000												
7TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 211000000												
8TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 211000000												
9TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 211000000												
10TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 211000000												
11TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 211000000												
12TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 211000000												
13TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 211000000												
14TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 211000000												
15TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 211000000												
16TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 211000000												

S="SOMETIMES" ?= "DON'T KNOW"

NETWORK: 67 **SHARING SURVEY: 177**

CARIBOU: PROCESSORS

HHID

During the last 12 MONTHS,
did anyone cut, dry, freeze, smoke, or put away CARIBOU for your HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

During the last 12 MONTHS, who cut, dried, froze, smoked, or put away CARIBOU for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	*PROCESSORS*	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 211000000		
2ND PROCESSOR		
2 2 211000000		
3RD PROCESSOR		
3 2 211000000		
4TH PROCESSOR		
4 2 211000000		
5TH PROCESSOR		
5 2 211000000		
6TH PROCESSOR		
6 2 211000000		
7TH PROCESSOR		
7 2 211000000		
8TH PROCESSOR		
8 2 211000000		
9TH PROCESSOR		
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10TH PROCESSOR		
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11TH PROCESSOR		
11 2 211000000		
12TH PROCESSOR		
12 2 211000000		
13TH PROCESSOR		
13 2 211000000		
14TH PROCESSOR		
14 2 211000000		
15TH PROCESSOR		
15 2 211000000		
16TH PROCESSOR		
16 2 211000000		

DALL SHEEP SOURCES: HOUSEHOLD'S OWN HARVESTS

HOUSEHOLD ID

During the last 12 MONTHS, did anyone in your household (HH)
kill any DALL SHEEP while hunting alone, or with other people living in this household?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many dall sheep EACH MEMBER OF THEIR HOUSEHOLD HARVESTED for subsistence use during the last 12 months. INCLUDE dall sheep the household members gave away, even if they gave it away without bringing it home. Include dall sheep the household ate fresh, fed to dogs, or lost to spoilage.

HUNTERS from THIS HOUSEHOLD only											
Who in your household killed DALL SHEEP last year?		How many DALL SHEEP did this person kill?		Who in THIS HOUSEHOLD hunted with this person? *Please use these spaces ONLY for members of this household.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 212200000									
2ND HUNTER IN THIS HOUSE									
2 1 212200000									
3RD HUNTER IN THIS HOUSE									
3 1 212200000									
4TH HUNTER IN THIS HOUSE									
4 1 212200000									
5TH HUNTER IN THIS HOUSE									
5 1 212200000									
6TH HUNTER IN THIS HOUSE									
6 1 212200000									
7TH HUNTER IN THIS HOUSE									
7 1 212200000									
8TH HUNTER IN THIS HOUSE									
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9TH HUNTER IN THIS HOUSE									
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10TH HUNTER IN THIS HOUSE									
10 1 212200000									
11TH HUNTER IN THIS HOUSE									
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12TH HUNTER IN THIS HOUSE									
12 1 212200000									
13TH HUNTER IN THIS HOUSE									
13 1 212200000									
14TH HUNTER IN THIS HOUSE									
14 1 212200000									
15TH HUNTER IN THIS HOUSE									
15 1 212200000									
16TH HUNTER IN THIS HOUSE									
16 1 212200000									

**SURVEYOR: Respondents should specify the applicable unit of measure for that resource, and when appropriate, how much they received.*

NETWORK: 67 **SHARING SURVEY: 177**

DALL SHEEP SOURCES: SHARES FROM HUNTING

HOUSEHOLD ID

During the last 12 MONTHS, did anyone in your household (HH)
receive DALL SHEEP as their share from hunting together with people from other households?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many dall sheep each member of their household RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the take. INCLUDE dall sheep the household received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HOUSEHOLD				*HUNTERS from OTHER HOUSEHOLDS*					
Who received DALL SHEEP as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	*specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 212200000									
2ND HUNTER IN THIS HOUSE									
2 1 212200000									
3RD HUNTER IN THIS HOUSE									
3 1 212200000									
4TH HUNTER IN THIS HOUSE									
4 1 212200000									
5TH HUNTER IN THIS HOUSE									
5 1 212200000									
6TH HUNTER IN THIS HOUSE									
6 1 212200000									
7TH HUNTER IN THIS HOUSE									
7 1 212200000									
8TH HUNTER IN THIS HOUSE									
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9TH HUNTER IN THIS HOUSE									
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10TH HUNTER IN THIS HOUSE									
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11TH HUNTER IN THIS HOUSE									
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14TH HUNTER IN THIS HOUSE									
14 1 212200000									
15TH HUNTER IN THIS HOUSE									
15 1 212200000									
16TH HUNTER IN THIS HOUSE									
16 1 212200000									

DALL SHEEP SOURCES: SHARES FOR HELPING

HOUSEHOLD ID _____

During the last 12 MONTHS, did anyone in your household (HH) get any SHARES of DALL SHEEP because they contributed to the hunting effort of other households, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if the meat was a gift. If so, note on next page.

	MEMBERS of OTHER HH'S only			What did YOUR HOUSEHOLD do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of DALL SHEEP?	How much DALL SHEEP did members of your household receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	*specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 212200000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 212200000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 212200000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 212200000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 212200000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 212200000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 212200000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 212200000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 212200000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 212200000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 212200000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 212200000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 212200000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 212200000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 212200000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 212200000											

NETWORK: 67 **SHARING SURVEY: 177**

DALL SHEEP SOURCES: SHARING, TRADES, & PURCHASES

HOUSEHOLD ID _____

During the last 12 MONTHS, did anyone in your household (HH) receive DALL SHEEP either as a gift, in a trade, or by buying it from someone living in another household in Kaktovik or in another community?.... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HOUSEHOLDS only					*If this was a trade, what did YOUR HOUSEHOLD trade?*						
	From WHOM did your household receive DALL SHEEP?	Did this person KILL the DALL SHEEP?	How much DALL SHEEP did your household receive from this person? Amount Received	Units	Was this a GIFT, TRADE, or PURCHASE?	SUBSISTENCE FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	*specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 212200000												
2ND HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 212200000												
3RD HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 212200000												
4TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 212200000												
5TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 212200000												
6TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 212200000												
7TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 212200000												
8TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 212200000												
9TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 212200000												
10TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 212200000												
11TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 212200000												
12TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 212200000												
13TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 212200000												
14TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 212200000												
15TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 212200000												
16TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 212200000												

S="SOMETIMES" ?="DON'T KNOW"

NETWORK: 67 **SHARING SURVEY: 177**

DALL SHEEP: PROCESSORS

HOUSEHOLD ID

During the last 12 MONTHS,
did anyone cut, dry, freeze, smoke, or put away DALL SHEEP for your household (HH)?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, froze, or put away DALL SHEEP for your household, including people living in your household?
If any people named on the previous two pages for food processing labor also processed food used by this household, enter them again here.

Please list the most important person first. INCLUDE people in this household.			***PROCESSORS***	
			Person Code	Comments?
order	*role*	*res.*	*00000*	*enter text*
1ST PROCESSOR				
1	2	212200000		
2ND PROCESSOR				
2	2	212200000		
3RD PROCESSOR				
3	2	212200000		
4TH PROCESSOR				
4	2	212200000		
5TH PROCESSOR				
5	2	212200000		
6TH PROCESSOR				
6	2	212200000		
7TH PROCESSOR				
7	2	212200000		
8TH PROCESSOR				
8	2	212200000		
9TH PROCESSOR				
9	2	212200000		
10TH PROCESSOR				
10	2	212200000		
11TH PROCESSOR				
11	2	212200000		
12TH PROCESSOR				
12	2	212200000		
13TH PROCESSOR				
13	2	212200000		
14TH PROCESSOR				
14	2	212200000		
15TH PROCESSOR				
15	2	212200000		
16TH PROCESSOR				
16	2	212200000		

HARVESTS: LARGE LAND MAMMALS

HH ID

Do members of your HH USUALLY hunt other large land mammals such as GRIZZLY BEAR or MUSKOXEN?..... Y N (Circle)

During the last 12 MONTHS, did members of your HH USE or TRY TO HUNT these large land mammals?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did members of your HH...				For each resource HARVESTED, ask…		
	Use? (eat, sew, carve, apply medicinally, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many large land mammals ALL MEMBERS OF YOUR HH HUNTED the last 12 months. INCLUDE large land mammals you gave away, ate fresh, dried, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the take.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	*specify**	*enter text*
GRIZZLY BEAR	Y N	Y N	Y N	Y N			
210800000							
MUSKOXEN	Y N	Y N	Y N	Y N			
212000000							
MOOSE	Y N	Y N	Y N	Y N			
211800000							
GRIZZLY BEAR	Y N	Y N	Y N	Y N			
210800000							
	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			
	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			

**SURVEYOR: Respondents should specify the applicable unit of measure for that resource (number or proportions of animals, fish or berries, buckets, etc.), and when appropriate, how many were killed, gathered or received. All units will be transformed to weight in pounds during analysis.*

During the last 12 MONTHS,
Did your HH use or hunt for any other large mammals in the last 12 months?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

LAND MAMMALS: 10 **SHARING SURVEY: 177**

GEESE SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

In the last 12 months, did members of your household:

	circle one	
Use Geese (eat, use for crafts)?	Y	N
Receive Geese?	Y	N
Give Geese away?	Y	N
Try to harvest Geese?	Y	N

Now we'll begin to go through the different ways that Geese might have come into your HH…During the last 12 MONTHS, did anyone in your HH kill any GEESE while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many geese EACH MEMBER OF THEIR HH HARVESTED during the last 12 months. INCLUDE geese the HH members gave away, even if they gave it away without bringing it home. Include geese the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HHonly

	Who in your HH killed GEESE last year?	How many GEESE did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	***specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 410499009									
2ND HUNTER IN THIS HOUSE									
2 1 410499009									
3RD HUNTER IN THIS HOUSE									
3 1 410499009									
4TH HUNTER IN THIS HOUSE									
4 1 410499009									
5TH HUNTER IN THIS HOUSE									
5 1 410499009									
6TH HUNTER IN THIS HOUSE									
6 1 410499009									
7TH HUNTER IN THIS HOUSE									
7 1 410499009									
8TH HUNTER IN THIS HOUSE									
8 1 410499009									
9TH HUNTER IN THIS HOUSE									
9 1 410499009									
10TH HUNTER IN THIS HOUSE									
10 1 410499009									
11TH HUNTER IN THIS HOUSE									
11 1 410499009									
12TH HUNTER IN THIS HOUSE									
12 1 410499009									
13TH HUNTER IN THIS HOUSE									
13 1 211000000									

NETWORK: 67 **SHARING SURVEY: 177**

GEESE SOURCES: SHARES FROM COOPERATIVE HUNTING

HHID

During the last 12 MONTHS, did you or anyone from your HH
receive GEESE as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many geese each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the take. INCLUDE geese the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH				*HUNTERS from OTHER HHS*					
Who received GEESE as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 410499009									
2ND HUNTER IN THIS HOUSE									
2 1 410499009									
3RD HUNTER IN THIS HOUSE									
3 1 410499009									
4TH HUNTER IN THIS HOUSE									
4 1 410499009									
5TH HUNTER IN THIS HOUSE									
5 1 410499009									
6TH HUNTER IN THIS HOUSE									
6 1 410499009									
7TH HUNTER IN THIS HOUSE									
7 1 410499009									
8TH HUNTER IN THIS HOUSE									
8 1 410499009									
9TH HUNTER IN THIS HOUSE									
9 1 410499009									
10TH HUNTER IN THIS HOUSE									
10 1 410499009									
11TH HUNTER IN THIS HOUSE									
11 1 410499009									
12TH HUNTER IN THIS HOUSE									
12 1 410499009									
13TH HUNTER IN THIS HOUSE									
13 1 410499009									
14TH HUNTER IN THIS HOUSE									
14 1 410499009									
15TH HUNTER IN THIS HOUSE									
15 1 410499009									
16TH HUNTER IN THIS HOUSE									
16 1 410499009									

GEESE SOURCES: SHARES FOR HELPING WITH THE HUNTING OF OTHERS

HHID

During the last 12 MONTHS, did anyone in your HH get any SHARES from GEESE hunting because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if geese were a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of hunted GEESE?	How many GEESE did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 410499009											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 410499009											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 410499009											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 410499009											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 410499009											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 410499009											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 410499009											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 410499009											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 410499009											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 410499009											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 410499009											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 410499009											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 410499009											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 410499009											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 410499009											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 410499009											

NETWORK: 67 **SHARING SURVEY: 177**

GEESE SOURCES: SHARING, TRADES, & PURCHASES

HHID

During the last 12 MONTHS, did anyone give GEESE to your HH, or did you receive GEESE by trading or buying some from someone living in a Kaktovik HH or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive GEESE?	Did this person KILL the GEESE?	How many GEESE did your HH receive from this person? Amount Received	Units	Was this SHARING, TRADE, or PURCHASE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 410499009												
2ND HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 410499009												
3RD HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 410499009												
4TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 410499009												
5TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 410499009												
6TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 410499009												
7TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 410499009												
8TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 410499009												
9TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 410499009												
10TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 410499009												
11TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 410499009												
12TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 410499009												
13TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 410499009												
14TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 410499009												
15TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 410499009												
16TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 410499009												

S="SOMETIMES" ?= "DON'T KNOW"

NETWORK: 67 **SHARING SURVEY: 177**

GEESE: PROCESSORS

HHID

During the last 12 MONTHS,
did anyone cut, dry, freeze, pluck, or put away GEESE for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, froze, plucked, or put away GEESE for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	*PROCESSORS*	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 410499009		
2ND PROCESSOR		
2 2 410499009		
3RD PROCESSOR		
3 2 410499009		
4TH PROCESSOR		
4 2 410499009		
5TH PROCESSOR		
5 2 410499009		
6TH PROCESSOR		
6 2 410499009		
7TH PROCESSOR		
7 2 410499009		
8TH PROCESSOR		
8 2 410499009		
9TH PROCESSOR		
9 2 410499009		
10TH PROCESSOR		
10 2 410499009		
11TH PROCESSOR		
11 2 410499009		
12TH PROCESSOR		
12 2 410499009		
13TH PROCESSOR		
13 2 410499009		
14TH PROCESSOR		
14 2 410499009		
15TH PROCESSOR		
15 2 410499009		
16TH PROCESSOR		
16 2 410499009		

NOTES:

HARVESTS: MIGRATORY BIRDS

HH ID

Do members of your HH USUALLY hunt other migratory birds,
such as OTHER DUCKS or ?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO HUNT these migratory birds?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did members of your HH….				For each resource HARVESTED, ask…		
	Use? (eat, trade, apply medicinally, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many migratory birds ALL MEMBERS OF YOUR HH HUNTED the last 12 months. INCLUDE migratory birds you gave away, ate fresh, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the hunt.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
PTARMIGAN	Y N	Y N	Y N	Y N			
421804000							
TUNDRA SWAN	Y N	Y N	Y N	Y N			
410699000							
SANDHILL CRANE	Y N	Y N	Y N	Y N			
410802000							
COMMON EIDER	Y N	Y N	Y N	Y N			
KING EIDER	Y N	Y N	Y N	Y N			
410206040							
OTHER DUCKS	Y N	Y N	Y N	Y N			
410299009							
	Y N	Y N	Y N	Y N			

During the last 12 MONTHS,
did your HH use or hunt any other kind of migratory birds?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

ARCTIC CHAR SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

In the last 12 months, did members of your household:

	circle one	
Eat Arctic Char?	Y	N
Receive Arctic Char?	Y	N
Give Arctic Char away?	Y	N
Try to harvest Arctic Char?	Y	N

Now we'll begin to go through the different ways that smelt might have come into your HH…During the last 12 MONTHS, did anyone in your HH catch any ARCTIC CHAR while fishing alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many arctic char EACH MEMBER OF THEIR HH HARVESTED during the last 12 months, including with rod and reel. INCLUDE arctic char the HH members gave away, even if they gave it away without bringing it home. Include arctic char the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

FISHERS from THIS HHonly										
Who in your HH caught ARCTIC CHAR last year?		How many ARCTIC CHAR did this person catch?		Who in THIS HH fished with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Caught	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	***specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST FISHER IN THIS HOUSE									
1 1 125002003									
2ND FISHER IN THIS HOUSE									
2 1 125002003									
3RD FISHER IN THIS HOUSE									
3 1 125002003									
4TH FISHER IN THIS HOUSE									
4 1 125002003									
5TH FISHER IN THIS HOUSE									
5 1 125002003									
6TH FISHER IN THIS HOUSE									
6 1 125002003									
7TH FISHER IN THIS HOUSE									
7 1 125002003									
8TH FISHER IN THIS HOUSE									
8 1 125002003									
9TH FISHER IN THIS HOUSE									
9 1 125002003									
10TH FISHER IN THIS HOUSE									
10 1 125002003									
11TH FISHER IN THIS HOUSE									
11 1 125002003									
12TH FISHER IN THIS HOUSE									
12 1 125002003									
13TH FISHER IN THIS HOUSE									
13 1 211000000									

ARCTIC CHAR SOURCES: SHARES FROM COOPERATIVE FISHING

HHID

During the last 12 MONTHS, did you or anyone from your HH
receive ARCTIC CHAR as their share from fishing together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many arctic char each member of their HH RECEIVED AS A SHARE in the last 12 months, including with rod and reel while fishing with others. We want them to report only THEIR SHARE of the take. INCLUDE arctic char the HH received as a share then gave away, fed to dogs, or lost to spoilage.

	FISHERS from THIS HH				*FISHERS from OTHER HHS*					
	Who received ARCTIC CHAR as a share when fishing with others?		How many did this person receive as a share?		Who fished with this person?					
		Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.		*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST FISHER IN THIS HOUSE	1 | 1 | 125002003									
2ND FISHER IN THIS HOUSE	2 | 1 | 125002003									
3RD FISHER IN THIS HOUSE	3 | 1 | 125002003									
4TH FISHER IN THIS HOUSE	4 | 1 | 125002003									
5TH FISHER IN THIS HOUSE	5 | 1 | 125002003									
6TH FISHER IN THIS HOUSE	6 | 1 | 125002003									
7TH FISHER IN THIS HOUSE	7 | 1 | 125002003									
8TH FISHER IN THIS HOUSE	8 | 1 | 125002003									
9TH FISHER IN THIS HOUSE	9 | 1 | 125002003									
10TH FISHER IN THIS HOUSE	10 | 1 | 125002003									
11TH FISHER IN THIS HOUSE	11 | 1 | 125002003									
12TH FISHER IN THIS HOUSE	12 | 1 | 125002003									
13TH FISHER IN THIS HOUSE	13 | 1 | 125002003									
14TH FISHER IN THIS HOUSE	14 | 1 | 125002003									
15TH FISHER IN THIS HOUSE	15 | 1 | 125002003									
16TH FISHER IN THIS HOUSE	16 | 1 | 125002003									

NETWORK: 67 **SHARING SURVEY: 177**

ARCTIC CHAR SOURCES: SHARES FOR HELPING WITH THE FISHING OF OTHERS

HHID

During the last 12 MONTHS, did anyone in your HH get any SHARES of harvested ARCTIC CHAR because they contributed to the fishing effort of other HHs, but did NOT actually fish with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if the fish was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of ARCTIC CHAR?	How many ARCTIC CHAR did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 125002003											
2ND FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 125002003											
3RD FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 125002003											
4TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 125002003											
5TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 125002003											
6TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 125002003											
7TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 125002003											
8TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 125002003											
9TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 125002003											
10TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 125002003											
11TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 125002003											
12TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 125002003											
13TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 125002003											
14TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 125002003											
15TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 125002003											
16TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 125002003											

NETWORK: 67 **SHARING SURVEY: 177**

ARCTIC CHAR SOURCES: SHARING, TRADES, & PURCHASES

HHID

During the last 12 MONTHS, did anyone give ARCTIC CHAR to your HH, or did you receive ARCTIC CHAR by trading or buying them from someone living in a Kaktovik HH or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive ARCTIC CHAR?	Did this person CATCH the ARCTIC CHAR?	How many ARCTIC CHAR did your HH receive from this person? Amount Received	Units	Was this SHARING, TRADE, or PURCHASE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 125002003												
2ND FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 125002003												
3RD FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 125002003												
4TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 125002003												
5TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 125002003												
6TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 125002003												
7TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 125002003												
8TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 125002003												
9TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 125002003												
10TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 125002003												
11TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 125002003												
12TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 125002003												
13TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 125002003												
14TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 125002003												
15TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 125002003												
16TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 125002003												

S="SOMETIMES" ?= "DON'T KNOW"

NETWORK: 67 **SHARING SURVEY: 177**

ARCTIC CHAR: PROCESSORS

HHID

During the last 12 MONTHS,
did anyone cut, dry, freeze, smoke, or put away ARCTIC CHAR for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, smoked, froze, or put away ARCTIC CHAR for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	***PROCESSORS***	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 125002003		
2ND PROCESSOR		
2 2 125002003		
3RD PROCESSOR		
3 2 125002003		
4TH PROCESSOR		
4 2 125002003		
5TH PROCESSOR		
5 2 125002003		
6TH PROCESSOR		
6 2 125002003		
7TH PROCESSOR		
7 2 125002003		
8TH PROCESSOR		
8 2 125002003		
9TH PROCESSOR		
9 2 125002003		
10TH PROCESSOR		
10 2 125002003		
11TH PROCESSOR		
11 2 125002003		
12TH PROCESSOR		
12 2 125002003		
13TH PROCESSOR		
13 2 125002003		
14TH PROCESSOR		
14 2 125002003		
15TH PROCESSOR		
15 2 125002003		
16TH PROCESSOR		
16 2 125002003		

HARVESTS: FISH

HH ID

Do members of your HH USUALLY fish for other fish like
BROAD WHITEFISH or GRAYLING?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO FISH for these other species?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did members of your HH….				For each resource HARVESTED, ask…		
	Use? (eat, trade, feed to dogs, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many fish ALL MEMBERS OF YOUR HH FISHED the last 12 months, including with rod and reel. INCLUDE fish you gave away, ate fresh, dried, fed to dogs, lost to spoilage, or got by helping others. If fishing with others, report ONLY YOUR SHARE of the catch.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
BROAD WHITEFISH	Y N	Y N	Y N	Y N			
126404003							
GRAYLING	Y N	Y N	Y N	Y N			
125200003							
ARCTIC CISCO	Y N	Y N	Y N	Y N			
126406023							
TOMCOD (SAFFRON COD)	Y N	Y N	Y N	Y N			
121010003							
BLUE COD (ARCTIC COD)	Y N	Y N	Y N	Y N			
121002003							
LAKE TROUT	Y N	Y N	Y N	Y N			
125010003							
MUDSHARK (BURBOT)	Y N	Y N	Y N	Y N			
124800003							
	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			
	Y N	Y N	Y N	Y N			

During the last 12 MONTHS,
did your HH use any other kind of fish?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

BEARDED SEAL (UGRUK) SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

In the last 12 months, did members of your household:

	circle one	
Use Bearded Seal (eat, sew, carve)?	Y	N
Receive Bearded Seal?	Y	N
Give Bearded Seal away?	Y	N
Try to harvest Bearded?	Y	N

Now we'll begin to go through the different ways that Ugruk might have come into your HH…During the last 12 MONTHS, did anyone in your HH kill any BEARDED SEAL while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many bearded seal EACH MEMBER OF THEIR HH HARVESTED during the last 12 months. INCLUDE bearded seal the HH members gave away, even if they gave it away without bringing it home. Include bearded seal the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HHonly										
Who in your HH killed BEARDED SEAL last year?		How many BEARDED SEAL did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	***specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 300802000									
2ND HUNTER IN THIS HOUSE									
2 1 300802000									
3RD HUNTER IN THIS HOUSE									
3 1 300802000									
4TH HUNTER IN THIS HOUSE									
4 1 300802000									
5TH HUNTER IN THIS HOUSE									
5 1 300802000									
6TH HUNTER IN THIS HOUSE									
6 1 300802000									
7TH HUNTER IN THIS HOUSE									
7 1 300802000									
8TH HUNTER IN THIS HOUSE									
8 1 300802000									
9TH HUNTER IN THIS HOUSE									
9 1 300802000									
10TH HUNTER IN THIS HOUSE									
10 1 300802000									
11TH HUNTER IN THIS HOUSE									
11 1 300802000									
12TH HUNTER IN THIS HOUSE									
12 1 300802000									
13TH HUNTER IN THIS HOUSE									
13 1 211000000									

NETWORK: 67 **SHARING SURVEY: 177**

BEARDED SEAL SOURCES: SHARES FROM COOPERATIVE HUNTING

HHID

During the last 12 MONTHS, did you or anyone from your HH
receive BEARDED SEAL as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many bearded seal each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the take. INCLUDE bearded seal the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH				*HUNTERS from OTHER HHS*					
Who received BEARDED SEAL as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 300802000									
2ND HUNTER IN THIS HOUSE									
2 1 300802000									
3RD HUNTER IN THIS HOUSE									
3 1 300802000									
4TH HUNTER IN THIS HOUSE									
4 1 300802000									
5TH HUNTER IN THIS HOUSE									
5 1 300802000									
6TH HUNTER IN THIS HOUSE									
6 1 300802000									
7TH HUNTER IN THIS HOUSE									
7 1 300802000									
8TH HUNTER IN THIS HOUSE									
8 1 300802000									
9TH HUNTER IN THIS HOUSE									
9 1 300802000									
10TH HUNTER IN THIS HOUSE									
10 1 300802000									
11TH HUNTER IN THIS HOUSE									
11 1 300802000									
12TH HUNTER IN THIS HOUSE									
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13 1 300802000									
14TH HUNTER IN THIS HOUSE									
14 1 300802000									
15TH HUNTER IN THIS HOUSE									
15 1 300802000									
16TH HUNTER IN THIS HOUSE									
16 1 300802000									

NETWORK: 67 **SHARING SURVEY: 177**

BEARDED SEAL SOURCES: SHARES FOR HELPING WITH THE HUNTING OF OT HHID

During the last 12 MONTHS, did anyone in your HH get any SHARES of BEARDED SEAL
because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if Ugruk was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of BEARDED SEAL?	How much BEARDED SEAL did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 300802000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 300802000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 300802000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 300802000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 300802000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 300802000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 300802000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 300802000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 300802000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 300802000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 300802000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 300802000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 300802000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 300802000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 300802000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 300802000											

NETWORK: 67 **SHARING SURVEY: 177**

BEARDED SEAL SOURCES: SHARING, TRADES, & PURCHASES

HHID

During the last 12 MONTHS, did anyone give BEARDED SEAL to your HH, or did you receive BEARDED SEAL by trading or buying it from someone living in a Kaktovik HH or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive BEARDED SEAL?	Did this person KILL the BEARDED SEAL?	How much BEARDED SEAL did your HH receive from this person? Amount Received	Units	Was this SHARING, TRADE, or PURCHASE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 300802000												
2ND HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 300802000												
3RD HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 300802000												
4TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 300802000												
5TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 300802000												
6TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 300802000												
7TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 300802000												
8TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 300802000												
9TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 300802000												
10TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 300802000												
11TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 300802000												
12TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 300802000												
13TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 300802000												
14TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 300802000												
15TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 300802000												
16TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 300802000												

S="SOMETIMES" ?= "DON'T KNOW"

NETWORK: 67 **SHARING SURVEY: 177**

BEARDED SEAL: PROCESSORS

HHID

During the last 12 MONTHS,
did anyone cut, dry, freeze, render into oil, or put away BEARDED SEAL for your HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

During the last 12 MONTHS, who cut, dried, froze, rendered into oil, or put away BEARDED SEAL for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	*PROCESSORS*	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 300802000		
2ND PROCESSOR		
2 2 300802000		
3RD PROCESSOR		
3 2 300802000		
4TH PROCESSOR		
4 2 300802000		
5TH PROCESSOR		
5 2 300802000		
6TH PROCESSOR		
6 2 300802000		
7TH PROCESSOR		
7 2 300802000		
8TH PROCESSOR		
8 2 300802000		
9TH PROCESSOR		
9 2 300802000		
10TH PROCESSOR		
10 2 300802000		
11TH PROCESSOR		
11 2 300802000		
12TH PROCESSOR		
12 2 300802000		
13TH PROCESSOR		
13 2 300802000		
14TH PROCESSOR		
14 2 300802000		
15TH PROCESSOR		
15 2 300802000		
16TH PROCESSOR		
16 2 300802000		

NOTES:

BELUGA WHALE SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

In the last 12 months, did members of your household:

	circle one	
Use Beluga (eat, use as medicine)?	Y	N
Receive Beluga?	Y	N
Give Beluga away?	Y	N
Try to harvest Beluga?	Y	N

IF ALL NO, go to the next page.

IF YES, continue on this page…

Did your household get a share from BELUGA whale harvested in the last 12 months?..... Y N

IF YES…how much did your household receive?

			Source Code	Amount Received	Units	Comments
order	*role*	*res.*	*00000*	*number*		
		BELUGA WHALE				
					slab	
1	1	301602000				
		BELUGA WHALE				
					slab	
1	1	301602000				

What did your household do to receive their share of beluga? (For example: was a member of your HH: in a boat that hunted, or did they provide a boat, or did they help cut and process beluga, OR something else?)

Hunted Beluga	Y	N	
Provided hunting boat	Y	N	(circle all that apply)
Helped cut up beluga	Y	N	
Just received a share	Y	N	
Other	*Comment:*		

			from THIS HH only	Cut	Hunted
			People in HH who cut, or hunted beluga	(C)	(H)
order	*role*	*res.*	*00000*	*Circle*	
		1ST		C	H
		IN THIS HOUSE			
1	1	301602000			
		2ND		C	H
		IN THIS HOUSE			
2	1	301602000			
		3RD		C	H
		IN THIS HOUSE			
3	1	301602000			
		4TH		C	H
		IN THIS HOUSE			
4	1	301602000			
		5TH		C	H
		IN THIS HOUSE			
5	1	301602000			
		6TH		C	H
		IN THIS HOUSE			
6	1	301602000			

BELUGA WHALE SOURCES: SHARING & TRADES

HH ID

We have talked about shares. Now…during the last 12 MONTHS, did anyone ELSE give BELUGA to your household or did you receive BELUGA by trading with someone living in a Kaktovik household or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only				*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive Beluga?	How much did your HH receive from this person? Amount Received	Units	Was this SHARING, or TRADE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 301602000											
2ND PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 301602000											
3RD PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 301602000											
4TH PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 301602000											
5TH PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 301602000											
6TH PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 301602000											
7TH PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 301602000											
8TH PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 301602000											
9TH PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 301602000											
10TH PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 301602000											
11TH PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 301602000											
12TH PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 301602000											
13TH PERSON FROM OTHER HH				S T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 301602000											

NETWORK: 67 **SHARING SURVEY: 177**

NOTES HH ID

COMMENTS: 30 **SHARING SURVEY: 177**

BOWHEAD WHALE CAPTAIN'S PAGE (1 of 3)

HH ID

During the last 12 MONTHS, was anyone in your household the captain of an ACTIVE bowhead whaling crew?..... Y N (Circle)

By "active," we mean registsered with the AEWC to hunt bowhead whale last year

IF NO, go to the next page.

IF YES, continue on this page…

Who were the members of your BOWHEAD crew?

	CREW MEMBERS & CREW CONTRIBUTIONS										
		During the last 12, months, what did this person provide for your whaling crew?									
	PERSON CODE	PROVIDED EQUIPMENT	PROVIDED LABOR	PROVIDED GASOLINE OR OIL	PROVIDED FOOD	COOKED FOOD	PROVIDED SUPPLIES	PROVIDED CASH	OTHER CONTRIBUTION	Comments
order | role | res.	*00000*	*circle ALL that apply*								*enter text*
1ST MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
1 3 301606000										
2ND MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
2 3 301606000										
3RD MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
3 3 301606000										
4TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
4 3 301606000										
5TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
5 3 301606000										
6TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
6 3 301606000										
7TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
7 3 301606000										
8TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
8 3 301606000										
9TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
9 3 301606000										
10TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
10 3 301606000										
11TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
11 3 301606000										
12TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
12 3 301606000										

NETWORK: 67 **SHARING SURVEY: 177**

BOWHEAD WHALE CAPTAIN'S PAGE (2 of 3)

HH ID

continued from previous page

Who were the members of your BOWHEAD crew? (continued)

		CREW MEMBERS & CREW CONTRIBUTIONS								
		During the last 12, months, what did this person provide for your whaling crew?								
	PERSON CODE	PROVIDED EQUIPMENT	PROVIDED LABOR	PROVIDED GASOLINE OR OIL	PROVIDED FOOD	COOKED FOOD	PROVIDED SUPPLIES	PROVIDED CASH	OTHER CONTRIBUTION	Comments
order | role | res.	*00000*	*circle ALL that apply*								*enter text*
13TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
13 3 301606000										
14TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
14 3 301606000										
15TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
15 3 301606000										
16TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
16 3 301606000										
17TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
17 3 301606000										
18TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
18 3 301606000										
19TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
19 3 301606000										
20TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
20 3 301606000										
21TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
21 3 301606000										
22TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
22 3 301606000										
23TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
23 3 301606000										
24TH MEMBER YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
24 3 301606000										

NETWORK: 67 **SHARING SURVEY: 177**

BOWHEAD WHALE CAPTAIN'S PAGE (3 of 3)

HH ID

During the last 12 MONTHS, did anyone NOT ON YOUR CREW contribute to your whaling effort?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Who else contributed to your whaling effort?

		CONTRIBUTIONS FROM OTHERS (NOT ON CREW)								
		During the last 12, months, what did this person provide for your whaling crew?								
	PERSON CODE	PROVIDED EQUIPMENT	PROVIDED LABOR	PROVIDED GASOLINE OR OIL	PROVIDED FOOD	COOKED FOOD	PROVIDED SUPPLIES	PROVIDED CASH	OTHER CONTRIBUTION	Comments
order | role | res.	*00000*	*circle ALL that apply*								*enter text*
1ST CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
1 3 301606000										
2ND CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
2 3 301606000										
3RD CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
3 3 301606000										
4TH CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
4 3 301606000										
5TH CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
5 3 301606000										
6TH CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
6 3 301606000										
7TH CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
7 3 301606000										
8TH CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
8 3 301606000										
9TH CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
9 3 301606000										
10TH CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
10 3 301606000										
11TH CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
11 3 301606000										
12TH CONTRIBUTOR TO YOUR CREW		EQUIP-MENT	LABOR	GAS & OIL	FOOD	COOKED	SUPPLIES	CASH	OTHER	
12 3 301606000										

NETWORK: 67 **SHARING SURVEY: 177**

BOWHEAD WHALE SOURCES: CREW SHARES

HH ID

In the last 12 months, did members of your household:

	circle one	
Use Bowhead Whale (eat, carve)?	Y	N
Receive Bowhead Whale?	Y	N
Give Bowhead Whale away?	Y	N
Try to harvest Bowhead Whale?	Y	N

Now we'll begin to go through the different ways that Bowhead Whale might have come into your HH…

Who in your household was on a whaling crew?	What crew were they on?
PERSON CODE	CREW CODE

IF NO, go to the next page.

IF YES, continue on this page…

CAPTAIN AND CREW from THIS HH only

List people from above who were on whaling crews			What kind of share? **CA**ptain, **T**owing or, **CR**ew?	How much did this person receive as a CAPTAIN's or CREW or TOWING SHARE from…								
				Whale 1 (G. Kaleak Crew)			Whale 2 (George Tagarook Crew)			Whale 3 (James Lampe Crew)		
		Person Code		Shares Received	Amount Received	Units	Shares Received	Amount Received	Units	Shares Received	Amount Received	Units
order	*role*	*res.*	*00000*	*CA, T, CR*	*number*	*number*	**spec.*	*number*	*number*	**spec.*	*number*	*number*	**spec.*
1ST IN THIS HOUSE													
1	1	301606000											
2ND IN THIS HOUSE													
2	1	301606000											
3RD IN THIS HOUSE													
3	1	301606000											
4TH IN THIS HOUSE													
4	1	301606000											
5TH IN THIS HOUSE													
5	1	301606000											
6TH IN THIS HOUSE													
6	1	301606000											
7TH IN THIS HOUSE													
7	1	301606000											
8TH IN THIS HOUSE													
8	1	301606000											
9TH IN THIS HOUSE													
9	1	301606000											

*spec.="specify"

NETWORK: 67 **SHARING SURVEY: 177**

BOWHEAD WHALE SOURCES: SHARES FOR HELPING

HH ID

During the last 12 MONTHS, did anyone in your HH get any SHARES from BOWHEAD WHALE because they contributed to the hunting effort of whaling crews, but were not actually crew members?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this comment, and follow up by asking if whale was a gift. If so, note on the next page

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of BOWHEAD WHALE?	How much BOWHEAD WHALE did members of your HH receive as SHARES?		FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
		Amount Received	Units								
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 301606000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 301606000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 301606000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 301606000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 301606000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 301606000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 301606000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 301606000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 301606000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 301606000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 301606000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 301606000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 301606000											

NETWORK: 67 **SHARING SURVEY: 177**

BOWHEAD WHALE SOURCES: SHARES FROM FEASTS

HH ID

In 2010 - did anyone in your HH get any SHARES of BOWHEAD WHALE at a feast?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

ge.

Nalukataq 2010				
Did members of your HH attend Nalukataq?		No of people who Got Shares	Amt. Rec'd	Units
circle		*number*	*number*	*spec
Y	N			

COMMENTS

Did anyone in your household bring home a share from the captain's lunch/dinner given by George Tagarook last FALL? Y N (Circle)

IF YES, complete this section. IF NO, got to next whale on this page..

		How many people in your household received shares from…		
		…Captain's FEAST (2010)		
	Crew Code	No. of People Who Got Shrs	Amt. Rec'd	Units
	00000	*number*	*number*	*spec.*
FIRST WHALE				

COMMENTS

Did anyone in your household get a share from the captain's lunch/dinner given by George Kaleak last FALL? Y N (Circle)

IF YES, complete this section. IF NO, got to next whale on this page..

		How much did ALL MEMBERS of this household receive as a share from…		
		…Captain's FEAST (2010)		
	Crew Code	No. of People Who Got Shrs	Amt. Rec'd	Units
		number	*number*	*spec.*
2ND WHALE				

COMMENTS

Did anyone in your household get a share from the captain's lunch/dinner given by James Lampe last fall? Y N (Circle)

IF YES, complete this section. IF NO, go to next page.

		How much did ALL MEMBERS of this household receive as a share from…		
		…Captain's FEAST (2010)		
	Crew Code	No. of People Who Got Shrs	Amt. Rec'd	Units
		number	*number*	*spec.*
3RD WHALE				

COMMENTS

NETWORK: 67 **SHARING SURVEY: 177**

BOWHEAD WHALE SOURCES: SHARING & TRADES

HH ID

We have talked about shares. Now…during the last 12 MONTHS, did anyone ELSE give BOWHEAD to your household or did you receive BOWHEAD by trading with someone living in a Kaktovik household or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

			MEMBERS of OTHER HHS only												*If this was a trade, what did YOUR HH trade?*						
			From WHOM did your HH receive BOWHEAD WHALE?	How much BOWHEAD WHALE did your HH receive from this person?		Was this SHARING, or TRADE?		OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments						
				Amount Received	Units																
order	*role*	*res.*	*00000*	*number*	**specify*	*circle one*		*circle ALL that apply*						*enter text*							
1ST PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
1	3	301606000																			
2ND PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
2	3	301606000																			
3RD PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
3	3	301606000																			
4TH PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
4	3	301606000																			
5TH PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
5	3	301606000																			
6TH PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
6	3	301606000																			
7TH PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
7	3	301606000																			
8TH PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
8	3	301606000																			
9TH PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
9	3	301606000																			
10TH PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
10	3	301606000																			
11TH PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
11	3	301606000																			
12TH PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
12	3	301606000																			
13TH PERSON FROM OTHER HH						S	T	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO								
13	3	301606000																			

NETWORK: 67 **SHARING SURVEY: 177**

NOTES	HH ID

COMMENTS: 30	SHARING SURVEY: 177

HARVESTS: MARINE MAMMALS

HH ID

Do members of your HH USUALLY hunt for other marine mammals,
such as WALRUS or RINGED SEAL?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO HUNT these other marine mammals?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did members of your HH….				For each resource HARVESTED, ask…		
	Use? (eat, carve, sew, trade, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many marine mammals ALL MEMBERS OF YOUR HH HUNTED the last 12 months. INCLUDE marine mammals you gave away, ate fresh, dried, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the hunt.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
WALRUS	Y N	Y N	Y N	Y N			
301400000							
RINGED SEAL	Y N	Y N	Y N	Y N			
300810000							
SPOTTED SEAL	Y N	Y N	Y N	Y N			
300812000							
POLAR BEAR	Y N	Y N	Y N	Y N			
300400000							
	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			
	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			

During the last 12 MONTHS,
did your HH use or hunt any other kind of marine mammals?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

HARVESTS: SMALL LAND MAMMALS

HH ID

Do members of your HH USUALLY hunt small land mammals,
such as GROUND SQUIRREL or MARMOT?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO HUNT small land mammals?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did your HH...				For each resource HARVESTED, ask…		
	Use? (eat, sell, trade, sew, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many small land mammals ALL MEMBERS OF YOUR HH HUNTED the last 12 months. INCLUDE small land mammals you gave away, ate fresh, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the take.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
GROUND SQUIRREL	Y N	Y N	Y N	Y N			
222802000							
MARMOT	Y N	Y N	Y N	Y N			
221800000							
WOLF	Y N	Y N	Y N	Y N			
223200000							
WOLVERINE	Y N	Y N	Y N	Y N			
223400000							
ARCTIC FOX	Y N	Y N	Y N	Y N			
220802000							
PORCUPINE	Y N	Y N	Y N	Y N			
222600000							
SNOWSHOE HARE	Y N	Y N	Y N	Y N			
221004000							
	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			
	Y N	Y N	Y N	Y N			

During the last 12 MONTHS,
did your HH use or hunt any other kind of small mammals?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

LAND MAMMALS: 10 **SHARING SURVEY: 177**

HARVESTS: BERRIES

HH ID

Do members of your HH USUALLY pick berries,
such as SALMONBERRIES or BLUEBERRIES?........ Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO PICK berries?........ Y N (Circle)

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

	In the last 12 months, did your HH...				For each resource HARVESTED, ask… Please estimate how many berries ALL MEMBERS OF YOUR HH PICKED the last 12 months. INCLUDE berries you gave away, ate fresh, lost to spoilage, or got by helping others. If picking with others, report ONLY YOUR SHARE of the take.		
	Use? (eat, sell, trade, sew, etc.)	Receive?	Give Away?	Try to Harvest?	Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
SALMONBERRIES 601022002	Y N	Y N	Y N	Y N			
BLUEBERRIES 601002002	Y N	Y N	Y N	Y N			
CRANBERRIES 601004002	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			
	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			
	Y N	Y N	Y N	Y N			
	Y N	Y N	Y N	Y N			

During the last 12 MONTHS,
did your HH use or pick any other kind of berries?........ Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

FOOD AND EQUIPMENT SHARING

HH ID

In most of this survey, we have asked how your HH got your traditional foods. On this page, we ask the opposite question, with much less detail. During the last 12 months, did anyone in your HH GIVE traditional foods or provide equipment, or other help to someone in Wainwright or ANOTHER community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Please list the most important HHs that members of your HH provided with fish, game, marine mammals or equipment. IF your HH gave to Feasts that were associated with Thanksgiving or Christmas holidays, other community get togethers, funerals or Nalukatuk, please indicate this as well.

Enter HH ID codes in the space provided. The map on the following page may help people remember HHs they helped.

Now check the boxes to show the goods and services that MEMBERS OF YOUR HH provided to each HH…

1 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

2 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

3 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

4 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

5 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

6 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

7 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

8 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

9 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

10
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

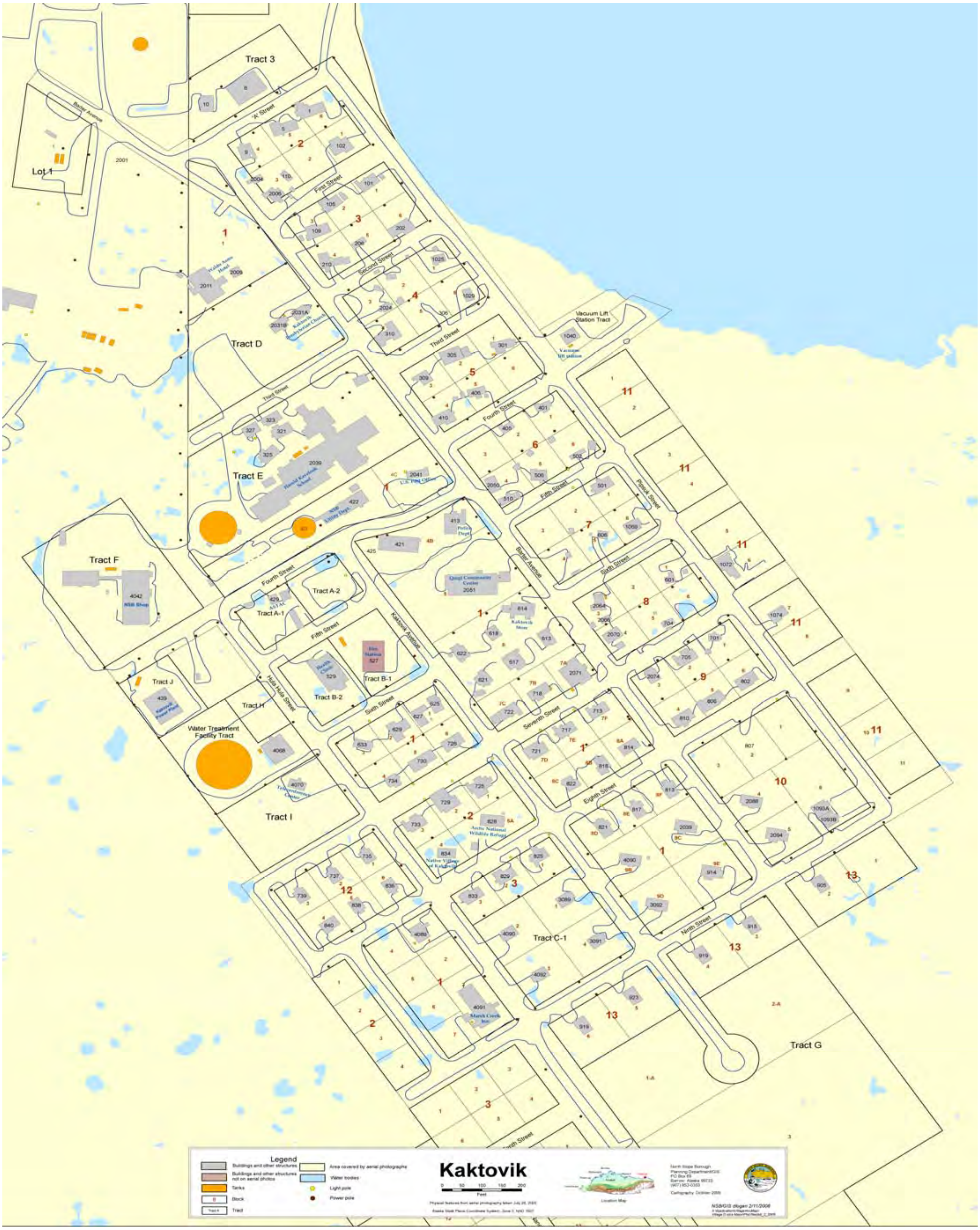
11 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

12 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

13 CAKE WALKS/OTHER DONATIONS
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

14 THANKSGIVING FEAST
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

15 CHRISTMAS FEAST
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?


Kaktovik
Legend
Tract 3
Lot 1
Tract D
Tract E
Tract F
Tract A-1
Tract A-2
Tract B-1
Tract B-2
Tract J
Tract H
Tract I
Water Treatment Facility Tract
Tract C-1
Tract G
Vacuum Lift Station Tract
Barter Avenue
Kaktovik Avenue
Hula Hula Street
First Street
Second Street
Third Street
Fourth Street
Fifth Street
Sixth Street
Seventh Street
Eighth Street
Ninth Street
Pipsuk Street

FOOD SECURITY

HH ID

Whether or not people in a HH have enough of the kinds of food they want to eat is sometimes a good indicator of how well they are doing. The questions on this page have been asked all over the United States to find out if Americans have enough to eat. I am going to read you FIVE statements about different food situations. Please tell me whether EACH statement was true for your HH in the last 12 months.

Think about all your HH's food, both traditional and store-bought…

STATEMENT 1. We WORRIED that our HH would not have ENOUGH FOOD. HH1

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES…

…in which months did this happen?..... N D J F M A M J J A S O

…did this happen because your HH couldn't get WILD (nikipiaq) foods, your HH couldn't get STORE-BOUGHT foods, or your HH couldn't get BOTH KINDS of food?..... SUB STOR BOTH

STATEMENT 2. We could not get the kinds of foods we wanted to eat because of a LACK OF RESOURCES. HH2

By "lack of resources," we mean your HH did NOT have what you needed to get out on the land to hunt, fish, gather OR to buy food at the store.

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES…

…in which months did this happen?..... N D J F M A M J J A S O

...what resources were lacking that prevented your HH from getting the kinds of foods it wanted? (*please list responses in space below)*

STATEMENT 3. The food we had JUST DID NOT LAST, and we could not get more. HH3

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES, in which months did this happen?..... N D J F M A M J J A S O

Now, think just about your HH's TRADITIONAL food…

STATEMENT 4. The TRADITIONAL food we had just did not last, and we could not get more. HH4

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES, in which months did this happen?..... N D J F M A M J J A S O

Now, think just about your HH's STORE-BOUGHT food…

STATEMENT 5. The STORE-BOUGHT food we had just did not last, and we could not get more. HH5

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES, in which months did this happen?..... N D J F M A M J J A S O

If NO statement above WAS TRUE for this HH, go to the next page.

If ANY statement above WAS TRUE for this HH, continue on this page…

In the last 12 months, did you or other adults in your HH ever CUT THE SIZE OF YOUR MEALS OR SKIP MEALS because the HH could not get the food that was needed?..... N Y ? AD1

If YES, in which months did this happen?..... N D J F M A M J J A S O

In the last 12 months, did you or other adults in your HH ever EAT LESS THAN YOU FELT YOU SHOULD because the HH could not get the food that was needed?..... N Y ? AD2

In the last 12 months, were adults in the HH ever HUNGRY BUT DID NOT EAT because there was not enough food?..... N Y ? AD3

In the last 12 months, did adults in the HH LOSE WEIGHT because there was not enough food?..... N Y ? AD4

In the last 12 months, did you or other adults in your HH ever NOT EAT FOR A WHOLE DAY because there was not enough food?..... N Y ? AD5

If YES, in which months did this happen?..... N D J F M A M J J A S O AD5a

FOOD SECURITY: 201 **SHARING SURVEY: 177**

FOOD CONSUMPTION & SHARING

HH ID

FOOD CONSUMPTION EXERCISE

If my ten fingers represent ALL THE FOOD that members of your HH ate in the past 12 months, please tell me how many fingers were store-bought foods and how many were harvested foods – that is, nikipiaq.

Traditional Foods Blocks
enter #

Surveyor: Write down the number of fingers cited for TRADITIONAL FOODS (T) and STORE BOUGHT (SB)..... T

SB

SHARING DECISIONS: We are trying to understand more about how the sharing occurs between people and HHs.

I am going to give you a situation - You have just gotten a fat caribou.

Decision Codes

Who in this household decides HOW to share this caribou?

How does this person decide HOW MUCH of the caribou to share?

SHARING IN GOOD TIMES VERSUS SCARCE TIMES

Can you remember of a year when your HH had lots of traditional foods (a year when hunting was very, very good)? *circle* Y N

If yes, what year was that? Yr?

Can you remember a year when your household did not have lots of wild foods? *circle* Y N

If yes, what year was that? Yr?

How did those two years differ in the way your household shared?

Different? *circle one* Y N

Difference Codes-HH

How did those two years differ in the way the community shared?

Difference Codes-Com

PERCENTAGE OF FOOD FROM WILD RESOURCES: 33 **SHARING SURVEY: 177**

SHARING CONTINUED

HH ID

CHANGES IN SHARING RELATIONSHIPS

Has sharing in your household changed in the last 10 years? *circle* Y N

IF YES: How has it changed in the past 10 years? Cause / Codes

What caused the changes? Cause / Codes
(Discuss things that strengthen and weaken sharing)

Finally, how does sharing contribute to the well-being of your household? HH WB / Codes

How does sharing contribute to the well-being of your community? COM WB / Codes
(OR What is the role of sharing in making Kaktovik what it is?)

COMMENTS

HH ID

DO YOU HAVE ANY QUESTIONS, COMMENTS, OR CONCERNS?

INTERVIEW SUMMARY:

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

COMMENTS: 30 **SHARING SURVEY: 177**

CODE WORKSHEET FOR OUT-OF-TOWN SOURCES & RECIPIENTS

If people outside of Sharing Survey 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
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		
0035					M F		
0036					M F		
0037					M F		
0038					M F		
0039					M F		
0040					M F		

CODE WORKSHEET FOR OUT-OF-TOWN SOURCES & RECIPIENTS

If people outside of Sharing Survey 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		
0018					M F		
0019					M F		
0020					M F		

SUBSISTENCE AND SHARING SURVEY
VENETIE, ALASKA

COOPERATING ORGANIZATIONS

VENETIE VILLAGE COUNCIL
BOX 81119
VENETIE, AK 99781

907-849-8212

SCHOOL OF NATURAL RESOURCES & AGRICULTURAL SCIENCES
UNIVERSITY OF ALASKA - FAIRBANKS
BOX 75700
FAIRBANKS, AK 99775

907-474-7078

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

800-478-3420

ENVIRONMENTAL STUDIES SECTION
BUREAU OF OCEAN ENERGY MANAGEMENT, REGULATION AND ENFORCEMENT
3801 CENTERPOINT DRIVE, SUITE 500
ANCHORAGE, AK 99503-5202

907-334-5283

For more information about the project, contact Gary Kofinas, Project Leader
School of Natural Resources & Agricultural Sciences, UAF
(907) 474-7078, gpkofinas@alaska.edu

OMB Control # 1010-0184
Expiration Date: 09-30-2013

HOUSEHOLD ID:		
COMMUNITY ID:	**VENETIE**	**363**
RESPONDENT ID:		
INTERVIEWER:		
INTERVIEW DATE:		
START TIME:		
STOP TIME:		
DATA CODED BY:		
DATA ENTERED BY:		
SUPERVISOR:		

Consent Form

Study of Sharing to Assess Community Resilience

Identify who is the "head" or "heads" of the household. Give copy of one-page summary about the project to respondent. Read or summarize to person/people to be interviewed.

The University of Alaska Fairbanks and the Venetie Village Coucil are partnering in a project on sharing relationships that are part of the subsistence–cash economy of the North Slope and Interior Alaska. The project is funded by the BOEMRE, the Bureau of Ocean Energy Management, Regulation and Enforcement. As a part of the project, I would like to interview you about the ways your household is supported and the ways subsistence foods come into your household.

Many studies have tried to document subsistence, but they have not accounted for the sharing that helps to support families in village Alaska. This questionnaire is different. Similar to other projects, we would like to ask how much fish and game your household harvested last year, who lived in your household, and what kind of jobs and income your family members had last year. But we would also like to ask you about the ways that subsistence foods came into your household – either through sharing, cooperative hunting, exchanges of equipment, gifting, or other forms of help. We are documenting sharing to understand how households manage for environmental and economic changes, such as oil and gas development and climate change. Having this information now will help this village keep track of the changes in the future.

This project involves the villages of Wainwright, Kaktovik and Venetie. It is our goal to interview the head of every household in all three villages.

We expect that the interview will take about 1 to 1 1/2 hours to complete. As a thank you for your time, we would like to give you $50 per hour of interviewing time, up to a maximum of $100.

Your participation is completely voluntary. You may choose to not answer certain questions. Your name will remain anonymous. We will not put your name or the name and location of any households in our reports. If you would like to complete this interview in your own language, we will arrange to have a translator join us. Please do not hesitate to ask questions or clarification at any time during the interview. Once the survey is completed, the connection between respondents and responses will be destroyed.

All the information from the project will be returned to the Venetie Village Council for its review before the information is released as a report. A summary about the project will be made available to residents of each village through posters, reports, and public meetings. A copy of the summary report will be mailed to you. As well, we will use the information from our study to write papers to be presented at conferences or written for professional journals.

To summarize:

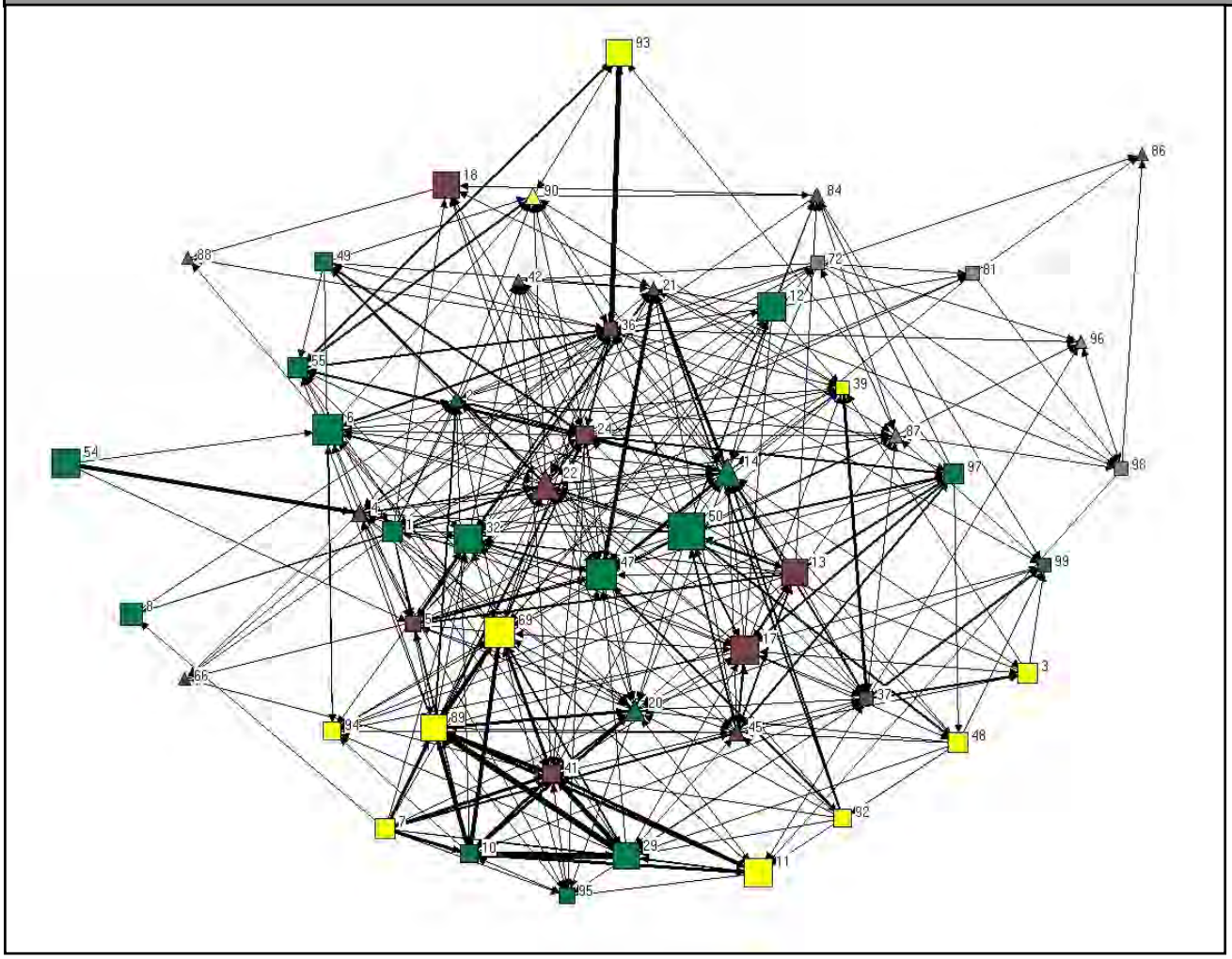
- Participation in the interview and parts of the interview is voluntary and anonymity will be maintained.
- Your name will not appear on the survey.
- Neither your name nor the name of anyone else will appear in any reports or papers.
- The Traditional Councils of each community will review the final report before it is released.
- Results from interviews will be summarized, returned to the communities, and distributed for discussion.
- A copy of the summary report will be mailed to you.

►**Are you willing to be interviewed?** ..... ☐Yes ☐No

If NO, stop interview. If YES, continue and read the following example.

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of subsistence issues in Alaska communities and how they relate to future oil and gas drilling. Responses are voluntary. Proprietary data are covered under FOIA. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB Control Number. Public reporting for this study, is estimated to average 1.5 hours per response. This includes the time for reviewing instructions and answering the questions. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 5438, Minerals Management Service, 1849 C Street, N.W., Washington D.C. 20240

THANK YOU!



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. Many of the elder households (brown boxes) and 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 anonymity, this sheet will be removed from the survey.

HOUSEHOLD (HH) MEMBERS

HH ID

First, I would like to ask about the people in your HH. By this, I mean the people who sleep at your house and are permanent members of your family. This includes college or high school students who return home every summer. I am NOT interested in people who lived with you temporarily, even if they stayed several months. I will not ask questions about them in the rest of the survey.

During the last 12 MONTHS,
WHO lived in this HH?

									If NOT here since birth…		
	Person Code	Is this person answering questions on this survey?	How is this person related to HEAD 1?	Is this person MALE or FEMALE?	Is this person Alaska Native?	How old is this person?	Last grade completed in school?	Lived in this village since birth?	Where is this person's birth home?	When did this person move here?	From where did this person move?
ID#	*00000*	*circle*	*relation*	*circle*	*circle*	*age*	*grade*	*circle*	*community*	*year*	*community*
HEAD		Y N		M F	Y N			Y N			
01											
Next, enter spouse or partner. If HH has a SINGLE HEAD, leave next row BLANK.											
HEAD		Y N		M F	Y N			Y N			
02											
Below, enter children first (oldest to youngest), then grandchildren, grandparents, brothers, sisters, and other HH members.											
03		Y N		M F	Y N			Y N			
04		Y N		M F	Y N			Y N			
05		Y N		M F	Y N			Y N			
06		Y N		M F	Y N			Y N			
07		Y N		M F	Y N			Y N			
08		Y N		M F	Y N			Y N			
09		Y N		M F	Y N			Y N			
10		Y N		M F	Y N			Y N			
11		Y N		M F	Y N			Y N			
12		Y N		M F	Y N			Y N			
13		Y N		M F	Y N			Y N			
14		Y N		M F	Y N			Y N			
15		Y N		M F	Y N			Y N			
16		Y N		M F	Y N			Y N			
17		Y N		M F	Y N			Y N			

DIVIDEND INCOME

THIS PAGE IS ONLY FOR DIVIDEND INCOME | HH ID

Next, I have some questions about your HH's income and expenses.
During the last 12 MONTHS, did any members of your HH receive a dividend
from the Alaska PERMANENT FUND, from a REGIONAL or VILLAGE Native Corporation, or from other investments?..... Y N (Circle)
IF NO, go to the next page.

If YES, continue below…

		2009 PFD* $1,281 / PERSON		2009 ANRC** $ / 100 SHARES	2009 ANVC*** $ / 100 SHARES		
	Person Code	Did this person receive a FULL Alaska PFD in 2009?	IF NO…. how much was this person's Alaska PFD in 2009?	In 2009, how much DIVIDEND income did this person receive from… Alaska Native REGIONAL Corporations?	Alaska Native VILLAGE Corporations?	Other Dividend Income (Stocks, Bonds)	Comments?
order | role | res.	*00000*	*circle*	*dollars*	*dollars*	*dollars*	*dollars*	*enter text*
HEAD 01 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
1 6 910000000							
Next, enter dividend income for spouse or partner. If HH has a SINGLE HEAD, leave next row BLANK.							
HEAD 02 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
2 6 910000000							
Below, enter dividend income for the rest of the HH in the same order as the previous page.							
PERSON 03 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
3 6 910000000							
PERSON 04 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
4 6 910000000							
PERSON 05 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
5 6 910000000							
PERSON 06 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
6 6 910000000							
PERSON 07 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
7 6 910000000							
PERSON 08 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
8 6 910000000							
PERSON 09 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
9 6 910000000							
PERSON 10 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
10 6 910000000							
PERSON 11 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
11 6 910000000							
PERSON 12 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
12 6 910000000							
PERSON 13 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
13 6 910000000							
PERSON 14 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
14 6 910000000							
PERSON 15 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
15 6 910000000							
PERSON 16 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
16 6 910000000							
PERSON 17 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
17 6 910000000							

* PFD is Permanent Fund Dividend; **ANRC is Alaska Native Regional Corporation; ***ANVC is Alaska Native Village Corporation

JOBS — FOR EACH PERSON IN THE HH, 16 YEARS OLD AND OLDER — HH ID

This page asks about jobs and income. 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.

During the last 12 MONTHS,
did any members of your HH earn money from a JOB or from SELF EMPLOYMENT?..... Y N (Circle)

For each member of this HH born before 1994, please list EACH JOB held during the last 12 months. For HH members who did not have a job, write: RETIRED, UNEMPLOYED, STUDENT, HOMEMAKER, etc. There should be ONE ROW FOR EACH JOB held by a member of this HH born before 1994. There should be AT LEAST one row for each member of this HH born before 1994 (this includes anyone who is 16 years old or older).

order | role | res.	Person Code (00000)	What kind of work did he or she do in this job? (job title)	For whom did he or she work in this job? (employer)	In the past year, what months did he or she work in this job? (circle each month worked)	WORK SCHEDULE... (circle one)	In the past year how much did he or she earn in this job? (gross income)
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
1 6 910100000						
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
2 6 910100000						
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
3 6 910100000						
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
4 6 910100000						
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
5 6 910100000						
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
6 6 910100000						
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
7 6 910100000						
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
8 6 910100000						
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
9 6 910100000						
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
10 6 910100000						
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
11 6 910100000						
				J F M A M J J A S O N D	FT PT SF OC SP	$ / Yr
12 6 910100000						

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, SEWING, or CARVING 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
0 - Unemployed

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

OTHER INCOME

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

HH ID

During the last 12 MONTHS, did any member of your HH receive any kind of OTHER INCOME,
such as UNEMPLOYMENT, ...SOCIAL SECURITY , or ...CHILD SUPPORT?..... Y N (Circle)

IF NO, go to the next page.

If YES, continue on this page…

During the last 12 MONTHS, how much did YOUR HH receive from…

				HH ASSISTANCE PROGRAMS													
				...Energy Assistance		…Weather-ization		Food Stamps		WIC*							
			OTHER INCOME RECEIVED BY ENTIRE HH	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
1	6	910000000		9		34		11									

During the last 12 MONTHS, how much did ELDERS in your HH receive from…

					ELDER ASSISTANCE PROGRAMS													
order	*role*	*res.*	Person Code		...Social Security		...Pensions & Retirement		...Senior Care (Longevity)									
			1ST ELDER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
1	6	910000000			7		5		6									
			2ND ELDER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
2	6	910000000			7		5		6									
			3RD ELDER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
3	6	910000000			7		5		6									
			4TH ELDER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
4	6	910000000			7		5		6									

During the last 12 MONTHS, how much did OTHER MEMBERS of your HH receive from…

				JOB PROGRAMS				*CHILD PROGRAMS ***						*PUBLIC ASSISTANCE*			
order	*role*	*res.*	Person Code	Unemployment		...Workers' Compensation		...Supplemental Security		...Foster Care		...Child Support		...Adullt Public Assistance		...Temporary Assistance	
			1ST OTHER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
1	6	910000000		12		8		10		41		15		3		52	
			2ND OTHER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
2	6	910000000		12		8		10		41		15		3		52	
			3RD OTHER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
3	6	910000000		12		8		10		41		15		3		52	
			4TH OTHER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
4	6	910000000		12		8		10		41		15		3		52	
			5TH OTHER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
5	6	910000000		12		8		10		41		15		3		52	
			6TH OTHER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
6	6	910000000		12		8		10		41		15		3		52	
			7TH OTHER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
7	6	910000000		12		8		10		41		15		3		52	
			8TH OTHER INCOME RECIPIENT	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
8	6	910000000		12		8		10		41		15		3		52	

**WIC is The Special Supplemental Nutrition Program for Women, Infants, and Children; ** Children's programs like foster care and child support are considered as parent or guardian income, not child income.*

NOTE: IF a respondent gives you MONTHLY income, calculate ANNUAL INCOME. This is (monthly amount) x (months received) = (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.

MONTHLY HOUSEHOLD EXPENSES

HH ID

I'm going to read a list of typical HH bills. Please tell me HOW MUCH your HH spent on each bill in a TYPICAL MONTH last year.

HOUSING	*HEATING FUELS*			*UTILITIES*				*GROCERIES*
Rent or Mortagage?	Fuel Oil in Summer?	Fuel Oil in Winter?	Wood?	Electricity	Water & Sewer?	Phone?	Cable Television?	Groceries?
$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo

During the last 12 months, WHO contributed to paying your HH's bills? Include anyone who helped you pay your bills.

		Person Code	In a TYPICAL MONTH, how much did this person contribute to YOUR HH'S expenses for…				
			…HOUSING	…HEATING FUELS	…UTILITIES	…GROCERIES	Comments?
order, res. & role		*00000*	*$*	*$*	*$*	*$*	*enter text*
	1ST CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
1	6 910000000						
	2ND CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
2	6 910000000						
	3RD CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
3	6 910000000						
	4TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
4	6 910000000						
	5TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
5	6 910000000						
	6TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
6	6 910000000						
	7TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
7	6 910000000						
	8TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
8	6 910000000						
	9TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
9	6 910000000						
	10TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
10	6 910000000						
	11TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
11	6 910000000						
	12TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
12	6 910000000						
	13TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
13	6 910000000						
	14TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
14	6 910000000						
	15TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
15	6 910000000						
	16TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
16	6 910000000						

FINANCIAL INFORMATION NETWORK

HH ID

During the last 12 MONTHS,
did anyone in this HH try to find a job, get a grant, or get some other kind of financial assistance?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

In the last 12 months,
which individuals and organizations PROVIDED INFORMATION to your HH about jobs, grants and other financial matters?

	INFO SOURCES			
	…job opportunities?	…grant opportunities?	…assistance opportunities?	
	Code	Code	Code	Comments?
order | role | res.	*00000*	*00000*	*00000*	*enter text*
1ST FINANCIAL INFO SOURCE				
1 4 900000000				
2ND FINANCIAL INFO SOURCE				
2 4 900000000				
3RD FINANCIAL INFO SOURCE				
3 4 900000000				
4TH FINANCIAL INFO SOURCE				
4 4 900000000				
5TH FINANCIAL INFO SOURCE				
5 4 900000000				
6TH FINANCIAL INFO SOURCE				
6 4 900000000				
7TH FINANCIAL INFO SOURCE				
7 4 900000000				
8TH FINANCIAL INFO SOURCE				
8 4 900000000				
9TH FINANCIAL INFO SOURCE				
9 4 900000000				
10TH FINANCIAL INFO SOURCE				
10 4 900000000				
11TH FINANCIAL INFO SOURCE				
11 4 900000000				
12TH FINANCIAL INFO SOURCE				
12 4 900000000				
13TH FINANCIAL INFO SOURCE				
13 4 900000000				
14TH FINANCIAL INFO SOURCE				
14 4 900000000				
15TH FINANCIAL INFO SOURCE				
15 4 900000000				
16TH FINANCIAL INFO SOURCE				
16 4 900000000				

SUBSISTENCE EQUIPMENT SOURCES

HH ID

If HH did NOT use equipment for subsistence, skip to the next page.

If HH DID use equipment for subsistence, continue on this page…

	During the last 12 months…								During the last 12 months…	
	...Who OWNED the equipment your HH used for subsistence?	…WHAT equipment did this person provide for your HH's use?								...WHO Repaired the equipment your HH used for subsistence?
		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK	OTHER			
order | role | res.	*00000*	*circle ALL that apply*							*order | role | res.*	*00000*
1ST EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			1ST REPAIR SOURCE	
1 9									1 7	
2ND EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			2ND REPAIR SOURCE	
2 9									2 7	
3RD EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			3RD REPAIR SOURCE	
3 9									3 7	
4TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			4TH REPAIR SOURCE	
4 9									4 7	
5TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			5TH REPAIR SOURCE	
5 9									5 7	
6TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			6TH REPAIR SOURCE	
6 9									6 7	
7TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			7TH REPAIR SOURCE	
7 9									7 7	
8TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			8TH REPAIR SOURCE	
8 9									8 7	
9TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			9TH REPAIR SOURCE	
9 9									9 7	
10TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			10TH REPAIR SOURCE	
10 9									10 7	
11TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			11TH REPAIR SOURCE	
11 9									11 7	
12TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			12TH REPAIR SOURCE	
12 9									12 7	
13TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			13TH REPAIR SOURCE	
13 9									13 7	
14TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			14TH REPAIR SOURCE	
14 9									14 7	
15TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			15TH REPAIR SOURCE	
15 9									15 7	
16TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			16TH REPAIR SOURCE	
16 9									16 7	

SUBSISTENCE EQUIPMENT

HH ID

During the last 12 MONTHS,
did members of your HH use equipment like boats, *snowmachines (snowmobiles),
or freezers to harvest or store subsistence foods?..... Y N (Circle)

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

I am going to read a list of some equipment and supplies that people use for subsistence. Please tell me if someone in your HH OWNED or USED this equipment in the last 12 months. For equipment that your HH owned, I would like to know how much your HH spent in the last 12 months to buy, repair, and supply this equipment.

	Over 12 mos. how many _____ did your HH own?	… did your HH use _____?	For each equipment type OWNED by this household in 2010, ask… PURCHASES: … how many did your HH buy?	PURCHASES: … how much did your HH spend TO BUY _____?	REPAIRS: … how much did your HH spend TO REPAIR _____?	GASOLINE: … how much did your HH spend on GAS for _____?
	number	*circle*	*number*	*dollars*	*dollars*	*dollars*
BOAT(S)		Y N		$ / Yr	$ / Yr	n/a
980110000						
OUTBOARD MOTOR(S)		Y N		$ / Yr	$ / Yr	$ / Yr
980120000						
SNOWMACHINE(S)		Y N		$ / Yr	$ / Yr	$ / Yr
980210100						
ATV(S), 4-WHEELER(S)		Y N		$ / Yr	$ / Yr	$ / Yr
980210200						
FREEZER(S)		Y N		$ / Yr	$ / Yr	n/a
980600100						
		Y N		$ / Yr	$ / Yr	$ / Yr
		Y N		$ / Yr	$ / Yr	$ / Yr
SUBSISTENCE SUPPLIES		Y N	n/a	$ / Yr	SUBSISTENCE SUPPLIES include: ammunition, nets, hunting and fishing clothes, buckets, tubs, camp supplies, etc.	
950000000						

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

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

*Local terminology for "snowmobile" is "snowmachine". The term "snowmachine" is used throughout the rest of the survey instrument.

The next section asks about subsistence foods.

For most foods, we will briefly ask how much your HH got last year **(between the months of October 2009 and October 2010) .**

But for six important foods, we will ask about the different ways those foods came into your HH, for example; your own hunting, hunting with others, your contributions to the hunting of other HHs, and sharing.

The 6 foods we will ask about are:

VENETIE:
CARIBOU
MOOSE
DUCKS
GEESE
GRAYLING
WHITEFISH
BERRIES

As well, because many people in VEE are related to people from regions where marine mammals are hunted, we will ask if members of your HH received Bearded Seal, Beluga whale or Bowhead whale from others.

HARVESTS: LARGE LAND MAMMALS

HH ID

Do members of your HH USUALLY hunt large land mammals for subsistence,
such as CARIBOU or MOOSE?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO HUNT large land mammals?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did members of your HH...				For each resource HARVESTED, ask…		
	Use? (eat, sew, carve, apply medicinally, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many large land mammals ALL MEMBERS OF YOUR HH HUNTED for subsistence use the last 12 months. INCLUDE large land mammals you gave away, ate fresh, dried, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the take.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	*specify**	*enter text*
CARIBOU	Y N	Y N	Y N	Y N	***SURVEYOR: If respondent answers NO to ALL caribou questions here, continue on this page, but skip the caribou source pages.***		
211000000							***<< CODER: Summarize network harvests here.***
MOOSE	Y N	Y N	Y N	Y N	***SURVEYOR: If respondent answers NO to ALL moose questions here, continue on this page, but skip the moose source pages.***		
211800000							***<< CODER: Summarize network harvests here.***
DALL SHEEP	Y N	Y N	Y N	Y N			
212200000							
BLACK BEAR	Y N	Y N	Y N	Y N			
210600000							
	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			
	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			

**SURVEYOR: Respondents should specify the applicable unit of measure for that resource (number or proportions of animals, fish or berries, buckets, etc.), and when appropriate, how many were killed, gathered or received. All units will be transformed to weight in pounds during analysis.*

During the last 12 MONTHS,
Did your HH use or hunt for any other large mammals in the last 12 months?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

CARIBOU SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

During the last 12 MONTHS, did anyone in your HH
kill any CARIBOU while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many caribou EACH MEMBER OF THEIR HH HARVESTED for subsistence use during the last 12 months. INCLUDE caribou the HH members gave away, even if they gave it away without bringing it home. Include caribou the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HHonly											
Who in your HH killed CARIBOU last year?		How many CARIBOU did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	***specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 211000000									
2ND HUNTER IN THIS HOUSE									
2 1 211000000									
3RD HUNTER IN THIS HOUSE									
3 1 211000000									
4TH HUNTER IN THIS HOUSE									
4 1 211000000									
5TH HUNTER IN THIS HOUSE									
5 1 211000000									
6TH HUNTER IN THIS HOUSE									
6 1 211000000									
7TH HUNTER IN THIS HOUSE									
7 1 211000000									
8TH HUNTER IN THIS HOUSE									
8 1 211000000									
9TH HUNTER IN THIS HOUSE									
9 1 211000000									
10TH HUNTER IN THIS HOUSE									
10 1 211000000									
11TH HUNTER IN THIS HOUSE									
11 1 211000000									
12TH HUNTER IN THIS HOUSE									
12 1 211000000									
13TH HUNTER IN THIS HOUSE									
13 1 211000000									
14TH HUNTER IN THIS HOUSE									
14 1 211000000									
15TH HUNTER IN THIS HOUSE									
15 1 211000000									
16TH HUNTER IN THIS HOUSE									
16 1 211000000									

CARIBOU SOURCES: SHARES FROM HUNTING

HHID

During the last 12 MONTHS, did anyone in your HH
receive CARIBOU as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many caribou each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the take. INCLUDE caribou the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH				***HUNTERS from OTHER HHS***					
Who received CARIBOU as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 211000000									
2ND HUNTER IN THIS HOUSE									
2 1 211000000									
3RD HUNTER IN THIS HOUSE									
3 1 211000000									
4TH HUNTER IN THIS HOUSE									
4 1 211000000									
5TH HUNTER IN THIS HOUSE									
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6TH HUNTER IN THIS HOUSE									
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7TH HUNTER IN THIS HOUSE									
7 1 211000000									
8TH HUNTER IN THIS HOUSE									
8 1 211000000									
9TH HUNTER IN THIS HOUSE									
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11TH HUNTER IN THIS HOUSE									
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12 1 211000000									
13TH HUNTER IN THIS HOUSE									
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14TH HUNTER IN THIS HOUSE									
14 1 211000000									
15TH HUNTER IN THIS HOUSE									
15 1 211000000									
16TH HUNTER IN THIS HOUSE									
16 1 211000000									

CARIBOU SOURCES: SHARES FOR HELPING

HHID

During the last 12 MONTHS, did anyone in your HH get any SHARES of CARIBOU because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if caribou was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of CARIBOU?	How much CARIBOU did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 211000000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 211000000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 211000000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 211000000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 211000000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 211000000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 211000000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 211000000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 211000000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 211000000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 211000000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 211000000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 211000000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 211000000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 211000000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 211000000											

CARIBOU SOURCES: SHARING, TRADES, & PURCHASES

HHID

During the last 12 MONTHS, did anyone in your HH receive CARIBOU
either as a gift, in a trade, or by buying it from someone living in another HH in Venetie or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive CARIBOU?	Did this person KILL the CARIBOU ?	How much CARIBOU did your HH receive from this person? Amount Received	How much CARIBOU did your HH receive from this person? Units	Was this a GIFT, TRADE, or PURCHASE?	SUBSISTENCE FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 211000000												
2ND HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 211000000												
3RD HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 211000000												
4TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 211000000												
5TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 211000000												
6TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 211000000												
7TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 211000000												
8TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 211000000												
9TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 211000000												
10TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 211000000												
11TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 211000000												
12TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 211000000												
13TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 211000000												
14TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 211000000												
15TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 211000000												
16TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 211000000												

S="SOMETIMES" ?= "DON'T KNOW"

CARIBOU: PROCESSORS

HHID

During the last 12 MONTHS,
did anyone cut, dry, freeze, smoke, or put away CARIBOU for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, froze, smoked, or put away CARIBOU for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	***PROCESSORS***	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 211000000		
2ND PROCESSOR		
2 2 211000000		
3RD PROCESSOR		
3 2 211000000		
4TH PROCESSOR		
4 2 211000000		
5TH PROCESSOR		
5 2 211000000		
6TH PROCESSOR		
6 2 211000000		
7TH PROCESSOR		
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8TH PROCESSOR		
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12TH PROCESSOR		
12 2 211000000		
13TH PROCESSOR		
13 2 211000000		
14TH PROCESSOR		
14 2 211000000		
15TH PROCESSOR		
15 2 211000000		
16TH PROCESSOR		
16 2 211000000		

CARIBOU: SUPPORT NETWORK

HHID

Ask the questions on this page IF ANY MEMBER of this HH hunted for CARIBOU during the last 12 months.

IF NO HH member hunted, skip this page.

IF ANY HH member hunted, continue on this page…

I'd like you to think about the PEOPLE and ORGANIZATIONS that provided information to your HH about caribou hunting. During the last 12 MONTHS, from whom did members of your HH learn about...

Please list the most important person first. INCLUDE people in this HH.	*INFO SOURCES*				
	...When and Where to Hunt for Caribou?	… the Population size of Caribou?	… The Condition of Caribou?	Caribou Hunting Rules, Regulations, and Management?	
	Person Code	*Person Code*	*Person Code*	*Person Code*	Comments?
order | role | res.	*00000*	*00000*	*00000*	*00000*	*enter text*
1ST INFO SOURCE					
1 4 211000000					
2ND INFO SOURCE					
2 4 211000000					
3RD INFO SOURCE					
3 4 211000000					
4TH INFO SOURCE					
4 4 211000000					
5TH INFO SOURCE					
5 4 211000000					
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14 4 211000000					
15TH INFO SOURCE					
15 4 211000000					
16TH INFO SOURCE					
16 4 211000000					

MOOSE SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

During the last 12 MONTHS, did anyone in your HH
kill any MOOSE while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many moose EACH MEMBER OF THEIR HH HARVESTED for subsistence use during the last 12 months. INCLUDE moose the HH members gave away, even if they gave it away without bringing it home. Include moose the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH only											
Who in your HH killed MOOSE last year?		How many MOOSE did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 211800000									
2ND HUNTER IN THIS HOUSE									
2 1 211800000									
3RD HUNTER IN THIS HOUSE									
3 1 211800000									
4TH HUNTER IN THIS HOUSE									
4 1 211800000									
5TH HUNTER IN THIS HOUSE									
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7TH HUNTER IN THIS HOUSE									
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14 1 211800000									
15TH HUNTER IN THIS HOUSE									
15 1 211800000									
16TH HUNTER IN THIS HOUSE									
16 1 211800000									

MOOSE SOURCES: SHARES FROM HUNTING

HH ID _____

During the last 12 MONTHS, did anyone in your HH
receive MOOSE as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many moose each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the take. INCLUDE moose the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH				***HUNTERS from OTHER HHS***					
Who received MOOSE as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 211800000									
2ND HUNTER IN THIS HOUSE									
2 1 211800000									
3RD HUNTER IN THIS HOUSE									
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4TH HUNTER IN THIS HOUSE									
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15TH HUNTER IN THIS HOUSE									
15 1 211800000									
16TH HUNTER IN THIS HOUSE									
16 1 211800000									

MOOSE SOURCES: SHARES FOR HELPING

HH ID

During the last 12 MONTHS, did anyone in your HH get any SHARES of MOOSE
because they contributed to the hunting effort of other HH s, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if moose was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of MOOSE?	How much MOOSE did members of your HH receive as SHARES?		FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
		Amount Received	Units								
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 211800000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 211800000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 211800000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 211800000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 211800000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 211800000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 211800000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 211800000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 211800000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 211800000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 211800000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 211800000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 211800000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 211800000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 211800000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 211800000											

MOOSE SOURCES: SHARING, TRADES, & PURCHASES

HH ID _____

During the last 12 MONTHS, did anyone in your HH receive MOOSE
either as a gift, in a trade, or by buying it from someone living in another HH in Venetie or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HH S only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive MOOSE?	Did this person KILL the MOOSE?	How much MOOSE did your HH receive from this person? Amount Received	How much MOOSE did your HH receive from this person? Units	Was this a GIFT, TRADE, or PURCHASE?	SUBSISTENCE FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 211800000												
2ND HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 211800000												
3RD HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 211800000												
4TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 211800000												
5TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 211800000												
6TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 211800000												
7TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 211800000												
8TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 211800000												
9TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 211800000												
10TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 211800000												
11TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 211800000												
12TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 211800000												
13TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 211800000												
14TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 211800000												
15TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 211800000												
16TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 211800000												

S="SOMETIMES" ?= "DON'T KNOW"

MOOSE: PROCESSORS

HH ID

During the last 12 MONTHS,
did anyone cut, dry, freeze, smoke, or put away MOOSE for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, froze, or put away MOOSE for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH .	***PROCESSORS***	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 211800000		
2ND PROCESSOR		
2 2 211800000		
3RD PROCESSOR		
3 2 211800000		
4TH PROCESSOR		
4 2 211800000		
5TH PROCESSOR		
5 2 211800000		
6TH PROCESSOR		
6 2 211800000		
7TH PROCESSOR		
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8TH PROCESSOR		
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9TH PROCESSOR		
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14TH PROCESSOR		
14 2 211800000		
15TH PROCESSOR		
15 2 211800000		
16TH PROCESSOR		
16 2 211800000		

MOOSE: SUPPORT NETWORK

HH ID

Ask the questions on this page IF ANY MEMBER of this HH hunted for MOOSE during the last 12 months.

IF NO HH member hunted, skip this page.
IF ANY HH member hunted, continue on this page…

I'd like you to think about the PEOPLE and ORGANIZATIONS that provided information to your HH about moose hunting. During the last 12 MONTHS, from whom did members of your HH learn about...

Please list the most important person first. INCLUDE people in this HH.	*INFO SOURCES*				
	...When and Where to Hunt for Moose?	… the Population size of Moose?	… The Condition of Moose?	Moose Hunting Rules, Regulations, and Management?	
	Person Code	*Person Code*	*Person Code*	*Person Code*	Comments?
order | role | res.	*00000*	*00000*	*00000*	*00000*	*enter text*
1ST INFO SOURCE					
1 4 211800000					
2ND INFO SOURCE					
2 4 211800000					
3RD INFO SOURCE					
3 4 211800000					
4TH INFO SOURCE					
4 4 211800000					
5TH INFO SOURCE					
5 4 211800000					
6TH INFO SOURCE					
6 4 211800000					
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7 4 211800000					
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8 4 211800000					
9TH INFO SOURCE					
9 4 211800000					
10TH INFO SOURCE					
10 4 211800000					
11TH INFO SOURCE					
11 4 211800000					
12TH INFO SOURCE					
12 4 211800000					
13TH INFO SOURCE					
13 4 211800000					
14TH INFO SOURCE					
14 4 211800000					
15TH INFO SOURCE					
15 4 211800000					
16TH INFO SOURCE					
16 4 211800000					

HARVESTS: MIGRATORY BIRDS

HH ID

Do members of your HH USUALLY hunt migratory birds for subsistence,
such as WHITE-FRONTED GEESE or COMMON EIDER?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO HUNT migratory birds?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did members of your HH….				For each resource HARVESTED, ask…		
	Use? (eat, trade, apply medicinally, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many migratory birds ALL MEMBERS OF YOUR HH HUNTED for subsistence use the last 12 months. INCLUDE migratory birds you gave away, ate fresh, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the hunt.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
WHITE-FRONTED GEESE	Y N	Y N	Y N	Y N	***SURVEYOR: If respondent answers NO to ALL white-fronted geese questions here, continue on this page, but skip the geese source pages.***		
410410000							***<< CODER: Summarize network harvests here.***
CANADA GEESE	Y N	Y N	Y N	Y N	***SURVEYOR: If respondent answers NO to ALL canada geese questions here, continue on this page, but skip the geese source pages.***		
410404990							***<< CODER: Summarize network harvests here.***
COMMON EIDER	Y N	Y N	Y N	Y N			
410206020							
KING EIDER	Y N	Y N	Y N	Y N			
410206040							
OTHER DUCKS	Y N	Y N	Y N	Y N	***SURVEYOR: If respondent answers NO to ALL other ducks questions here, continue on this page, but skip the ducks source pages.***		
410299009							***<< CODER: Summarize network harvests here.***
PTARMIGAN	Y N	Y N	Y N	Y N			
421804000							
TUNDRA SWAN	Y N	Y N	Y N	Y N			
410699000							
SANDHILL CRANE	Y N	Y N	Y N	Y N			
410802000							
	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			

During the last 12 MONTHS,
did your HH use or hunt any other kind of migratory birds?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

GEESE SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

During the last 12 MONTHS, did anyone in your HH
kill any GEESE while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many geese EACH MEMBER OF THEIR HH HARVESTED for subsistence use during the last 12 months. INCLUDE geese the HH members gave away, even if they gave it away without bringing it home. Include geese the HH ate fresh, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH only											
Who in your HH killed GEESE last year?		How many GEESE did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 410499009									
2ND HUNTER IN THIS HOUSE									
2 1 410499009									
3RD HUNTER IN THIS HOUSE									
3 1 410499009									
4TH HUNTER IN THIS HOUSE									
4 1 410499009									
5TH HUNTER IN THIS HOUSE									
5 1 410499009									
6TH HUNTER IN THIS HOUSE									
6 1 410499009									
7TH HUNTER IN THIS HOUSE									
7 1 410499009									
8TH HUNTER IN THIS HOUSE									
8 1 410499009									
9TH HUNTER IN THIS HOUSE									
9 1 410499009									
10TH HUNTER IN THIS HOUSE									
10 1 410499009									
11TH HUNTER IN THIS HOUSE									
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13TH HUNTER IN THIS HOUSE									
13 1 410499009									
14TH HUNTER IN THIS HOUSE									
14 1 410499009									
15TH HUNTER IN THIS HOUSE									
15 1 410499009									
16TH HUNTER IN THIS HOUSE									
16 1 410499009									

GEESE SOURCES: SHARES FROM HUNTING

HH ID

During the last 12 MONTHS, did anyone in your HH
receive GEESE as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many geese each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the hunt. INCLUDE geese the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH				HUNTERS from OTHER HHS					
Who received GEESE as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 410499009									
2ND HUNTER IN THIS HOUSE									
2 1 410499009									
3RD HUNTER IN THIS HOUSE									
3 1 410499009									
4TH HUNTER IN THIS HOUSE									
4 1 410499009									
5TH HUNTER IN THIS HOUSE									
5 1 410499009									
6TH HUNTER IN THIS HOUSE									
6 1 410499009									
7TH HUNTER IN THIS HOUSE									
7 1 410499009									
8TH HUNTER IN THIS HOUSE									
8 1 410499009									
9TH HUNTER IN THIS HOUSE									
9 1 410499009									
10TH HUNTER IN THIS HOUSE									
10 1 410499009									
11TH HUNTER IN THIS HOUSE									
11 1 410499009									
12TH HUNTER IN THIS HOUSE									
12 1 410499009									
13TH HUNTER IN THIS HOUSE									
13 1 410499009									
14TH HUNTER IN THIS HOUSE									
14 1 410499009									
15TH HUNTER IN THIS HOUSE									
15 1 410499009									
16TH HUNTER IN THIS HOUSE									
16 1 410499009									

GEESE SOURCES: SHARES FOR HELPING

HH ID

During the last 12 MONTHS, did anyone in your HH get any SHARES of GEESE
because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if birds were a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of GEESE?	How much GEESE did members of your HH receive as SHARES?									
		Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 410499009											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 410499009											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 410499009											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 410499009											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 410499009											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 410499009											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 410499009											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 410499009											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 410499009											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 410499009											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 410499009											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 410499009											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 410499009											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 410499009											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 410499009											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 410499009											

GEESE SOURCES: SHARING, TRADES, & PURCHASES

HH ID

During the last 12 MONTHS, did anyone in your HH receive GEESE
either as a gift, in a trade, or by buying it from someone living in another HH in Venetie or in another community?..... Y N (Circle)

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

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive GEESE?	Did this person KILL the GEESE?	How many GEESE did your HH receive from this person? Amount Received	Units	Was this a GIFT, TRADE, or PURCHASE?	SUBSISTENCE FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 410499009												
2ND HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 410499009												
3RD HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 410499009												
4TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 410499009												
5TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 410499009												
6TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 410499009												
7TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 410499009												
8TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 410499009												
9TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 410499009												
10TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 410499009												
11TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 410499009												
12TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 410499009												
13TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 410499009												
14TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 410499009												
15TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 410499009												
16TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 410499009												

S="SOMETIMES" ?="DON'T KNOW"

GEESE: PROCESSORS

HH ID

During the last 12 MONTHS,
did anyone cut, dry, freeze, pluck, or put away GEESE for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, froze, plucked, or put away GEESE for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	*PROCESSORS*	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 410499009		
2ND PROCESSOR		
2 2 410499009		
3RD PROCESSOR		
3 2 410499009		
4TH PROCESSOR		
4 2 410499009		
5TH PROCESSOR		
5 2 410499009		
6TH PROCESSOR		
6 2 410499009		
7TH PROCESSOR		
7 2 410499009		
8TH PROCESSOR		
8 2 410499009		
9TH PROCESSOR		
9 2 410499009		
10TH PROCESSOR		
10 2 410499009		
11TH PROCESSOR		
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12TH PROCESSOR		
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13TH PROCESSOR		
13 2 410499009		
14TH PROCESSOR		
14 2 410499009		
15TH PROCESSOR		
15 2 410499009		
16TH PROCESSOR		
16 2 410499009		

GEESE: SUPPORT NETWORK

HH ID

Ask the questions on this page IF ANY MEMBER of this HH hunted for GEESE during the last 12 months.

IF NO HH member hunted, skip this page.
IF ANY HH member hunted, continue on this page…

I'd like you to think about the PEOPLE and ORGANIZATIONS that provided information to your HH about geese hunting. During the last 12 MONTHS, from whom did members of your HH learn about...

Please list the most important person first. INCLUDE people in this HH.	*INFO SOURCES*				
	...When and Where to Hunt for Geese?	… the Population size of Geese?	… The Condition of Geese?	Geese Hunting Rules, Regulations, and Management?	
	Person Code	*Person Code*	*Person Code*	*Person Code*	Comments?
order | role | res.	*00000*	*00000*	*00000*	*00000*	*enter text*
1ST INFO SOURCE					
1 4 410499009					
2ND INFO SOURCE					
2 4 410499009					
3RD INFO SOURCE					
3 4 410499009					
4TH INFO SOURCE					
4 4 410499009					
5TH INFO SOURCE					
5 4 410499009					
6TH INFO SOURCE					
6 4 410499009					
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7 4 410499009					
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8 4 410499009					
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14 4 410499009					
15TH INFO SOURCE					
15 4 410499009					
16TH INFO SOURCE					
16 4 410499009					

DUCK SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

During the last 12 MONTHS, did anyone in your HH
kill any DUCKS while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many ducks EACH MEMBER OF THEIR HH HARVESTED for subsistence use during the last 12 months. INCLUDE ducks the HH members gave away, even if they gave it away without bringing it home. Include ducks the HH ate fresh, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH only										
Who in your HH killed DUCKS last year?		How many DUCKS did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 430299000									
2ND HUNTER IN THIS HOUSE									
2 1 430299000									
3RD HUNTER IN THIS HOUSE									
3 1 430299000									
4TH HUNTER IN THIS HOUSE									
4 1 430299000									
5TH HUNTER IN THIS HOUSE									
5 1 430299000									
6TH HUNTER IN THIS HOUSE									
6 1 430299000									
7TH HUNTER IN THIS HOUSE									
7 1 430299000									
8TH HUNTER IN THIS HOUSE									
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9TH HUNTER IN THIS HOUSE									
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11TH HUNTER IN THIS HOUSE									
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15TH HUNTER IN THIS HOUSE									
15 1 430299000									
16TH HUNTER IN THIS HOUSE									
16 1 430299000									

DUCK SOURCES: SHARES FROM HUNTING

HH ID _____

During the last 12 MONTHS, did anyone in your HH
receive DUCKS as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many ducks each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the hunt. INCLUDE ducks the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH				***HUNTERS from OTHER HHS***					
Who received DUCKS as a share when hunting with others?		How many did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 430299000									
2ND HUNTER IN THIS HOUSE									
2 1 430299000									
3RD HUNTER IN THIS HOUSE									
3 1 430299000									
4TH HUNTER IN THIS HOUSE									
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5TH HUNTER IN THIS HOUSE									
5 1 430299000									
6TH HUNTER IN THIS HOUSE									
6 1 430299000									
7TH HUNTER IN THIS HOUSE									
7 1 430299000									
8TH HUNTER IN THIS HOUSE									
8 1 430299000									
9TH HUNTER IN THIS HOUSE									
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15TH HUNTER IN THIS HOUSE									
15 1 430299000									
16TH HUNTER IN THIS HOUSE									
16 1 430299000									

DUCK SOURCES: SHARES FOR HELPING

HH ID

During the last 12 MONTHS, did anyone in your HH get any SHARES of DUCKS
because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if birds were a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of DUCKS ?	How many DUCKS did members of your HH receive as SHARES?		FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
		Amount Received	Units								
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 430299000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 430299000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 430299000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 430299000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 430299000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 430299000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 430299000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 430299000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 430299000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 430299000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 430299000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 430299000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 430299000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 430299000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 430299000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 430299000											

DUCK SOURCES: SHARING, TRADES, & PURCHASES

HH ID

During the last 12 MONTHS, did anyone in your HH receive DUCKS
either as a gift, in a trade, or by buying them from someone living in another HH in Venetie or in another community? Y N (Circle)

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

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive DUCKS ?	Did this person KILL the DUCKS ?	How many DUCKS did your HH receive from this person? Amount Received	Units	Was this a GIFT, TRADE, or PURCHASE?	SUBSISTENCE FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 430299000												
2ND HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 430299000												
3RD HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 430299000												
4TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 430299000												
5TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 430299000												
6TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 430299000												
7TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 430299000												
8TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 430299000												
9TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 430299000												
10TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 430299000												
11TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 430299000												
12TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 430299000												
13TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 430299000												
14TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 430299000												
15TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 430299000												
16TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 430299000												

S="SOMETIMES" ?="DON'T KNOW"

DUCK PROCESSORS

HH ID

During the last 12 MONTHS,
did anyone cut, dry, freeze, pluck, or put away DUCKS for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, froze, plucked, or put away DUCKS for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.				*PROCESSORS*	
				Person Code	Comments?
order	*role*	*res.*		*00000*	*enter text*
			1ST PROCESSOR		
1	2	430299000			
			2ND PROCESSOR		
2	2	430299000			
			3RD PROCESSOR		
3	2	430299000			
			4TH PROCESSOR		
4	2	430299000			
			5TH PROCESSOR		
5	2	430299000			
			6TH PROCESSOR		
6	2	430299000			
			7TH PROCESSOR		
7	2	430299000			
			8TH PROCESSOR		
8	2	430299000			
			9TH PROCESSOR		
9	2	430299000			
			10TH PROCESSOR		
10	2	430299000			
			11TH PROCESSOR		
11	2	430299000			
			12TH PROCESSOR		
12	2	430299000			
			13TH PROCESSOR		
13	2	430299000			
			14TH PROCESSOR		
14	2	430299000			
			15TH PROCESSOR		
15	2	430299000			
			16TH PROCESSOR		
16	2	430299000			

DUCK SUPPORT NETWORK

HH ID

Ask the questions on this page IF ANY MEMBER of this HH hunted for DUCKS during the last 12 months.

IF NO HH member hunted, skip this page.

IF ANY HH member hunted, continue on this page…

I'd like you to think about the PEOPLE and ORGANIZATIONS that provided information to your HH about duck hunting. During the last 12 MONTHS, from whom did members of your HH learn about...

Please list the most important person first. INCLUDE people in this HH.	*INFO SOURCES*				
	...When and Where to Hunt for Ducks ?	… the Population size of Ducks?	… The Condition of Ducks?	Hunting Rules, Regulations, and Management?	
	Person Code	*Person Code*	*Person Code*	*Person Code*	Comments?
order | role | res.	*00000*	*00000*	*00000*	*00000*	*enter text*
1ST INFO SOURCE					
1 4 430299000					
2ND INFO SOURCE					
2 4 430299000					
3RD INFO SOURCE					
3 4 430299000					
4TH INFO SOURCE					
4 4 430299000					
5TH INFO SOURCE					
5 4 430299000					
6TH INFO SOURCE					
6 4 430299000					
7TH INFO SOURCE					
7 4 430299000					
8TH INFO SOURCE					
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13 4 430299000					
14TH INFO SOURCE					
14 4 430299000					
15TH INFO SOURCE					
15 4 430299000					
16TH INFO SOURCE					
16 4 430299000					

HARVESTS: FISH

HH ID

Do members of your HH USUALLY catch fish for subsistence,
such as CHUM SALMON or GRAYLING?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE FISH or TRY TO FISH?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did members of your HH….				For each resource HARVESTED, ask…		
	Use? (eat, trade, feed to dogs, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many fish ALL MEMBERS OF YOUR HH FISHED for subsistence use the last 12 months, including with rod and reel. INCLUDE fish you gave away, ate fresh, dried, fed to dogs, lost to spoilage, or got by helping others. If fishing with others, report ONLY YOUR SHARE of the catch.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
CHUM SALMON	Y N	Y N	Y N	Y N			
111000003							
GRAYLING	Y N	Y N	Y N	Y N	***SURVEYOR: If respondent answers NO to ALL grayling questions here, continue on this page, but skip the grayling source pages.***		
125200003							***<< CODER: Summarize network harvests here.***
WHITEFISH	Y N	Y N	Y N	Y N			
126400000							
KING SALMON	Y N	Y N	Y N	Y N			
113000003							
	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			
	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			

During the last 12 MONTHS,
did your HH use any other kind of fish?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

SALMON SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

During the last 12 MONTHS, did anyone in your HH
catch any SALMON while fishing alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many salmon EACH MEMBER OF THEIR HH HARVESTED for subsistence use during the last 12 months, including with rod and reel. INCLUDE salmon the HH members gave away, even if they gave it away without bringing it home. Include salmon the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

FISHERS from THIS HH only											
Who in your HH caught SALMON last year?		How many SALMON did this person catch?		Who in THIS HH fished with this person? *Please use these spaces ONLY for members of this HH.*							
	Person Code	Number Caught	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code		
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*		
1ST FISHER IN THIS HOUSE											
1 1 110000000											
2ND FISHER IN THIS HOUSE											
2 1 110000000											
3RD FISHER IN THIS HOUSE											
3 1 110000000											
4TH FISHER IN THIS HOUSE											
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6TH FISHER IN THIS HOUSE											
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7TH FISHER IN THIS HOUSE											
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15TH FISHER IN THIS HOUSE											
15 1 110000000											
16TH FISHER IN THIS HOUSE											
16 1 110000000											

SALMON SOURCES: SHARES FROM FISHING

HH ID

During the last 12 MONTHS, did anyone in your HH
receive SALMON as their share from fishing together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many salmon each member of their HH RECEIVED AS A SHARE in the last 12 months, including with rod and reel while fishing with others. We want them to report only THEIR SHARE of the catch. INCLUDE salmon the HH received as a share then gave away, fed to dogs, or lost to spoilage.

	FISHERS from THIS HH				FISHERS from OTHER HHS					
	Who received SALMON as a share when fishing with others?		How many did this person receive as a share?		Who fished with this person?					
		Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
	order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
	1ST FISHER IN THIS HOUSE									
1	1 110000000									
	2ND FISHER IN THIS HOUSE									
2	1 110000000									
	3RD FISHER IN THIS HOUSE									
3	1 110000000									
	4TH FISHER IN THIS HOUSE									
4	1 110000000									
	5TH FISHER IN THIS HOUSE									
5	1 110000000									
	6TH FISHER IN THIS HOUSE									
6	1 110000000									
	7TH FISHER IN THIS HOUSE									
7	1 110000000									
	8TH FISHER IN THIS HOUSE									
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	9TH FISHER IN THIS HOUSE									
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	10TH FISHER IN THIS HOUSE									
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	11TH FISHER IN THIS HOUSE									
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	12TH FISHER IN THIS HOUSE									
12	1 110000000									
	13TH FISHER IN THIS HOUSE									
13	1 110000000									
	14TH FISHER IN THIS HOUSE									
14	1 110000000									
	15TH FISHER IN THIS HOUSE									
15	1 110000000									
	16TH FISHER IN THIS HOUSE									
16	1 110000000									

SALMON SOURCES: SHARES FOR HELPING

HH ID

During the last 12 MONTHS, did anyone in your HH get any SHARES of SALMON
because they contributed to the fishing effort of other HHs, but did NOT actually fish for with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if the fish was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of SALMON?	How many SALMON did members of your HH receive as SHARES?		FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
		Amount Received	Units								
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 110000000											
2ND FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 110000000											
3RD FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 110000000											
4TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 110000000											
5TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 110000000											
6TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 110000000											
7TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 110000000											
8TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 110000000											
9TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 110000000											
10TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 110000000											
11TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 110000000											
12TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 110000000											
13TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 110000000											
14TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 110000000											
15TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 110000000											
16TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 110000000											

SALMON SOURCES: SHARING, TRADES, & PURCHASES

HH ID _____

During the last 12 MONTHS, did anyone in your HH receive SALMON
either as a gift, in a trade, or by buying it from someone living in another HH in this community or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive WHITE-FISH?	Did this person CATCH the WHITE-FISH?	How many SALMON did your HH receive from this person? Amount Received	Units	Was this a GIFT, TRADE, or PURCHASE?	SUBSISTENCE FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 110000000												
2ND FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 110000000												
3RD FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 110000000												
4TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 110000000												
5TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 110000000												
6TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 110000000												
7TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 110000000												
8TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 110000000												
9TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 110000000												
10TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 110000000												
11TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 110000000												
12TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 110000000												
13TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 110000000												
14TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 110000000												
15TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 110000000												
16TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 110000000												

S="SOMETIMES" ?="DON'T KNOW"

SALMON: PROCESSORS

HH ID

During the last 12 MONTHS,
did anyone cut, dry, freeze, smoke, or put away SALMON for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, froze, or put away SALMON for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	***PROCESSORS***	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 110000000		
2ND PROCESSOR		
2 2 110000000		
3RD PROCESSOR		
3 2 110000000		
4TH PROCESSOR		
4 2 110000000		
5TH PROCESSOR		
5 2 110000000		
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7TH PROCESSOR		
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14 2 110000000		
15TH PROCESSOR		
15 2 110000000		
16TH PROCESSOR		
16 2 110000000		

SALMON: SUPPORT NETWORK

HH ID

Ask the questions on this page IF ANY MEMBER of this HH fished for SALMON during the last 12 months.

IF NO HH member fished, skip this page.
IF ANY HH member fished, continue on this page…

I'd like you to think about the PEOPLE and ORGANIZATIONS that provided information to your HH about fishing for whitefish. During the last 12 MONTHS, from whom did members of your HH learn about...

Please list the most important person first. INCLUDE people in this HH.	*INFO SOURCES*				
	...When and Where to Fish For for Salmon?	… the Population size of Salmon?	… The Condition of Salmon?	Fishing Rules, Regulations, and Management?	
	Person Code	*Person Code*	*Person Code*	*Person Code*	Comments?
order | role | res.	*00000*	*00000*	*00000*	*00000*	*enter text*
1ST INFO SOURCE					
1 4 110000000					
2ND INFO SOURCE					
2 4 110000000					
3RD INFO SOURCE					
3 4 110000000					
4TH INFO SOURCE					
4 4 110000000					
5TH INFO SOURCE					
5 4 110000000					
6TH INFO SOURCE					
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15TH INFO SOURCE					
15 4 110000000					
16TH INFO SOURCE					
16 4 110000000					

GRAYLING SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

During the last 12 MONTHS, did anyone in your HH
catch any GRAYLING while fishing alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many grayling EACH MEMBER OF THEIR HH HARVESTED for subsistence use during the last 12 months, including with rod and reel. INCLUDE grayling the HH members gave away, even if they gave it away without bringing it home. Include grayling the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

	FISHERS from THIS HH only									
Who in your HH caught GRAYLING last year?		How many GRAYLING did this person catch?		Who in THIS HH fished with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Caught	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST FISHER IN THIS HOUSE									
1 1 125200003									
2ND FISHER IN THIS HOUSE									
2 1 125200003									
3RD FISHER IN THIS HOUSE									
3 1 125200003									
4TH FISHER IN THIS HOUSE									
4 1 125200003									
5TH FISHER IN THIS HOUSE									
5 1 125200003									
6TH FISHER IN THIS HOUSE									
6 1 125200003									
7TH FISHER IN THIS HOUSE									
7 1 125200003									
8TH FISHER IN THIS HOUSE									
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14TH FISHER IN THIS HOUSE									
14 1 125200003									
15TH FISHER IN THIS HOUSE									
15 1 125200003									
16TH FISHER IN THIS HOUSE									
16 1 125200003									

GRAYLING SOURCES: SHARES FROM FISHING

HH ID

During the last 12 MONTHS, did anyone in your HH
receive GRAYLING as their share from fishing together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many grayling each member of their HH RECEIVED AS A SHARE in the last 12 months, including with rod and reel while fishing with others. We want them to report only THEIR SHARE of the catch. INCLUDE grayling the HH received as a share then gave away, fed to dogs, or lost to spoilage.

FISHERS from THIS HH				*FISHERS from OTHER HHS*					
Who received GRAYLING as a share when fishing with others?		How many did this person receive as a share?		Who fished with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST FISHER IN THIS HOUSE									
1 1 125200003									
2ND FISHER IN THIS HOUSE									
2 1 125200003									
3RD FISHER IN THIS HOUSE									
3 1 125200003									
4TH FISHER IN THIS HOUSE									
4 1 125200003									
5TH FISHER IN THIS HOUSE									
5 1 125200003									
6TH FISHER IN THIS HOUSE									
6 1 125200003									
7TH FISHER IN THIS HOUSE									
7 1 125200003									
8TH FISHER IN THIS HOUSE									
8 1 125200003									
9TH FISHER IN THIS HOUSE									
9 1 125200003									
10TH FISHER IN THIS HOUSE									
10 1 125200003									
11TH FISHER IN THIS HOUSE									
11 1 125200003									
12TH FISHER IN THIS HOUSE									
12 1 125200003									
13TH FISHER IN THIS HOUSE									
13 1 125200003									
14TH FISHER IN THIS HOUSE									
14 1 125200003									
15TH FISHER IN THIS HOUSE									
15 1 125200003									
16TH FISHER IN THIS HOUSE									
16 1 125200003									

GRAYLING SOURCES: SHARES FOR HELPING

HH ID

During the last 12 MONTHS, did anyone in your HH get any SHARES of GRAYLING
because they contributed to the fishing effort of other HHs, but did NOT actually fish with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if the fish was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of GRAYLING ?	How many GRAYLING did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 125200003											
2ND FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 125200003											
3RD FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 125200003											
4TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 125200003											
5TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 125200003											
6TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 125200003											
7TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 125200003											
8TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 125200003											
9TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 125200003											
10TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 125200003											
11TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 125200003											
12TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 125200003											
13TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 125200003											
14TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 125200003											
15TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 125200003											
16TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 125200003											

GRAYLING SOURCES: SHARING, TRADES, & PURCHASES

HH ID

During the last 12 MONTHS, did anyone in your HH receive GRAYLING
either as a gift, in a trade, or by buying it from someone living in another HH in Venetie or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive GRAYLING?	Did this person CATCH the GRAYLING?	How many GRAYLING did your HH receive from this person? Amount Received	Units	Was this a GIFT, TRADE, or PURCHASE?	SUBSISTENCE FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 125200003												
2ND FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 125200003												
3RD FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 125200003												
4TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 125200003												
5TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 125200003												
6TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 125200003												
7TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 125200003												
8TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 125200003												
9TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 125200003												
10TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 125200003												
11TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 125200003												
12TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 125200003												
13TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 125200003												
14TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 125200003												
15TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 125200003												
16TH FISHER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 125200003												

S="SOMETIMES" ?="DON'T KNOW"

GRAYLING : PROCESSORS

HH ID

During the last 12 MONTHS,
did anyone cut, dry, freeze, smoke, or put away GRAYLING for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, froze, or put away GRAYLING for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.				*PROCESSORS*	
			Person Code		Comments?
order	*role*	*res.*	*00000*		*enter text*
		1ST PROCESSOR			
1	2	125200003			
		2ND PROCESSOR			
2	2	125200003			
		3RD PROCESSOR			
3	2	125200003			
		4TH PROCESSOR			
4	2	125200003			
		5TH PROCESSOR			
5	2	125200003			
		6TH PROCESSOR			
6	2	125200003			
		7TH PROCESSOR			
7	2	125200003			
		8TH PROCESSOR			
8	2	125200003			
		9TH PROCESSOR			
9	2	125200003			
		10TH PROCESSOR			
10	2	125200003			
		11TH PROCESSOR			
11	2	125200003			
		12TH PROCESSOR			
12	2	125200003			
		13TH PROCESSOR			
13	2	125200003			
		14TH PROCESSOR			
14	2	125200003			
		15TH PROCESSOR			
15	2	125200003			
		16TH PROCESSOR			
16	2	125200003			

GRAYLING : SUPPORT NETWORK

HH ID

Ask the questions on this page IF ANY MEMBER of this HH fished for GRAYLING during the last 12 months.

IF NO HH member fished, skip this page.
IF ANY HH member fished, continue on this page…

I'd like you to think about the PEOPLE and ORGANIZATIONS that provided information to your HH about fishing for grayling. During the last 12 MONTHS, from whom did members of your HH learn about...

Please list the most important person first. INCLUDE people in this HH.	*INFO SOURCES*				
	...When and Where to Fish for Grayling ?	… the Population size of Grayling ?	… The Condition of Grayling ?	Fishing Rules, Regulations, and Management?	
	Person Code	*Person Code*	*Person Code*	*Person Code*	Comments?
order | role | res.	*00000*	*00000*	*00000*	*00000*	*enter text*
1ST INFO SOURCE					
1 4 125200003					
2ND INFO SOURCE					
2 4 125200003					
3RD INFO SOURCE					
3 4 125200003					
4TH INFO SOURCE					
4 4 125200003					
5TH INFO SOURCE					
5 4 125200003					
6TH INFO SOURCE					
6 4 125200003					
7TH INFO SOURCE					
7 4 125200003					
8TH INFO SOURCE					
8 4 125200003					
9TH INFO SOURCE					
9 4 125200003					
10TH INFO SOURCE					
10 4 125200003					
11TH INFO SOURCE					
11 4 125200003					
12TH INFO SOURCE					
12 4 125200003					
13TH INFO SOURCE					
13 4 125200003					
14TH INFO SOURCE					
14 4 125200003					
15TH INFO SOURCE					
15 4 125200003					
16TH INFO SOURCE					
16 4 125200003					

HARVESTS (VENETIE): MARINE MAMMALS

HH ID

Do members of your HH EVER take part in hunting marine mammals for subsistence?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO HUNT marine mammals?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did members of your HH….				For each resource HARVESTED, ask…		
	Use? (eat, carve, sew, trade, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many marine mammals ALL MEMBERS OF YOUR HH HUNTED for subsistence use the last 12 months. INCLUDE marine mammals you gave away, ate fresh, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the hunt.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
BOWHEAD WHALE	Y N	Y N	Y N	Y N			
301606000							
BEARDED SEAL meat or oil	Y N	Y N	Y N	Y N			
300802000							
BELUGA WHALE	Y N	Y N	Y N	Y N			
301602000							
	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			
	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			
	Y N	Y N	Y N	Y N			

During the last 12 MONTHS,
did your HH use or hunt any other kind of marine mammals?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

BEARDED SEAL SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

During the last 12 MONTHS, did anyone in your HH
kill any BEARDED SEAL while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many bearded seal EACH MEMBER OF THEIR HH HARVESTED for subsistence use during the last 12 months. INCLUDE bearded seal the HH members gave away, even if they gave it away without bringing it home. Include bearded seal the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH only										
Who in your HH killed BEARDED SEAL last year?		How many BEARDED SEAL did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 300802000									
2ND HUNTER IN THIS HOUSE									
2 1 300802000									
3RD HUNTER IN THIS HOUSE									
3 1 300802000									
4TH HUNTER IN THIS HOUSE									
4 1 300802000									
5TH HUNTER IN THIS HOUSE									
5 1 300802000									
6TH HUNTER IN THIS HOUSE									
6 1 300802000									
7TH HUNTER IN THIS HOUSE									
7 1 300802000									
8TH HUNTER IN THIS HOUSE									
8 1 300802000									
9TH HUNTER IN THIS HOUSE									
9 1 300802000									
10TH HUNTER IN THIS HOUSE									
10 1 300802000									
11TH HUNTER IN THIS HOUSE									
11 1 300802000									
12TH HUNTER IN THIS HOUSE									
12 1 300802000									
13TH HUNTER IN THIS HOUSE									
13 1 300802000									
14TH HUNTER IN THIS HOUSE									
14 1 300802000									
15TH HUNTER IN THIS HOUSE									
15 1 300802000									
16TH HUNTER IN THIS HOUSE									
16 1 300802000									

BEARDED SEAL SOURCES: SHARES FROM HUNTING

HH ID

During the last 12 MONTHS, did anyone in your HH
receive BEARDED SEAL as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many bearded seal each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the hunt. INCLUDE bearded seal the HH received as a share then gave away, fed to dogs, or lost to spoilage.

	HUNTERS from THIS HH				HUNTERS from OTHER HHS					
	Who received BEARDED SEAL as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
		Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.		*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1	1ST HUNTER IN THIS HOUSE 1 300802000									
2	2ND HUNTER IN THIS HOUSE 1 300802000									
3	3RD HUNTER IN THIS HOUSE 1 300802000									
4	4TH HUNTER IN THIS HOUSE 1 300802000									
5	5TH HUNTER IN THIS HOUSE 1 300802000									
6	6TH HUNTER IN THIS HOUSE 1 300802000									
7	7TH HUNTER IN THIS HOUSE 1 300802000									
8	8TH HUNTER IN THIS HOUSE 1 300802000									
9	9TH HUNTER IN THIS HOUSE 1 300802000									
10	10TH HUNTER IN THIS HOUSE 1 300802000									
11	11TH HUNTER IN THIS HOUSE 1 300802000									
12	12TH HUNTER IN THIS HOUSE 1 300802000									
13	13TH HUNTER IN THIS HOUSE 1 300802000									
14	14TH HUNTER IN THIS HOUSE 1 300802000									
15	15TH HUNTER IN THIS HOUSE 1 300802000									
16	16TH HUNTER IN THIS HOUSE 1 300802000									

BEARDED SEAL SOURCES: SHARES FOR HELPING

HH ID

During the last 12 MONTHS, did anyone in your HH get any SHARES of BEARDED SEAL because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if seal was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of BEARDED SEAL?	How much BEARDED SEAL did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 300802000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 300802000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 300802000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 300802000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 300802000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 300802000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 300802000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 300802000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 300802000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 300802000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 300802000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 300802000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 300802000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 300802000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 300802000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 300802000											

BEARDED SEAL SOURCES: SHARING, TRADES, & PURCHASES

HH ID

During the last 12 MONTHS, did anyone in your HH receive BEARDED SEAL
either as a gift, in a trade, or by buying it from someone living in another HH in Venetie or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive BEARDED SEAL?	Did this person KILL the BEARDED SEAL?	How much BEARDED SEAL did your HH receive from this person? Amount Received	Units	Was this a GIFT, TRADE, or PURCHASE?	SUBSISTENCE FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 300802000												
2ND HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 300802000												
3RD HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 300802000												
4TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 300802000												
5TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 300802000												
6TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 300802000												
7TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 300802000												
8TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 300802000												
9TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 300802000												
10TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 300802000												
11TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 300802000												
12TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 300802000												
13TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 300802000												
14TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 300802000												
15TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 300802000												
16TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 300802000												

S="SOMETIMES" ?="DON'T KNOW"

BEARDED SEAL: PROCESSORS

HH ID

During the last 12 MONTHS,
did anyone cut, dry, freeze, render into oil, or put away BEARDED SEAL for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, froze, made oil, or put away BEARDED SEAL for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	*PROCESSORS*	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 300802000		
2ND PROCESSOR		
2 2 300802000		
3RD PROCESSOR		
3 2 300802000		
4TH PROCESSOR		
4 2 300802000		
5TH PROCESSOR		
5 2 300802000		
6TH PROCESSOR		
6 2 300802000		
7TH PROCESSOR		
7 2 300802000		
8TH PROCESSOR		
8 2 300802000		
9TH PROCESSOR		
9 2 300802000		
10TH PROCESSOR		
10 2 300802000		
11TH PROCESSOR		
11 2 300802000		
12TH PROCESSOR		
12 2 300802000		
13TH PROCESSOR		
13 2 300802000		
14TH PROCESSOR		
14 2 300802000		
15TH PROCESSOR		
15 2 300802000		
16TH PROCESSOR		
16 2 300802000		

BEARDED SEAL: SUPPORT NETWORK

HH ID

Ask the questions on this page IF ANY MEMBER of this HH hunted for BEARDED SEAL during the last 12 months.

IF NO HH member hunted, skip this page.
IF ANY HH member hunted, continue on this page…

I'd like you to think about the PEOPLE and ORGANIZATIONS that provided information to your HH about seal hunting. During the last 12 MONTHS, from whom did members of your HH learn about...

Please list the most important person first. INCLUDE people in this HH.			*INFO SOURCES*				
			...When and Where to Hunt for Bearded Seal?	… the Population size of Bearded Seal?	… The condition of Bearded Seals	Seal Hunting Rules, Regulations, and Management?	
			Person Code	*Person Code*	*Person Code*	*Person Code*	Comments?
order	*role*	*res.*	*00000*	*00000*	*00000*	*00000*	*enter text*
		1ST INFO SOURCE					
1	4	300802000					
		2ND INFO SOURCE					
2	4	300802000					
		3RD INFO SOURCE					
3	4	300802000					
		4TH INFO SOURCE					
4	4	300802000					
		5TH INFO SOURCE					
5	4	300802000					
		6TH INFO SOURCE					
6	4	300802000					
		7TH INFO SOURCE					
7	4	300802000					
		8TH INFO SOURCE					
8	4	300802000					
		9TH INFO SOURCE					
9	4	300802000					
		10TH INFO SOURCE					
10	4	300802000					
		11TH INFO SOURCE					
11	4	300802000					
		12TH INFO SOURCE					
12	4	300802000					
		13TH INFO SOURCE					
13	4	300802000					
		14TH INFO SOURCE					
14	4	300802000					
		15TH INFO SOURCE					
15	4	300802000					
		16TH INFO SOURCE					
16	4	300802000					

BELUGA WHALE SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

During the last 12 MONTHS, did anyone in your HH
kill any BELUGA WHALE while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many beluga whale EACH MEMBER OF THEIR HH HARVESTED for subsistence use during the last 12 months. INCLUDE beluga whale the HH members gave away, even if they gave it away without bringing it home. Include beluga whale the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH only											
Who in your HH killed BELUGA WHALE last year?		How many BELUGA WHALE did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 301602000									
2ND HUNTER IN THIS HOUSE									
2 1 301602000									
3RD HUNTER IN THIS HOUSE									
3 1 301602000									
4TH HUNTER IN THIS HOUSE									
4 1 301602000									
5TH HUNTER IN THIS HOUSE									
5 1 301602000									
6TH HUNTER IN THIS HOUSE									
6 1 301602000	_								
7TH HUNTER IN THIS HOUSE									
7 1 301602000									
8TH HUNTER IN THIS HOUSE									
8 1 301602000									
9TH HUNTER IN THIS HOUSE									
9 1 301602000									
10TH HUNTER IN THIS HOUSE									
10 1 301602000									
11TH HUNTER IN THIS HOUSE									
11 1 301602000									
12TH HUNTER IN THIS HOUSE									
12 1 301602000									
13TH HUNTER IN THIS HOUSE									
13 1 301602000									
14TH HUNTER IN THIS HOUSE									
14 1 301602000									
15TH HUNTER IN THIS HOUSE									
15 1 301602000									
16TH HUNTER IN THIS HOUSE									
16 1 301602000									

BELUGA WHALE SOURCES: SHARES FROM HUNTING

HH ID

During the last 12 MONTHS, did anyone in your HH
receive BELUGA WHALE as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how much beluga whale each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the hunt. INCLUDE beluga whale the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH				*HUNTERS from OTHER HHS*					
Who received BELUGA WHALE as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 301602000									
2ND HUNTER IN THIS HOUSE									
2 1 301602000									
3RD HUNTER IN THIS HOUSE									
3 1 301602000									
4TH HUNTER IN THIS HOUSE									
4 1 301602000									
5TH HUNTER IN THIS HOUSE									
5 1 301602000									
6TH HUNTER IN THIS HOUSE									
6 1 301602000									
7TH HUNTER IN THIS HOUSE									
7 1 301602000									
8TH HUNTER IN THIS HOUSE									
8 1 301602000									
9TH HUNTER IN THIS HOUSE									
9 1 301602000									
10TH HUNTER IN THIS HOUSE									
10 1 301602000									
11TH HUNTER IN THIS HOUSE									
11 1 301602000									
12TH HUNTER IN THIS HOUSE									
12 1 301602000									
13TH HUNTER IN THIS HOUSE									
13 1 301602000									
14TH HUNTER IN THIS HOUSE									
14 1 301602000									
15TH HUNTER IN THIS HOUSE									
15 1 301602000									
16TH HUNTER IN THIS HOUSE									
16 1 301602000									

BELUGA WHALE SOURCES: SHARES FOR HELPING

HH ID

During the last 12 MONTHS, did anyone in your HH get any SHARES of BELUGA WHALE because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and then ask if the beluga was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of BELUGA WHALE?	How much BELUGA WHALE did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 301602000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 301602000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 301602000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 301602000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 301602000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 301602000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 301602000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 301602000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 301602000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 301602000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 301602000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 301602000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 301602000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 301602000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 301602000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 301602000											

BELUGA WHALE SOURCES: SHARING, TRADES, & PURCHASES

HH ID _____

During the last 12 MONTHS, did anyone in your HH receive BELUGA WHALE
either as a gift, in a trade, or by buying it from someone living in another HH in Venetie or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive BELUGA WHALE?	Did this person KILL the BELUGA WHALE?	How much BELUGA WHALE did your HH receive from this person? Amount Received	Units	Was this a GIFT, TRADE, or PURCHASE?	SUBSISTENCE FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 301602000												
2ND HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 301602000												
3RD HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 301602000												
4TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 301602000												
5TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 301602000												
6TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 301602000												
7TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 301602000												
8TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 301602000												
9TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 301602000												
10TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 301602000												
11TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 301602000												
12TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 301602000												
13TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 301602000												
14TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 301602000												
15TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 301602000												
16TH HUNTER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 301602000												

S="SOMETIMES" ?="DON'T KNOW"

BELUGA WHALE: PROCESSORS

HH ID

During the last 12 MONTHS,
did anyone cut, dry, freeze, render into oil, or put away BELUGA WHALE for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, froze, made oil, or put away BELUGA WHALE for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	***PROCESSORS***	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 301602000		
2ND PROCESSOR		
2 2 301602000		
3RD PROCESSOR		
3 2 301602000		
4TH PROCESSOR		
4 2 301602000		
5TH PROCESSOR		
5 2 301602000		
6TH PROCESSOR		
6 2 301602000		
7TH PROCESSOR		
7 2 301602000		
8TH PROCESSOR		
8 2 301602000		
9TH PROCESSOR		
9 2 301602000		
10TH PROCESSOR		
10 2 301602000		
11TH PROCESSOR		
11 2 301602000		
12TH PROCESSOR		
12 2 301602000		
13TH PROCESSOR		
13 2 301602000		
14TH PROCESSOR		
14 2 301602000		
15TH PROCESSOR		
15 2 301602000		
16TH PROCESSOR		
16 2 301602000		

BELUGA WHALE: SUPPORT NETWORK

HH ID

Ask the questions on this page IF ANY MEMBER of this HH hunted for BELUGA WHALE during the last 12 months.

IF NO HH member hunted, skip this page.
IF ANY HH member hunted, continue on this page…

I'd like you to think about the PEOPLE and ORGANIZATIONS that provided information to your HH about hunting for beluga whale. During the last 12 MONTHS, from whom did members of your HH learn about...

Please list the most important person first. INCLUDE people in this HH.	*INFO SOURCES*				
	...When and Where to Hunt for Beluga Whale?	… the Population size of Beluga Whale?	… The condition of Beluga Whales	Whale Hunting Rules, Regulations, and Management?	
	Person Code	*Person Code*	*Person Code*	*Person Code*	Comments?
order | role | res.	*00000*	*00000*	*00000*	*00000*	*enter text*
1ST INFO SOURCE					
1 4 301602000					
2ND INFO SOURCE					
2 4 301602000					
3RD INFO SOURCE					
3 4 301602000					
4TH INFO SOURCE					
4 4 301602000					
5TH INFO SOURCE					
5 4 301602000					
6TH INFO SOURCE					
6 4 301602000					
7TH INFO SOURCE					
7 4 301602000					
8TH INFO SOURCE					
8 4 301602000					
9TH INFO SOURCE					
9 4 301602000					
10TH INFO SOURCE					
10 4 301602000					
11TH INFO SOURCE					
11 4 301602000					
12TH INFO SOURCE					
12 4 301602000					
13TH INFO SOURCE					
13 4 301602000					
14TH INFO SOURCE					
14 4 301602000					
15TH INFO SOURCE					
15 4 301602000					
16TH INFO SOURCE					
16 4 301602000					

BOWHEAD WHALE SOURCES: SHARES FOR HELPING

HH ID

During the last 12 MONTHS, did anyone in your HH get any SHARES from BOWHEAD WHALE because they contributed to the hunting effort of whaling crews, but were not actually crew members?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if whale was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of BOWHEAD WHALE?	How much BOWHEAD WHALE did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 301606000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 301606000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 301606000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 301606000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 301606000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 301606000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 301606000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 301606000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 301606000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 301606000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 301606000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 301606000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 301606000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 301606000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 301606000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 301606000											

BOWHEAD WHALE SOURCES: SHARING, TRADES, & PURCHASES

HH ID _____

During the last 12 MONTHS, did anyone in your HH receive parts of BOWHEAD WHALE either as a gift, in a trade, or by buying it from someone living in another HH in Venetie or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

				MEMBERS of OTHER HHS only				If this was a trade, what did YOUR HH trade?						
order	role	res.	From WHOM did your HH receive BOWHEAD WHALE?	Did this person KILL the BOWHEAD WHALE?	How much BOWHEAD WHALE did your HH receive from this person? Amount Received	Units	Was this a GIFT, TRADE, or PURCHASE?	SUBSISTENCE FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
			00000	circle one	number	*specify	circle one	circle ALL that apply						enter text
	1ST HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1	3	301606000												
	2ND HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2	3	301606000												
	3RD HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3	3	301606000												
	4TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4	3	301606000												
	5TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5	3	301606000												
	6TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6	3	301606000												
	7TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7	3	301606000												
	8TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8	3	301606000												
	9TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9	3	301606000												
	10TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10	3	301606000												
	11TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11	3	301606000												
	12TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12	3	301606000												
	13TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13	3	301606000												
	14TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14	3	301606000												
	15TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15	3	301606000												
	16TH HUNTER FROM OTHER HH			Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16	3	301606000												

S="SOMETIMES"; ?="DON'T KNOW"

BOWHEAD WHALE: PROCESSORS

HH ID

During the last 12 MONTHS,
did anyone cut, dry, freeze, or put away BOWHEAD WHALE for your HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

During the last 12 MONTHS, who cut, dried, froze, or put away BOWHEAD WHALE for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.				***PROCESSORS***	
				Person Code	Comments?
order	*role*	*res.*		*00000*	*enter text*
			1ST PROCESSOR		
1	2	301606000			
			2ND PROCESSOR		
2	2	301606000			
			3RD PROCESSOR		
3	2	301606000			
			4TH PROCESSOR		
4	2	301606000			
			5TH PROCESSOR		
5	2	301606000			
			6TH PROCESSOR		
6	2	301606000			
			7TH PROCESSOR		
7	2	301606000			
			8TH PROCESSOR		
8	2	301606000			
			9TH PROCESSOR		
9	2	301606000			
			10TH PROCESSOR		
10	2	301606000			
			11TH PROCESSOR		
11	2	301606000			
			12TH PROCESSOR		
12	2	301606000			
			13TH PROCESSOR		
13	2	301606000			
			14TH PROCESSOR		
14	2	301606000			
			15TH PROCESSOR		
15	2	301606000			
			16TH PROCESSOR		
16	2	301606000			

BOWHEAD WHALE: SUPPORT NETWORK

HH ID

Ask the questions on this page IF ANY MEMBER of this HH hunted for BOWHEAD WHALE during the last 12 months.

IF NO HH member hunted, skip this page.

IF ANY HH member hunted, continue on this page…

I'd like you to think about the PEOPLE and ORGANIZATIONS that provided information to your HH about bowhead hunting. During the last 12 MONTHS, from whom did members of your HH learn about...

Please list the most important person first. INCLUDE people in this HH.	*INFO SOURCES*				
	...When and Where to Hunt for Bowhead Whale?	… the Population size of Bowhead?	… The Condition of Bowhead ?	Bowhead Hunting Rules, Regulations, and Management?	
	Person Code	*Person Code*	*Person Code*	*Person Code*	Comments?
order | role | res.	*00000*	*00000*	*00000*	*00000*	*enter text*
1ST INFO SOURCE					
1 4 301606000					
2ND INFO SOURCE					
2 4 301606000					
3RD INFO SOURCE					
3 4 301606000					
4TH INFO SOURCE					
4 4 301606000					
5TH INFO SOURCE					
5 4 301606000					
6TH INFO SOURCE					
6 4 301606000					
7TH INFO SOURCE					
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8TH INFO SOURCE					
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11 4 301606000					
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13 4 301606000					
14TH INFO SOURCE					
14 4 301606000					
15TH INFO SOURCE					
15 4 301606000					
16TH INFO SOURCE					
16 4 301606000					

HARVESTS: SMALL LAND ANIMALS

HH ID

Do members of your HH USUALLY hunt small land animals for subsistence,
such as GROUND SQUIRREL or MARMOT?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO HUNT small land animals?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did your HH...				For each resource HARVESTED, ask…		
	Use? (eat, sell, trade, sew, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many small land animals ALL MEMBERS OF YOUR HH HUNTED for subsistence use the last 12 months. INCLUDE small land animals you gave away, ate fresh, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the take.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
GROUND SQUIRREL	Y N	Y N	Y N	Y N			
222802000							
MARMOT	Y N	Y N	Y N	Y N			
221800000							
WOLF	Y N	Y N	Y N	Y N			
223200000							
WOLVERINE	Y N	Y N	Y N	Y N			
223400000							
ARCTIC FOX	Y N	Y N	Y N	Y N			
220802000							
LYNX	Y N	Y N	Y N	Y N			
221600000							
MARTEN	Y N	Y N	Y N	Y N			
222000000							
RED FOX	Y N	Y N	Y N	Y N			
220804000							
MUSKRAT	Y N	Y N	Y N	Y N			
222400000							
	Y N	Y N	Y N	Y N			
	Y N	Y N	Y N	Y N			
	Y N	Y N	Y N	Y N			

During the last 12 MONTHS,
did your HH use or hunt any other kind of small mammals?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

HARVESTS: BERRIES

HH ID

Do members of your HH USUALLY pick berries for subsistence?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO PICK berries?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did your HH...				For each resource HARVESTED, ask…		
	Use? (eat, sell, trade, cook, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many berries ALL MEMBERS OF YOUR HH PICKED for subsistence use during the last 12 months. INCLUDE berries you gave away, ate fresh, dried, froze, lost to spoilage, or got by helping others. If picking with others, report ONLY YOUR SHARE of the what you picked.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
BLUEBERRIES	Y N	Y N	Y N	Y N			
601002002							
CRANBERRIES	Y N	Y N	Y N	Y N			
601004002							
SALMONBERRIES	Y N	Y N	Y N	Y N			
601022002							
	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			
	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			
	Y N	Y N	Y N	Y N			

During the last 12 MONTHS,
did your HH use or pick any other kind of berries?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

BERRY SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

During the last 12 MONTHS, did anyone in your HH
pick any Blueberries or Cranberries alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many buckets of berries EACH MEMBER OF THEIR HH HARVESTED for subsistence use during the last 12 months. INCLUDE berries the HH members gave away, even if they gave it away without bringing it home. Include berries the HH ate fresh, dried, froze, or lost to spoilage.

	PICKERS from THIS HH only									
Who in your HH picked BERRIES last year?		How many BERRIES did this person pick?		Who in THIS HH picked with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Amount Picked	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST PICKER IN THIS HOUSE									
1 1 601000000									
2ND PICKER IN THIS HOUSE									
2 1 601000000									
3RD PICKER IN THIS HOUSE									
3 1 601000000									
4TH PICKER IN THIS HOUSE									
4 1 601000000									
5TH PICKER IN THIS HOUSE									
5 1 601000000									
6TH PICKER IN THIS HOUSE									
6 1 601000000									
7TH PICKER IN THIS HOUSE									
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8TH PICKER IN THIS HOUSE									
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9TH PICKER IN THIS HOUSE									
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10TH PICKER IN THIS HOUSE									
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11TH PICKER IN THIS HOUSE									
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13TH PICKER IN THIS HOUSE									
13 1 601000000									
14TH PICKER IN THIS HOUSE									
14 1 601000000									
15TH PICKER IN THIS HOUSE									
15 1 601000000									
16TH PICKER IN THIS HOUSE									
16 1 601000000									

BERRY SOURCES: SHARES FROM PICKING

HH ID

During the last 12 MONTHS, did anyone in your HH
receive BERRIES as their share from picking together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many buckets of berries each member of their HH RECEIVED AS A SHARE in the last 12 months while picking with others. We want them to report only THEIR SHARE of the berries picked. INCLUDE berries the HH received as a share then gave away, or lost to spoilage.

PICKERS from THIS HH				*PICKERS from OTHER HHS*					
Who received BERRIES as a share when picking with others?		How much did this person receive as a share?		Who picked with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST PICKER IN THIS HOUSE									
1 1 601000000									
2ND PICKER IN THIS HOUSE									
2 1 601000000									
3RD PICKER IN THIS HOUSE									
3 1 601000000									
4TH PICKER IN THIS HOUSE									
4 1 601000000									
5TH PICKER IN THIS HOUSE									
5 1 601000000									
6TH PICKER IN THIS HOUSE									
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7TH PICKER IN THIS HOUSE									
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8TH PICKER IN THIS HOUSE									
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9TH PICKER IN THIS HOUSE									
9 1 601000000									
10TH PICKER IN THIS HOUSE									
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11TH PICKER IN THIS HOUSE									
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13TH PICKER IN THIS HOUSE									
13 1 601000000									
14TH PICKER IN THIS HOUSE									
14 1 601000000									
15TH PICKER IN THIS HOUSE									
15 1 601000000									
16TH PICKER IN THIS HOUSE									
16 1 601000000									

BERRY SOURCES: SHARES FOR HELPING

HH ID

During the last 12 MONTHS, did anyone in your HH get any SHARES of BERRIES because they contributed to the picking effort of other HHs, but did NOT actually pick with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this, and follow up by asking if the berries were a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of BERRIES?	How many BERRIES did members of your HH receive as SHARES?		FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
		Amount Received	Units								
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 601000000											
2ND PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 601000000											
3RD PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 601000000											
4TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 601000000											
5TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 601000000											
6TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 601000000											
7TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 601000000											
8TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 601000000											
9TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 601000000											
10TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 601000000											
11TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 601000000											
12TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 601000000											
13TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 601000000											
14TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 601000000											
15TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 601000000											
16TH PICKER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 601000000											

BERRY SOURCES: SHARING, TRADES, & PURCHASES

HH ID

During the last 12 MONTHS, did anyone in your HH receive BERRIES
either as a gift, in a trade, or by buying it from someone living in another HH in Venetie or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive BERRIES?	Did this person PICK the BERRIES?	How many BERRIES did your HH receive from this person? Amount Received	Units	Was this a GIFT, TRADE, or PURCHASE?	SUBSISTENCE FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 601000000												
2ND PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 601000000												
3RD PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 601000000												
4TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 601000000												
5TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 601000000												
6TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 601000000												
7TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 601000000												
8TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 601000000												
9TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 601000000												
10TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 601000000												
11TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 601000000												
12TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 601000000												
13TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 601000000												
14TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 601000000												
15TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 601000000												
16TH PICKER FROM OTHER HH		Y N S ?			G T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 601000000												

S="SOMETIMES" ?="DON'T KNOW"

BERRY PROCESSORS

HH ID

During the last 12 MONTHS,
did anyone put away or clean BERRIES for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who put away or cleaned BERRIES for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	*PROCESSORS*	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 601000000		
2ND PROCESSOR		
2 2 601000000		
3RD PROCESSOR		
3 2 601000000		
4TH PROCESSOR		
4 2 601000000		
5TH PROCESSOR		
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14 2 601000000		
15TH PROCESSOR		
15 2 601000000		
16TH PROCESSOR		
16 2 601000000		

BERRY SUPPORT NETWORK

HH ID

Ask the questions on this page IF ANY MEMBER of this HH picked BERRIES during the last 12 months.

IF NO HH member picked, skip this page.
IF ANY HH member picked, continue on this page…

I'd like you to think about the PEOPLE that provided information to your HH about berry picking. During the last 12 MONTHS, from whom did members of your HH learn about...

Please list the most important person first. INCLUDE people in this HH.	*INFO SOURCES*		
	...When and Where to Pick for Berries?	… the Condition of the Berries?	
	Person Code	*Person Code*	Comments?
order | role | res.	*00000*	*00000*	*enter text*
1ST INFO SOURCE			
1 4 601000000			
2ND INFO SOURCE			
2 4 601000000			
3RD INFO SOURCE			
3 4 601000000			
4TH INFO SOURCE			
4 4 601000000			
5TH INFO SOURCE			
5 4 601000000			
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14TH INFO SOURCE			
14 4 601000000			
15TH INFO SOURCE			
15 4 601000000			
16TH INFO SOURCE			
16 4 601000000			

SUBSISTENCE FOOD RECIPIENTS

HH ID

In most of this survey, we have asked how your HH got your subsistence foods. On this page, we ask the opposite question, with much less detail. During the last 12 months, did anyone in your HH GIVE subsistence foods or provide equipment or information to someone in ANOTHER Venetie HH or ANOTHER community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Please list the most important HHs that members of your HH provided with fish, game, marine mammals or equipment. Do not include instances of giving that were associated with Thanksgiving or Christmas holidays, community feasts or Nalukatuk.

Enter HH ID codes in the space provided. The map on the following page may help respondents remember HHs they helped.

Now check the boxes to show the goods and services that MEMBERS OF YOUR HH provided to each HH…

1 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

2 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

3 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

4 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

5 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

6 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

7 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

8 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

9 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

10 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

11 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

12 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

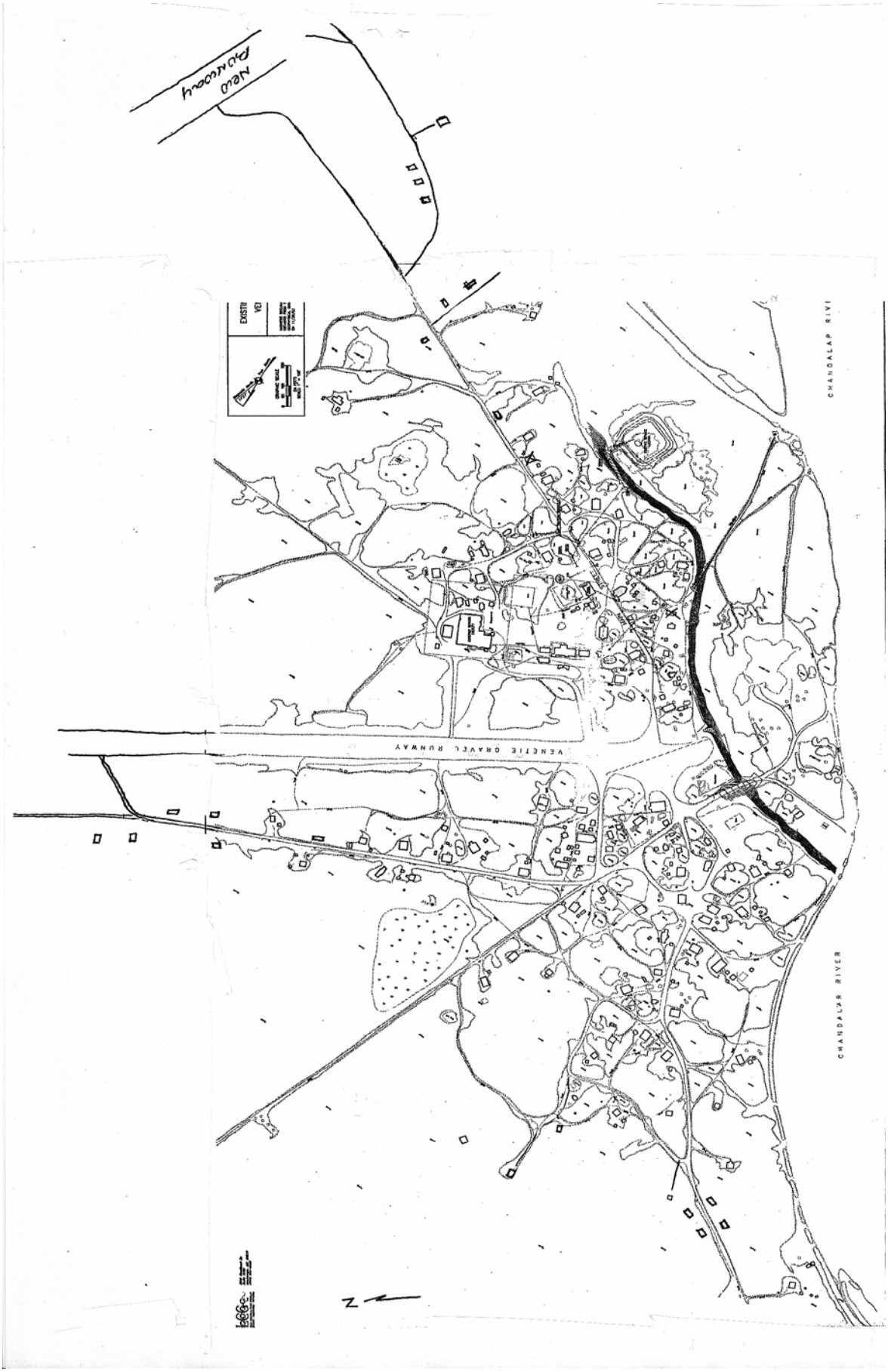
13 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

14 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

15 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

SUBSISTENCE FOOD RECIPIENTS

HOUSEHOLD ID



MAP

SHARING COMPOSITE SURVEY: 0

FOOD SECURITY

HH ID

The questions on this page have been asked all over the United States to find out if Americans have enough to eat. We would like to know if people in your village have enough to eat. I am going to read you FIVE statements about different food situations. Please tell me whether EACH statement was true for your HH in the last 12 months.

Think about all your HH's food, both subsistence and store-bought…

STATEMENT 1. We WORRIED that our HH would not have ENOUGH FOOD. HH1

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES…

…in which months did this happen?..... J F M A M J J A S O N D

…did this happen because your HH couldn't get SUBSISTENCE foods, your HH couldn't get STORE-BOUGHT foods, or your HH couldn't get BOTH KINDS of food?..... SUB STOR BOTH

STATEMENT 2. We could not get the kinds of foods we wanted to eat because of a LACK OF RESOURCES. HH2

By "lack of resources," we mean your HH did NOT have what you needed to get out on the land to hunt, fish, gather OR to buy food at the store.

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES…

…in which months did this happen?..... J F M A M J J A S O N D

...what resources were lacking that prevented your HH from getting the kinds of foods it wanted? (*please list responses in space below)*

STATEMENT 3. The food we had JUST DID NOT LAST, and we could not get more. HH3

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES, in which months did this happen?..... J F M A M J J A S O N D

Now, think just about your HH's SUBSISTENCE food…

STATEMENT 4. The SUBSISTENCE food we had just did not last, and we could not get more. HH4

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES, in which months did this happen?..... J F M A M J J A S O N D

Now, think just about your HH's STORE-BOUGHT food…

STATEMENT 5. The STORE-BOUGHT food we had just did not last, and we could not get more. HH5

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES, in which months did this happen?..... J F M A M J J A S O N D

If NO statement above WAS TRUE for this HH, go to the next page.

If ANY statement above WAS TRUE for this HH, continue on this page…

In the last 12 months, did you or other adults in your HH ever CUT THE SIZE OF YOUR MEALS OR SKIP MEALS because the HH could not get the food that was needed?..... N Y ? AD1

If YES, in which months did this happen?..... J F M A M J J A S O N D

In the last 12 months, did you or other adults in your HH ever EAT LESS THAN YOU FELT YOU SHOULD because the HH could not get the food that was needed?..... N Y ? AD2

In the last 12 months, were adults in the HH ever HUNGRY BUT DID NOT EAT because there was not enough food?..... N Y ? AD3

In the last 12 months, did adults in the HH LOSE WEIGHT because there was not enough food?..... N Y ? AD4

In the last 12 months, did you or other adults in your HH ever NOT EAT FOR A WHOLE DAY because there was not enough food?..... N Y ? AD5

If YES, in which months did this happen?..... J F M A M J J A S O N D AD5a

FOOD CONSUMPTION & SHARING

HH ID

FOOD CONSUMPTION EXERCISE

I have put 10 blocks on the table. Use these blocks to represent ALL THE FOOD that members of your HH ate in the past 12 months. Please divide these blocks into two piles, one that represents traditional food – that is, nikipiaq – and the other that represents store-bought food?

Traditional Foods Blocks
enter #

Surveyor: Write down the number of blocks that are in the pile for TRADITIONAL FOODS.....

SHARING DECISIONS

How do members of your HH make decisions about WHEN and HOW to share?

Decision Codes

SHARING IN TIMES OF SCARCITY VERSUS ABUNDANCE

Different?
circle one

Do members of your HH share wild foods differently when they have been successful in hunting, compared to when they have been unsuccessful?..... Y N

If YES…
…How is sharing different?

Difference Codes

STABILITY OF SHARING RELATIONSHIPS

In your opinion, how STRONG are your sharing relationships with other HHs?

Stability Codes

RESILIENCE MEASURES

HH ID

In interviews with community members in Venetie, people identified a number of situations that they are encountering. These situations are linked to climate, development proposals, and economic and social conditions. We are interested in finding out how your family has responded to these situations in the past and in the present, and how your family thinks they will respond in the future.

	problem	Has this situation affected your family PRIOR to the YEAR 2000? *circle one*	If YES, what did your family do to deal with this situation PRIOR to the YEAR 2000? *enter text*	Has this situation affected your family during this DECADE, that is, SINCE the YEAR 2000? *circle one*	If YES, what did your family do to deal with this situation in this DECADE, that is, SINCE the YEAR 2000? *enter text*
CLIMATE	More Forest Fires	Y N		Y N	
ANIMAL POPULATIONS	Caribou Not Coming South	Y N		Y N	
	Fewer Moose	Y N		Y N	
	Too Many Predators	Y N		Y N	
COST OF LIVING	Increasing Energy Costs	Y N		Y N	
	Increasing Food Costs	Y N		Y N	
	Higher Fuel Costs	Y N		Y N	
GOVERNMENT POLICY	Unresponsive Policy Makers	Y N		Y N	
OTHER	Lack of Employment	Y N		Y N	

Continued from previous page.
Follow rows across both pages.

	problem	Do you think this situation will affect your family in FUTURE YEARS? (circle one)		If YES, what do you think your family will do to deal with this situation in FUTURE YEARS? (enter text)	At this time, do you think your family is able to respond to this situation? (circle one)			
					Not at All Able	Somewhat Able	Moderately Able	Very Able
CLIMATE	More Forest Fires	Y	N		NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
					NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
					NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
					NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
					NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
ANIMAL POPULATIONS	Caribou Not Coming South	Y	N		NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
	Fewer Moose	Y	N		NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
	Too Many Predators	Y	N		NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
					NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
COST OF LIVING	Increasing Energy Costs	Y	N		NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
	Increasing Food Costs	Y	N		NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
	Higher Fuel Costs	Y	N		NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
GOVERNMENT POLICY	Unresponsive Policy Makers	Y	N		NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
					NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
					NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
OTHER	Lack of Employment	Y	N		NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE
					NOT ABLE	SOMEWHAT ABLE	MODERATELY ABLE	VERY ABLE

COMMENTS

HH ID

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 & RECIPIENTS

If people outside of VENETIE 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		
0018					M F		
0019					M F		
0020					M F		

CODE WORKSHEET FOR OUT-OF-TOWN SOURCES & RECIPIENTS

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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
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		
0035					M F		
0036					M F		
0037					M F		
0038					M F		
0039					M F		
0040					M F		

THE SHARING PROJECT SURVEY
WAINWRIGHT, ALASKA

COOPERATING ORGANIZATIONS

WAINWRIGHT TRADITIONAL COUNCIL
PO BOX 184
WAINWRIGHT, AK 99782

907-763-2535

SCHOOL OF NATURAL RESOURCES & AGRICULTURAL SCIENCES
UNIVERSITY OF ALASKA - FAIRBANKS
BOX 75700
FAIRBANKS, AK 99775

907-474-7078

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

800-478-3420

ENVIRONMENTAL STUDIES SECTION
MINERALS MANAGEMENT SERVICE
3801 CENTERPOINT DRIVE, SUITE 500
ANCHORAGE, AK 99503-5202

907-334-5283

For more information about the project, contact Gary Kofinas
School of Natural Resources & Agricultural Sciences, UAF
(907) 474-7078, gpkofinas@alaska.edu

OMB Control # 1010-0184
Expiration Date: 09-30-2013

HOUSEHOLD ID:		
COMMUNITY ID:	**WAINWRIGHT**	**364**
RESPONDENT ID:		
INTERVIEWER:		
INTERVIEW DATE:		
START TIME:		
STOP TIME:		
DATA CHECKED BY:		
DATA CODED BY:		
DATA ENTERED BY:		
SUPERVISOR:		

Consent Form

Study of Sharing to Assess Community Resilience

Identify who is the "head" or "heads" of the household. Give copy of one-page summary about the project to respondent. Read or summarize to person/people to be interviewed.

The University of Alaska Fairbanks and the Wainwright Traditional Council are partnering in a project on sharing relationships that are part of the mixed economy of the North Slope and Interior Alaska. The project is funded by BOEMRE (The Bureau of Ocean Environment Management, Regulation and Enforcement). As a part of the project, I would like to interview you about the ways your household is supported economically and the ways traditional foods come into your household.

Many studies have tried to document the harvest of wild foods, but they have not accounted for the sharing that helps to support families in village Alaska. This project is different. Similar to other projects, we would like to ask how much wild food your household harvested last year, who lived in your household, and what kind of jobs and income your family members had last year. But we would also like to ask you about the ways that traditional foods came into your household – either through sharing, cooperative hunting, exchanges of equipment, gifting, or other forms of help. We are documenting sharing to understand how households manage for environmental and economic changes, such as oil and gas development and climate change. Having this information now will help Wainwright document the effects of these changes in the future.

This project involves the villages of Wainwright, Kaktovik and Venetie. It is our goal to interview the heads of every household in all three villages.

We expect that the interview will take about 1 to 1 1/2 hours to complete. As a thank you for your time, we would like to give you $50 per hour of interviewing time, up to a maximum of $100.

Your participation is completely voluntary. You may choose to not answer certain questions. Your name will remain anonymous. We will not put your name or the name and location of any households in our reports. If you would like to complete this interview in your own language, we will arrange to have a translator join us. Please do not hesitate to ask questions or clarification at any time during the interview. Once the survey is completed, the connection between respondents and responses will be destroyed.

All the information from the project will be returned to the Wainwright Traditional Council for its review before the information is released as a report. A summary about the project will be made available to residents of each village through posters, reports, and public meetings. A copy of the summary report will be mailed to you. As well, we will use the information from our study to write papers to be presented at conferences or written for professional journals.

To summarize:

- Participation in the interview and parts of the interview is voluntary and anonymity will be maintained.
- Your name will not appear on the survey.
- Neither your name nor the name of anyone else will appear in any reports or papers.
- The Wainwright Traditional Council will review the final report before it is released.
- Results from interviews will be summarized, returned to the communities, and distributed for discussion.
- A copy of the summary report will be mailed to you.

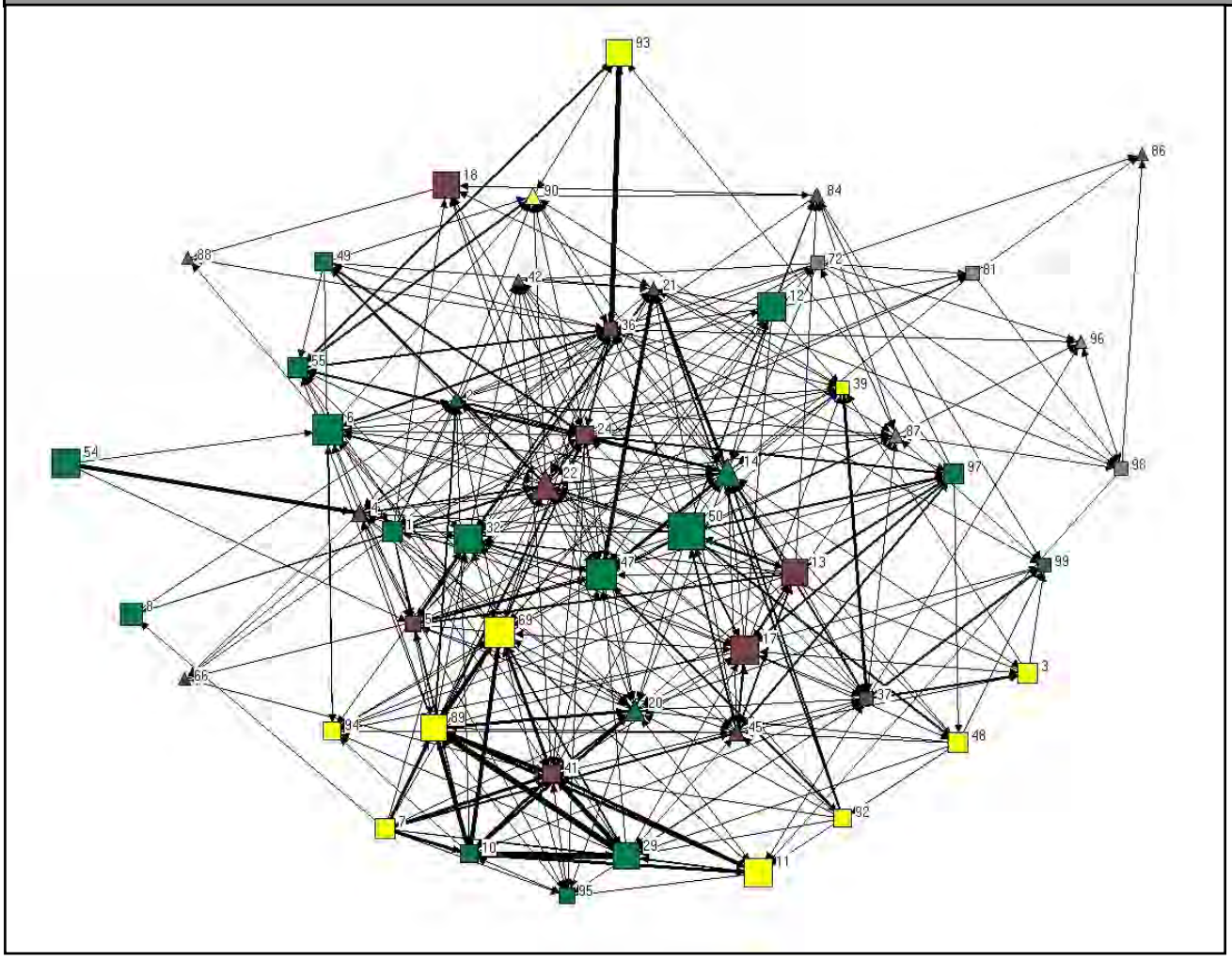
►**Are you willing to be interviewed?** ..... ☐Yes ☐No

If NO, stop interview. If YES, continue and read the following example.

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et. seq.) requires us to inform you that we collect this information to obtain knowledge of subsistence issues in Alaska communities and how they relate to future oil and gas drilling. Responses are voluntary. Proprietary data are covered under FOIA. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB Control Number. Public reporting for this study, is estimated to average 1.5 hours per response. This includes the time for reviewing instructions and answering the questions. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 5438, Minerals Management Service, 1849 C Street, N.W., Washington D.C. 20240

THANK YOU!

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. Many of the elder households (brown boxes) and 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 helped with your household bills?

Your answers to these questions help us describe sharing and cooperation, important parts of life in Wainwright. 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 anonymity, this sheet will be removed from the survey.

HOUSEHOLD (HH) MEMBERS

HH ID

First, I would like to ask about the people in your HH. By this, I mean the people who sleep at your house and are permanent members of your family. This includes college or high school students who return home every summer. I am NOT interested in people who lived with you temporarily, even if they stayed several months. I will not ask questions about them in the rest of the survey.

During the last 12 MONTHS,
WHO lived in this HH?

									If NOT here since birth…		
	Person Code	Is this person answering questions on this survey?	How is this person related to HEAD 1?	Is this person MALE or FEMALE?	Is this person Alaska Native?	How old is this person?	Last grade completed in school?	Lived in this village since birth?	Where is this person's birth home?	When did this person move here?	From where did this person move?
ID#	*00000*	*circle*	*relation*	*circle*	*circle*	*age*	*grade*	*circle*	*community*	*year*	*community*
HEAD		Y N		M F	Y N			Y N			
01											
Next, enter spouse or partner. If HH has a SINGLE HEAD, leave next row BLANK.											
HEAD		Y N		M F	Y N			Y N			
02											
Below, enter children first (oldest to youngest), then grandchildren, grandparents, brothers, sisters, and other HH members.											
03		Y N		M F	Y N			Y N			
04		Y N		M F	Y N			Y N			
05		Y N		M F	Y N			Y N			
06		Y N		M F	Y N			Y N			
07		Y N		M F	Y N			Y N			
08		Y N		M F	Y N			Y N			
09		Y N		M F	Y N			Y N			
10		Y N		M F	Y N			Y N			
11		Y N		M F	Y N			Y N			
12		Y N		M F	Y N			Y N			
13		Y N		M F	Y N			Y N			
14		Y N		M F	Y N			Y N			
15		Y N		M F	Y N			Y N			
16		Y N		M F	Y N			Y N			
17		Y N		M F	Y N			Y N			

DEMOGRAPHICS **SHARING SURVEY: 364**

DIVIDEND INCOME

THIS PAGE IS ONLY FOR DIVIDEND INCOME

HH ID

Next, I have some questions about your HH's income and expenses.
During the last 12 MONTHS, did any members of your HH receive a dividend
from the Alaska PERMANENT FUND, from a REGIONAL or VILLAGE Native Corporation, or from other investments?..... Y N (Circle)
IF NO, go to the next page.

If YES, continue below…

			2010 PFD* $1,281 / PERSON		2009-10 ASRC** $5,439 / 100 SHRS	OLGOONIK*** $850 / 100 SHRS		
		Person Code	Did this person receive a FULL Alaska PFD in 2009?	IF NO…. how much was this person's Alaska PFD in 2009?	In 2009, how much DIVIDEND income did this person receive from…			
		Use same code as *previous page			Alaska Native REGIONAL Corporations?	Alaska Native VILLAGE Corporations?	Other Dividend Income (Stocks, Bonds)	Comments?
order	*role / res.*	*00000*	*circle*	*dollars*	*dollars*	*dollars*	*dollars*	*enter text*
	HEAD 01 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
1	6 910000000							
Next, enter dividend income for spouse or partner. If HH has a SINGLE HEAD, leave next row BLANK.								
	HEAD 02 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
2	6 910000000							
Below, enter dividend income for the rest of the HH in the same order as the previous page.								
	PERSON 03 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
3	6 910000000							
	PERSON 04 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
4	6 910000000							
	PERSON 05 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
5	6 910000000							
	PERSON 06 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
6	6 910000000							
	PERSON 07 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
7	6 910000000							
	PERSON 08 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
8	6 910000000							
	PERSON 09 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
9	6 910000000							
	PERSON 10 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
10	6 910000000							
	PERSON 11 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
11	6 910000000							
	PERSON 12 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
12	6 910000000							
	PERSON 13 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
13	6 910000000							
	PERSON 14 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
14	6 910000000							
	PERSON 15 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
15	6 910000000							
	PERSON 16 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
16	6 910000000							
	PERSON 17 DIVIDENDS		Y N	$ /Yr	$ /Yr	$ /Yr	$ /Yr	
17	6 910000000							

* PFD is Permanent Fund Dividend; **ANRC is Alaska Native Regional Corporation; ***ANVC is Alaska Native Village Corporation

NETWORK: 67 COMPOSITE SHARING SURVEY: 0

JOBS — FOR EACH PERSON IN THE HH, 16 YEARS OLD AND OLDER — HH ID

This page asks about jobs and income. 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 their hunting/fishing/gathering activities.

During the last 12 MONTHS,
did any members of your HH earn money from a JOB or from SELF EMPLOYMENT?..... Y N (Circle)

For each member of this HH born before 1994, please list EACH JOB held during the last 12 months. For HH members who did not have a job, write: RETIRED, UNEMPLOYED, STUDENT, HOMEMAKER, etc. There should be ONE ROW FOR EACH JOB held by a member of this HH born before 1994. There should be AT LEAST one row for each member of this HH born before 1994 (this includes anyone who is 16 years old or older).

order | role | res.	Person Code	What kind of work did he or she do in this job?	For whom did he or she work in this job?	In the past year, what months did he or she work in this job?	WORK SCHEDULE... FULL TIME	PART TIME	SHIFT - FULL TIME	ON-CALL, VARIES	SHIFT - PART TIME	In the past year how much did he or she earn in this job?
	00000	*job title*	*employer*	*circle each month worked*	*circle one*					*gross income*
1ST JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
1 6 910100000										
2ND JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
2 6 910100000										
3RD JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
3 6 910100000										
4TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
4 6 910100000										
5TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
5 6 910100000										
6TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
6 6 910100000										
7TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
7 6 910100000										
8TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
8 6 910100000										
9TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
9 6 910100000										
10TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
10 6 910100000										
11TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
11 6 910100000										
12TH JOB				N D J F M A M J J A S O	FT	PT	SF	OC	SP	$ / Yr
12 6 910100000										

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, SEWING, or CARVING 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
0 - Unemployed

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

EMPLOYMENT: 23 **SHARING SURVEY: 364**

OTHER INCOME

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

HH ID

During the last 12 MONTHS, did any member of your HH receive any kind of OTHER INCOME,
such as UNEMPLOYMENT, ...SOCIAL SECURITY , or ...CHILD SUPPORT?..... Y N (Circle)

IF NO, go to the next page.

If YES, continue on this page…

During the last 12 MONTHS, how much did YOUR HH receive from…

				HH ASSISTANCE PROGRAMS													
				...Energy Assistance		…CITCO		….Weather-ization		WIC*		Food Stamps					
OTHER INCOME RECEIVED BY ENTIRE HH				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
1	6	910000000		9		34		11									

During the last 12 MONTHS, how much did ELDERS in your HH receive from…

				ELDER ASSISTANCE PROGRAMS													
order | *role* | *res.*			Person Code	...Social Security		...Pensions & Retirement		...Senior Care (Longevity)									
1ST ELDER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
1	6	910000000		7		5		6									
2ND ELDER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
2	6	910000000		7		5		6									
3RD ELDER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
3	6	910000000		7		5		6									
4TH ELDER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
4	6	910000000		7		5		6									

During the last 12 MONTHS, how much did OTHER MEMBERS of your HH receive from…

				JOB PROGRAMS				*CHILD PROGRAMS ***						*PUBLIC ASSISTANCE*			
order | *role* | *res.*			Person Code	Unemployment		...Workers' Compensation		...Supplemental Security		...Foster Care		...Child Support		...Adullt Public Assistance		...Temporary Assistance	
1ST OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
1	6	910000000		12		8		10		41		15		3		52	
2ND OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
2	6	910000000		12		8		10		41		15		3		52	
3RD OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
3	6	910000000		12		8		10		41		15		3		52	
4TH OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
4	6	910000000		12		8		10		41		15		3		52	
5TH OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
5	6	910000000		12		8		10		41		15		3		52	
6TH OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
6	6	910000000		12		8		10		41		15		3		52	
7TH OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
7	6	910000000		12		8		10		41		15		3		52	
8TH OTHER INCOME RECIPIENT				$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr	$	/Yr
8	6	910000000		12		8		10		41		15		3		52	

**WIC is The Special Supplemental Nutrition Program for Women, Infants, and Children; ** Children's programs like foster care and child support are considered as parent or guardian income, not child income.*

NOTE: IF a respondent gives you MONTHLY income, calculate ANNUAL INCOME. This is (monthly amount) x (months received) = (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.

NETWORK: 67 **SHARING SURVEY: 364**

MONTHLY HOUSEHOLD EXPENSES

HH ID

We've heard from many people that it is VERY expensive to live in Wainwright. This page tries to capture how much your HH is spending on basic bil
I'm going to read a list of typical HH costs. Please tell me HOW MUCH your HH usually spent on each bill in a MONTH last year.

GAS	HOUSING	HEATING FUELS			UTILITIES				GROCERIES
Boat, 4x4, Truck, Snowgo	Rent or Mortagage?	Fuel Oil in Summer?	Fuel Oil in Winter?		Electricity	Water & Sewer?	Phone Internet?	Cable Television?	Groceries?
$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo	$ / Mo

During the last 12 months, WHO from OUTSIDE your HH contributed to paying your HH's bills? Include anyone who helped even one time.

		Person Code	In a TYPICAL MONTH, how much did this person contribute to YOUR HH'S expenses for…				
			…GAS / HOUSING	…HEATING FUELS	…UTILITIES	…GROCERIES	Comments?
order, res. & role		*00000*	*$*	*$*	*$*	*$*	*enter text*
	1ST CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
1	6 910000000						
	2ND CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
2	6 910000000						
	3RD CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
3	6 910000000						
	4TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
4	6 910000000						
	5TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
5	6 910000000						
	6TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
6	6 910000000						
	7TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
7	6 910000000						
	8TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
8	6 910000000						
	9TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
9	6 910000000						
	10TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
10	6 910000000						
	11TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
11	6 910000000						
	12TH CASH SOURCE		$ / Mo	$ / Mo	$ / Mo	$ / Mo	
12	6 910000000						

NOTES

HH ID

COMMENTS: 30 **SHARING SURVEY: 364**

EQUIPMENT

HH ID

During the last 12 MONTHS,
did members of your HH use equipment like boats, *snowmachines (snowmobiles),
or freezers to harvest or transport or store traditional foods?..... Y N (Circle)

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

I am going to read a list of some equipment and supplies that people use in Wainwright. Please tell me if someone in your HH OWNED or USED this equipment in the last 12 months. For equipment that your HH owned, I would like to know how much your HH spent in the last 12 months to buy, repair, and supply this equipment.

			For each equipment type OWNED by this household in 2008, ask…			
			PURCHASES		REPAIRS	
	…. did your HH use _____?	Over 12 mos. how many _____ did your HH own?	… how many did your HH buy?	… how much did your HH spend TO BUY _____?	… how much did your HH spend TO REPAIR _____?	Comments
	circle	*number*	*number*	*dollars*	*dollars*	*enter text*
BOAT(S)	Y N			$ / Yr	$ / Yr	
980110000						
OUTBOARD MOTOR(S)	Y N			$ / Yr	$ / Yr	
980120000						
SNOWMACHINE(S)	Y N			$ / Yr	$ / Yr	
980210100						
ATV(S), 4-WHEELER(S)	Y N			$ / Yr	$ / Yr	
980210200						
FREEZER(S)	Y N			$ / Yr	$ / Yr	
980600100						
TRUCK(S)	Y N			$ / Yr	$ / Yr	
980220100						
				$ / Yr	$ / Yr	
SUBSISTENCE SUPPLIES				$ / Yr		
950000000						

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

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

SUBSISTENCE SUPPLIES include:
ammunition, nets, hunting and fishing clothes, buckets, tubs, camp supplies, etc.

*Local terminology for "snowmobile" is "snowmachine". The term "snowmachine" is used throughout the rest of the survey instrument.

NETWORK: 67 **SHARING SURVEY: 364**

EQUIPMENT SOURCES

HH ID

If HH did NOT use equipment for to hunt/fish/gather/process traditional food, skip to the next page.

If HH DID use equipment for to hunt/fish/gather/process traditional foods, continue on this page…

	During the last 12 months…								During the last 12 months…	
	..What other HHs lent your HH equipment for hunting or fishing?	…WHAT equipment did this person provide for your HH's use?							*NOTE: This list is for people OUTSIDE your own HH*	Who are the pple from other HHs who repaired the equipment your HH used to hunt/fish/gather?
		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK	OTHER			
order | role | res.	*00000*	*circle ALL that apply*							*order | role | res.*	*00000*
1ST EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			1ST REPAIR SOURCE	
1 9									1 7	
2ND EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			2ND REPAIR SOURCE	
2 9									2 7	
3RD EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			3RD REPAIR SOURCE	
3 9									3 7	
4TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			4TH REPAIR SOURCE	
4 9									4 7	
5TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			5TH REPAIR SOURCE	
5 9									5 7	
6TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			6TH REPAIR SOURCE	
6 9									6 7	
7TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			7TH REPAIR SOURCE	
7 9									7 7	
8TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			8TH REPAIR SOURCE	
8 9									8 7	
9TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			9TH REPAIR SOURCE	
9 9									9 7	
10TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			10TH REPAIR SOURCE	
10 9									10 7	
11TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			11TH REPAIR SOURCE	
11 9									11 7	
12TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			12TH REPAIR SOURCE	
12 9									12 7	
13TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			13TH REPAIR SOURCE	
13 9									13 7	
14TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			14TH REPAIR SOURCE	
14 9									14 7	
15TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			15TH REPAIR SOURCE	
15 9									15 7	
16TH EQUIPMENT SOURCE		BOAT	OUTBOARD MOTOR	SNOW-MACHINE	ATV OR 4-WHEELER	CAR OR TRUCK			16TH REPAIR SOURCE	
16 9									16 7	

NETWORK: 67 **SHARING SURVEY: 364**

NOTES

HH ID

COMMENTS: 30 **SHARING SURVEY: 364**

The next section asks about subsistence foods.

For most foods, we will briefly ask how much your HH got last year between November 1, 2009 and October 31, 201

But for seven important foods, we will ask about the different ways those foods came into your HH, for example; through 1) your own HH hunting, 2) hunting with others, 3) your contributions to the hunting of other HHs, and 4) sharing or trading.

The foods we will ask about are:

CARIBOU
GEESE/DUCKS
SMELT
BELUGA WHALE
BOWHEAD WHALE
BEARDED SEAL

CARIBOU SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

In the last 12 months, did members of your household:

	circle one	
Use Caribou (eat, sew, carve)?	Y	N
Receive Caribou?	Y	N
Give Caribou away?	Y	N
Try to harvest Caribou?	Y	N

Now we'll begin to go through the different ways that caribou might have come into your HH…During the last 12 MONTHS, did anyone in your HH kill any CARIBOU while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many caribou EACH MEMBER OF THEIR HH HARVESTED during the last 12 months. INCLUDE caribou the HH members gave away, even if they gave it away without bringing it home. Include caribou the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HHonly											
Who in your HH killed CARIBOU last year?		How many CARIBOU did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	***specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 211000000									
2ND HUNTER IN THIS HOUSE									
2 1 211000000									
3RD HUNTER IN THIS HOUSE									
3 1 211000000									
4TH HUNTER IN THIS HOUSE									
4 1 211000000									
5TH HUNTER IN THIS HOUSE									
5 1 211000000									
6TH HUNTER IN THIS HOUSE									
6 1 211000000									
7TH HUNTER IN THIS HOUSE									
7 1 211000000									
8TH HUNTER IN THIS HOUSE									
8 1 211000000									
9TH HUNTER IN THIS HOUSE									
9 1 211000000									
10TH HUNTER IN THIS HOUSE									
10 1 211000000									
11TH HUNTER IN THIS HOUSE									
11 1 211000000									
12TH HUNTER IN THIS HOUSE									
12 1 211000000									
13TH HUNTER IN THIS HOUSE									
13 1 211000000									

CARIBOU SOURCES: SHARES FROM COOPERATIVE HUNTING

HHID

During the last 12 MONTHS, did you or anyone from your HH
receive CARIBOU as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many caribou each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the take. INCLUDE caribou the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH				HUNTERS from OTHER HHS					
Who received CARIBOU as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 211000000									
2ND HUNTER IN THIS HOUSE									
2 1 211000000									
3RD HUNTER IN THIS HOUSE									
3 1 211000000									
4TH HUNTER IN THIS HOUSE									
4 1 211000000									
5TH HUNTER IN THIS HOUSE									
5 1 211000000									
6TH HUNTER IN THIS HOUSE									
6 1 211000000									
7TH HUNTER IN THIS HOUSE									
7 1 211000000									
8TH HUNTER IN THIS HOUSE									
8 1 211000000									
9TH HUNTER IN THIS HOUSE									
9 1 211000000									
10TH HUNTER IN THIS HOUSE									
10 1 211000000									
11TH HUNTER IN THIS HOUSE									
11 1 211000000									
12TH HUNTER IN THIS HOUSE									
12 1 211000000									
13TH HUNTER IN THIS HOUSE									
13 1 211000000									
14TH HUNTER IN THIS HOUSE									
14 1 211000000									
15TH HUNTER IN THIS HOUSE									
15 1 211000000									
16TH HUNTER IN THIS HOUSE									
16 1 211000000									

CARIBOU SOURCES: SHARES FOR HELPING WITH THE HUNTING OF OTHERS HHID

During the last 12 MONTHS, did anyone in your HH get any SHARES of CARIBOU
because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if caribou was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of CARIBOU?	How much CARIBOU did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	00000	number	*specify	circle ALL that apply							enter text
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 211000000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 211000000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 211000000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 211000000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 211000000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 211000000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 211000000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 211000000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 211000000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 211000000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 211000000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 211000000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 211000000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 211000000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 211000000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 211000000											

NETWORK: 67 **SHARING SURVEY: 364**

CARIBOU SOURCES: SHARING, TRADES, & PURCHASES

HHID

During the last 12 MONTHS, did anyone give CARIBOU to your HH, or did you receive CARIBOU by trading or buying it from someone living in a Wainwright HH or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive CARIBOU?	Did this person KILL the CARIBOU ?	How much CARIBOU did your HH receive from this person? Amount Received	Units	Was this SHARING, TRADE, or PURCHASE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 211000000												
2ND HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 211000000												
3RD HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 211000000												
4TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 211000000												
5TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 211000000												
6TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 211000000												
7TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 211000000												
8TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 211000000												
9TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 211000000												
10TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 211000000												
11TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 211000000												
12TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 211000000												
13TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 211000000												
14TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 211000000												
15TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 211000000												
16TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 211000000												

S="SOMETIMES" ?= "DON'T KNOW"

NETWORK: 67 **SHARING SURVEY: 364**

CARIBOU: PROCESSORS

HHID

During the last 12 MONTHS,
did anyone cut, dry, freeze, smoke, or put away CARIBOU for your HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

During the last 12 MONTHS, who cut, dried, froze, smoked, or put away CARIBOU for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	*PROCESSORS*	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 211000000		
2ND PROCESSOR		
2 2 211000000		
3RD PROCESSOR		
3 2 211000000		
4TH PROCESSOR		
4 2 211000000		
5TH PROCESSOR		
5 2 211000000		
6TH PROCESSOR		
6 2 211000000		
7TH PROCESSOR		
7 2 211000000		
8TH PROCESSOR		
8 2 211000000		
9TH PROCESSOR		
9 2 211000000		
10TH PROCESSOR		
10 2 211000000		
11TH PROCESSOR		
11 2 211000000		
12TH PROCESSOR		
12 2 211000000		
13TH PROCESSOR		
13 2 211000000		
14TH PROCESSOR		
14 2 211000000		
15TH PROCESSOR		
15 2 211000000		
16TH PROCESSOR		
16 2 211000000		

HARVESTS: LARGE LAND MAMMALS

HH ID ______

Do members of your HH USUALLY hunt other large land mammals such as GRIZZLY BEAR or MUSKOXEN?.......... Y N (Circle)

During the last 12 MONTHS, did members of your HH USE or TRY TO HUNT these large land mammals?.......... Y N (Circle)

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

	In the last 12 months, did members of your HH...				For each resource HARVESTED, ask… Please estimate how many large land mammals ALL MEMBERS OF YOUR HH HUNTED the last 12 months. INCLUDE large land mammals you gave away, ate fresh, dried, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the take.		
	Use? (eat, sew, carve, apply medicinally, etc.)	Receive?	Give Away?	Try to Harvest?	Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	*specify**	*enter text*
GRIZZLY BEAR 210800000	Y N	Y N	Y N	Y N			
MUSKOXEN 212000000	Y N	Y N	Y N	Y N			
MOOSE 211800000	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			
	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			
	Y N	Y N	Y N	Y N			
	Y N	Y N	Y N	Y N			

**SURVEYOR: Respondents should specify the applicable unit of measure for that resource (number or proportions of animals, fish or berries, buckets, etc.), and when appropriate, how many were killed, gathered or received. All units will be transformed to weight in pounds during analysis.*

During the last 12 MONTHS,
Did your HH use or hunt for any other large mammals in the last 12 months?.......... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

LAND MAMMALS: 10 **SHARING SURVEY: 364**

GEESE SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

In the last 12 months, did members of your household:

	circle one	
Use Geese (eat, use for crafts)?	Y	N
Receive Geese?	Y	N
Give Geese away?	Y	N
Try to harvest Geese?	Y	N

Now we'll begin to go through the different ways that Geese might have come into your HH…During the last 12 MONTHS, did anyone in your HH kill any GEESE while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many geese EACH MEMBER OF THEIR HH HARVESTED during the last 12 months. INCLUDE geese the HH members gave away, even if they gave it away without bringing it home. Include geese the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HHonly

Who in your HH killed GEESE last year?		How many GEESE did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	***specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 410499009									
2ND HUNTER IN THIS HOUSE									
2 1 410499009									
3RD HUNTER IN THIS HOUSE									
3 1 410499009									
4TH HUNTER IN THIS HOUSE									
4 1 410499009									
5TH HUNTER IN THIS HOUSE									
5 1 410499009									
6TH HUNTER IN THIS HOUSE									
6 1 410499009									
7TH HUNTER IN THIS HOUSE									
7 1 410499009									
8TH HUNTER IN THIS HOUSE									
8 1 410499009									
9TH HUNTER IN THIS HOUSE									
9 1 410499009									
10TH HUNTER IN THIS HOUSE									
10 1 410499009									
11TH HUNTER IN THIS HOUSE									
11 1 410499009									
12TH HUNTER IN THIS HOUSE									
12 1 410499009									
13TH HUNTER IN THIS HOUSE									
13 1 211000000									

NETWORK: 67 **SHARING SURVEY: 364**

GEESE SOURCES: SHARES FROM COOPERATIVE HUNTING

HHID

During the last 12 MONTHS, did you or anyone from your HH
receive GEESE as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many geese each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the take. INCLUDE geese the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH					*HUNTERS from OTHER HHS*					
Who received GEESE as a share when hunting with others?		How much did this person receive as a share?			Who hunted with this person?					
	Person Code	Amount Received	Units		Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*		*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE										
1 1 410499009										
2ND HUNTER IN THIS HOUSE										
2 1 410499009										
3RD HUNTER IN THIS HOUSE										
3 1 410499009										
4TH HUNTER IN THIS HOUSE										
4 1 410499009										
5TH HUNTER IN THIS HOUSE										
5 1 410499009										
6TH HUNTER IN THIS HOUSE										
6 1 410499009										
7TH HUNTER IN THIS HOUSE										
7 1 410499009										
8TH HUNTER IN THIS HOUSE										
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10TH HUNTER IN THIS HOUSE										
10 1 410499009										
11TH HUNTER IN THIS HOUSE										
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12TH HUNTER IN THIS HOUSE										
12 1 410499009										
13TH HUNTER IN THIS HOUSE										
13 1 410499009										
14TH HUNTER IN THIS HOUSE										
14 1 410499009										
15TH HUNTER IN THIS HOUSE										
15 1 410499009										
16TH HUNTER IN THIS HOUSE										
16 1 410499009										

GEESE SOURCES: SHARES FOR HELPING WITH THE HUNTING OF OTHERS

HHID

During the last 12 MONTHS, did anyone in your HH get any SHARES from GEESE hunting because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if geese were a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of hunted GEESE?	How many GEESE did members of your HH receive as SHARES?		FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
		Amount Received	Units								
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 410499009											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 410499009											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 410499009											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 410499009											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 410499009											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 410499009											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 410499009											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 410499009											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 410499009											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 410499009											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 410499009											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 410499009											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 410499009											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 410499009											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 410499009											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 410499009											

NETWORK: 67 **SHARING SURVEY: 364**

GEESE SOURCES: SHARING, TRADES, & PURCHASES

HHID

During the last 12 MONTHS, did anyone give GEESE to your HH, or did you receive GEESE by trading or buying some from someone living in a Wainwright HH or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive GEESE?	Did this person KILL the GEESE?	How many GEESE did your HH receive from this person? Amount Received	Units	Was this SHARING, TRADE, or PURCHASE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 410499009												
2ND HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 410499009												
3RD HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 410499009												
4TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 410499009												
5TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 410499009												
6TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 410499009												
7TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 410499009												
8TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 410499009												
9TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 410499009												
10TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 410499009												
11TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 410499009												
12TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 410499009												
13TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 410499009												
14TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 410499009												
15TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 410499009												
16TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 410499009												

S="SOMETIMES" ?= "DON'T KNOW"

NETWORK: 67 **SHARING SURVEY: 364**

GEESE: PROCESSORS

HHID

During the last 12 MONTHS,
did anyone cut, dry, freeze, pluck, or put away GEESE for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, froze, plucked, or put away GEESE for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	*PROCESSORS*	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 410499009		
2ND PROCESSOR		
2 2 410499009		
3RD PROCESSOR		
3 2 410499009		
4TH PROCESSOR		
4 2 410499009		
5TH PROCESSOR		
5 2 410499009		
6TH PROCESSOR		
6 2 410499009		
7TH PROCESSOR		
7 2 410499009		
8TH PROCESSOR		
8 2 410499009		
9TH PROCESSOR		
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10 2 410499009		
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12 2 410499009		
13TH PROCESSOR		
13 2 410499009		
14TH PROCESSOR		
14 2 410499009		
15TH PROCESSOR		
15 2 410499009		
16TH PROCESSOR		
16 2 410499009		

NOTES:

DUCKS SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

In the last 12 months, did members of your household:

	circle one	
Use Ducks (eat, use for crafts)?	Y	N
Receive Ducks?	Y	N
Give Ducks away?	Y	N
Try to harvest Ducks?	Y	N

Now we'll begin to go through the different ways that Ducks might have come into your HH…During the last 12 MONTHS, did anyone in your HH kill any DUCKS while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many ducks EACH MEMBER OF THEIR HH HARVESTED during the last 12 months. INCLUDE ducks the HH members gave away, even if they gave it away without bringing it home. Include ducks the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HHonly										
Who in your HH killed DUCKS last year?		How many DUCKS did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	***specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 410299009									
2ND HUNTER IN THIS HOUSE									
2 1 410299009									
3RD HUNTER IN THIS HOUSE									
3 1 410299009									
4TH HUNTER IN THIS HOUSE									
4 1 410299009									
5TH HUNTER IN THIS HOUSE									
5 1 410299009									
6TH HUNTER IN THIS HOUSE									
6 1 410299009									
7TH HUNTER IN THIS HOUSE									
7 1 410299009									
8TH HUNTER IN THIS HOUSE									
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12TH HUNTER IN THIS HOUSE									
12 1 410299009									
13TH HUNTER IN THIS HOUSE									
13 1 211000000									

NETWORK: 67 **SHARING SURVEY: 364**

DUCKS SOURCES: SHARES FROM COOPERATIVE HUNTING

HHID

During the last 12 MONTHS, did you or anyone from your HH
receive DUCKS as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many ducks each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the take. INCLUDE ducks the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH				*HUNTERS from OTHER HHS*					
Who received DUCKS as a share when hunting with others?		How many did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 410299009									
2ND HUNTER IN THIS HOUSE									
2 1 410299009									
3RD HUNTER IN THIS HOUSE									
3 1 410299009									
4TH HUNTER IN THIS HOUSE									
4 1 410299009									
5TH HUNTER IN THIS HOUSE									
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6TH HUNTER IN THIS HOUSE									
6 1 410299009									
7TH HUNTER IN THIS HOUSE									
7 1 410299009									
8TH HUNTER IN THIS HOUSE									
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9TH HUNTER IN THIS HOUSE									
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14 1 410299009									
15TH HUNTER IN THIS HOUSE									
15 1 410299009									
16TH HUNTER IN THIS HOUSE									
16 1 410299009									

NETWORK: 67 **SHARING SURVEY: 364**

DUCKS SOURCES: SHARES FOR HELPING WITH THE HUNTING OF OTHERS HHID

During the last 12 MONTHS, did anyone in your HH get any SHARES of the DUCKS harvested because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if Ducks were a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of harvested DUCKS ?	How many DUCKS did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	00000	number	*specify	circle ALL that apply							enter text
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 410299009											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 410299009											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 410299009											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 410299009											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 410299009											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 410299009											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 410299009											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 410299009											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 410299009											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 410299009											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 410299009											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 410299009											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 410299009											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 410299009											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 410299009											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 410299009											

NETWORK: 67 **SHARING SURVEY: 364**

DUCKS SOURCES: SHARING, TRADES, & PURCHASES

HHID

During the last 12 MONTHS, did anyone give CARIBOU to your HH, or did you receive DUCKS by trading or buying them from someone living in a Wainwright HH or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive DUCKS ?	Did this person KILL the DUCKS ?	How many DUCKS did your HH receive from this person? Amount Received	Units	Was this SHARING, TRADE, or PURCHASE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 410299009												
2ND HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 410299009												
3RD HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 410299009												
4TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 410299009												
5TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 410299009												
6TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 410299009												
7TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 410299009												
8TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 410299009												
9TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 410299009												
10TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 410299009												
11TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 410299009												
12TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 410299009												
13TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 410299009												
14TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 410299009												
15TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 410299009												
16TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 410299009												

S="SOMETIMES" ?= "DON'T KNOW"

NETWORK: 67 **SHARING SURVEY: 364**

DUCKS : PROCESSORS

HHID

During the last 12 MONTHS,
did anyone cut, dry, freeze, pluck, or put away DUCKS for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, singed, plucked, froze, or put away DUCKS for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	*PROCESSORS*	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 410299009		
2ND PROCESSOR		
2 2 410299009		
3RD PROCESSOR		
3 2 410299009		
4TH PROCESSOR		
4 2 410299009		
5TH PROCESSOR		
5 2 410299009		
6TH PROCESSOR		
6 2 410299009		
7TH PROCESSOR		
7 2 410299009		
8TH PROCESSOR		
8 2 410299009		
9TH PROCESSOR		
9 2 410299009		
10TH PROCESSOR		
10 2 410299009		
11TH PROCESSOR		
11 2 410299009		
12TH PROCESSOR		
12 2 410299009		
13TH PROCESSOR		
13 2 410299009		
14TH PROCESSOR		
14 2 410299009		
15TH PROCESSOR		
15 2 410299009		
16TH PROCESSOR		
16 2 410299009		

HARVESTS: MIGRATORY BIRDS

HH ID

Do members of your HH USUALLY hunt other migratory birds,
such as or ?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO HUNT these migratory birds?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did members of your HH….				For each resource HARVESTED, ask…		
	Use? (eat, trade, apply medicinally, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many migratory birds ALL MEMBERS OF YOUR HH HUNTED the last 12 months. INCLUDE migratory birds you gave away, ate fresh, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the hunt.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
PTARMIGAN	Y N	Y N	Y N	Y N			
421804000							
TUNDRA SWAN	Y N	Y N	Y N	Y N			
410699000							
SANDHILL CRANE	Y N	Y N	Y N	Y N			
410802000							
	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			

During the last 12 MONTHS,
did your HH use or hunt any other kind of migratory birds?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

SMELT SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

In the last 12 months, did members of your household:

	circle one	
Eat Smelt?	Y	N
Receive Smelt?	Y	N
Give Smelt away?	Y	N
Try to harvest Smelt?	Y	N

Now we'll begin to go through the different ways that smelt might have come into your HH…During the last 12 MONTHS, did anyone in your HH catch any SMELT while fishing alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many smelt EACH MEMBER OF THEIR HH HARVESTED during the last 12 months, including with rod and reel. INCLUDE smelt the HH members gave away, even if they gave it away without bringing it home. Include smelt the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

FISHERS from THIS HHonly										
Who in your HH caught SMELT last year?		How many SMELT did this person catch?		Who in THIS HH fished with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Caught	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	***specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST FISHER IN THIS HOUSE									
1 1 120406003									
2ND FISHER IN THIS HOUSE									
2 1 120406003									
3RD FISHER IN THIS HOUSE									
3 1 120406003									
4TH FISHER IN THIS HOUSE									
4 1 120406003									
5TH FISHER IN THIS HOUSE									
5 1 120406003									
6TH FISHER IN THIS HOUSE									
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7TH FISHER IN THIS HOUSE									
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10TH FISHER IN THIS HOUSE									
10 1 120406003									
11TH FISHER IN THIS HOUSE									
11 1 120406003									
12TH FISHER IN THIS HOUSE									
12 1 120406003									
13TH FISHER IN THIS HOUSE									
13 1 211000000									

NETWORK: 67 **SHARING SURVEY: 364**

SMELT SOURCES: SHARES FROM COOPERATIVE FISHING

HHID

During the last 12 MONTHS, did you or anyone from your HH
receive SMELT as their share from fishing together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many smelt each member of their HH RECEIVED AS A SHARE in the last 12 months, including with rod and reel while fishing with others. We want them to report only THEIR SHARE of the take. INCLUDE smelt the HH received as a share then gave away, fed to dogs, or lost to spoilage.

FISHERS from THIS HH				*FISHERS from OTHER HHS*					
Who received SMELT as a share when fishing with others?		How many did this person receive as a share?		Who fished with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST FISHER IN THIS HOUSE									
1 1 120406003									
2ND FISHER IN THIS HOUSE									
2 1 120406003									
3RD FISHER IN THIS HOUSE									
3 1 120406003									
4TH FISHER IN THIS HOUSE									
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14TH FISHER IN THIS HOUSE									
14 1 120406003									
15TH FISHER IN THIS HOUSE									
15 1 120406003									
16TH FISHER IN THIS HOUSE									
16 1 120406003									

NETWORK: 67 **SHARING SURVEY: 364**

SMELT SOURCES: SHARES FOR HELPING WITH THE FISHING OF OTHERS

HHID

During the last 12 MONTHS, did anyone in your HH get any SHARES of harvested SMELT because they contributed to the fishing effort of other HHs, but did NOT actually fish with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if Smelt was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of harvested SMELT?	How many SMELT did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	00000	number	*specify	circle ALL that apply							enter text
1ST FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 120406003											
2ND FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 120406003											
3RD FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 120406003											
4TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 120406003											
5TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 120406003											
6TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 120406003											
7TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 120406003											
8TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 120406003											
9TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 120406003											
10TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 120406003											
11TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 120406003											
12TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 120406003											
13TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 120406003											
14TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 120406003											
15TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 120406003											
16TH FISHER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 120406003											

NETWORK: 67 **SHARING SURVEY: 364**

SMELT SOURCES: SHARING, TRADES, & PURCHASES

HHID

During the last 12 MONTHS, did anyone give CARIBOU to your HH, or did you receive SMELT by trading or buying them from someone living in a Wainwright HH or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive SMELT?	Did this person CATCH the SMELT?	How many SMELT did your HH receive from this person? Amount Received	Units	Was this SHARING, TRADE, or PURCHASE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 120406003												
2ND FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 120406003												
3RD FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 120406003												
4TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 120406003												
5TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 120406003												
6TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 120406003												
7TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 120406003												
8TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 120406003												
9TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 120406003												
10TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 120406003												
11TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 120406003												
12TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 120406003												
13TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 120406003												
14TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 120406003												
15TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 120406003												
16TH FISHER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 120406003												

S="SOMETIMES" ?= "DON'T KNOW"

NETWORK: 67 **SHARING SURVEY: 364**

SMELT: PROCESSORS

HHID

During the last 12 MONTHS,
did anyone cut, dry, freeze, smoke, or put away SMELT for your HH?..... Y N (Circle)

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

During the last 12 MONTHS, who cut, dried, smoked, froze, or put away SMELT for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	*PROCESSORS*	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 120406003		
2ND PROCESSOR		
2 2 120406003		
3RD PROCESSOR		
3 2 120406003		
4TH PROCESSOR		
4 2 120406003		
5TH PROCESSOR		
5 2 120406003		
6TH PROCESSOR		
6 2 120406003		
7TH PROCESSOR		
7 2 120406003		
8TH PROCESSOR		
8 2 120406003		
9TH PROCESSOR		
9 2 120406003		
10TH PROCESSOR		
10 2 120406003		
11TH PROCESSOR		
11 2 120406003		
12TH PROCESSOR		
12 2 120406003		
13TH PROCESSOR		
13 2 120406003		
14TH PROCESSOR		
14 2 120406003		
15TH PROCESSOR		
15 2 120406003		
16TH PROCESSOR		
16 2 120406003		

HARVESTS: FISH

HH ID

Do members of your HH USUALLY fish for other fish like
LEAST CISCO or GRAYLING?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO FISH for these other species?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did members of your HH….				For each resource HARVESTED, ask…		
	Use? (eat, trade, feed to dogs, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many fish ALL MEMBERS OF YOUR HH FISHED the last 12 months, including with rod and reel. INCLUDE fish you gave away, ate fresh, dried, fed to dogs, lost to spoilage, or got by helping others. If fishing with others, report ONLY YOUR SHARE of the catch.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
LEAST CISCO	Y N	Y N	Y N	Y N			
126406063							
GRAYLING	Y N	Y N	Y N	Y N			
125200003							
ARCTIC CHAR	Y N	Y N	Y N	Y N			
125002003							
TOMCOD (SAFFRON COD)	Y N	Y N	Y N	Y N			
121010003							
BLUE COD (ARCTIC COD)	Y N	Y N	Y N	Y N			
121002003							
KING SALMON	Y N	Y N	Y N	Y N			
113000003							
COHO SALMON	Y N	Y N	Y N	Y N			
112000003							
CHUM SALMON (Dog Salmon)	Y N	Y N	Y N	Y N			
111000003							
	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			

During the last 12 MONTHS,
did your HH use any other kind of fish?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

BEARDED SEAL (UGRUK) SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

In the last 12 months, did members of your household:

	circle one	
Use Bearded Seal (eat, sew, carve)?	Y	N
Receive Bearded Seal?	Y	N
Give Bearded Seal away?	Y	N
Try to harvest Bearded?	Y	N

Now we'll begin to go through the different ways that Ugruk might have come into your HH…During the last 12 MONTHS, did anyone in your HH kill any BEARDED SEAL while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many bearded seal EACH MEMBER OF THEIR HH HARVESTED during the last 12 months. INCLUDE bearded seal the HH members gave away, even if they gave it away without bringing it home. Include bearded seal the HH ate fresh, dried, froze, fed to dogs, or lost to spoilage.

HUNTERS from THIS HHonly										
Who in your HH killed BEARDED SEAL last year?		How many BEARDED SEAL did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	***specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 300802000									
2ND HUNTER IN THIS HOUSE									
2 1 300802000									
3RD HUNTER IN THIS HOUSE									
3 1 300802000									
4TH HUNTER IN THIS HOUSE									
4 1 300802000									
5TH HUNTER IN THIS HOUSE									
5 1 300802000									
6TH HUNTER IN THIS HOUSE									
6 1 300802000									
7TH HUNTER IN THIS HOUSE									
7 1 300802000									
8TH HUNTER IN THIS HOUSE									
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11TH HUNTER IN THIS HOUSE									
11 1 300802000									
12TH HUNTER IN THIS HOUSE									
12 1 300802000									
13TH HUNTER IN THIS HOUSE									
13 1 211000000									

NETWORK: 67 **SHARING SURVEY: 364**

BEARDED SEAL SOURCES: SHARES FROM COOPERATIVE HUNTING

HHID

During the last 12 MONTHS, did you or anyone from your HH
receive BEARDED SEAL as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

INSTRUCTIONS: We want respondents to estimate how many bearded seal each member of their HH RECEIVED AS A SHARE in the last 12 months while hunting with others. We want them to report only THEIR SHARE of the take. INCLUDE bearded seal the HH received as a share then gave away, fed to dogs, or lost to spoilage.

HUNTERS from THIS HH				*HUNTERS from OTHER HHS*					
Who received BEARDED SEAL as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 300802000									
2ND HUNTER IN THIS HOUSE									
2 1 300802000									
3RD HUNTER IN THIS HOUSE									
3 1 300802000									
4TH HUNTER IN THIS HOUSE									
4 1 300802000									
5TH HUNTER IN THIS HOUSE									
5 1 300802000									
6TH HUNTER IN THIS HOUSE									
6 1 300802000									
7TH HUNTER IN THIS HOUSE									
7 1 300802000									
8TH HUNTER IN THIS HOUSE									
8 1 300802000									
9TH HUNTER IN THIS HOUSE									
9 1 300802000									
10TH HUNTER IN THIS HOUSE									
10 1 300802000									
11TH HUNTER IN THIS HOUSE									
11 1 300802000									
12TH HUNTER IN THIS HOUSE									
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14TH HUNTER IN THIS HOUSE									
14 1 300802000									
15TH HUNTER IN THIS HOUSE									
15 1 300802000									
16TH HUNTER IN THIS HOUSE									
16 1 300802000									

BEARDED SEAL SOURCES: SHARES FOR HELPING WITH THE HUNTING OF OT HHID

During the last 12 MONTHS, did anyone in your HH get any SHARES of BEARDED SEAL
because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if Ugruk was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of BEARDED SEAL?	How much BEARDED SEAL did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 300802000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 300802000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 300802000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 300802000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 300802000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 300802000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 300802000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 300802000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 300802000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 300802000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 300802000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 300802000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 300802000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 300802000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 300802000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 300802000											

NETWORK: 67 **SHARING SURVEY: 364**

BEARDED SEAL SOURCES: SHARING, TRADES, & PURCHASES

HHID

During the last 12 MONTHS, did anyone give CARIBOU to your HH, or did you receive BEARDED SEAL by trading or buying it from someone living in a Wainwright HH or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive BEARDED SEAL?	Did this person KILL the BEARDED SEAL?	How much BEARDED SEAL did your HH receive from this person? Amount Received	Units	Was this SHARING, TRADE, or PURCHASE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 300802000												
2ND HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 300802000												
3RD HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 300802000												
4TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 300802000												
5TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 300802000												
6TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 300802000												
7TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 300802000												
8TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 300802000												
9TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 300802000												
10TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 300802000												
11TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 300802000												
12TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 300802000												
13TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 300802000												
14TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 300802000												
15TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 300802000												
16TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 300802000												

S="SOMETIMES" ?= "DON'T KNOW"

NETWORK: 67 **SHARING SURVEY: 364**

BEARDED SEAL: PROCESSORS

HHID

During the last 12 MONTHS,
did anyone cut, dry, freeze, render into oil, or put away BEARDED SEAL for your HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

During the last 12 MONTHS, who cut, dried, froze, rendered into oil, or put away BEARDED SEAL for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.				***PROCESSORS***	
			Person Code		Comments?
order	*role*	*res.*	*00000*		*enter text*
		1ST PROCESSOR			
1	2	300802000			
		2ND PROCESSOR			
2	2	300802000			
		3RD PROCESSOR			
3	2	300802000			
		4TH PROCESSOR			
4	2	300802000			
		5TH PROCESSOR			
5	2	300802000			
		6TH PROCESSOR			
6	2	300802000			
		7TH PROCESSOR			
7	2	300802000			
		8TH PROCESSOR			
8	2	300802000			
		9TH PROCESSOR			
9	2	300802000			
		10TH PROCESSOR			
10	2	300802000			
		11TH PROCESSOR			
11	2	300802000			
		12TH PROCESSOR			
12	2	300802000			
		13TH PROCESSOR			
13	2	300802000			
		14TH PROCESSOR			
14	2	300802000			
		15TH PROCESSOR			
15	2	300802000			
		16TH PROCESSOR			
16	2	300802000			

NOTES:

BELUGA WHALE SOURCES: HOUSEHOLD'S OWN HARVESTS

HH ID

In the last 12 months, did members of your household:

	circle one	
Use Beluga (eat, use as medicine)?	Y	N
Receive Beluga?	Y	N
Give Beluga away?	Y	N
Try to harvest Beluga?	Y	N

Now we'll begin to go through the different ways that Beluga might have come into your HH…During the last 12 MONTHS, did anyone in your HH kill any BELUGA WHALE while hunting alone, or with other people living in this HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

#REF!

HUNTERS from THIS HHonly										
Who in your HH killed BELUGA WHALE last year?		How many BELUGA WHALE did this person kill?		Who in THIS HH hunted with this person? *Please use these spaces ONLY for members of this HH.*					
	Person Code	Number Killed	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	***specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 301602000									
2ND HUNTER IN THIS HOUSE									
2 1 301602000									
3RD HUNTER IN THIS HOUSE									
3 1 301602000									
4TH HUNTER IN THIS HOUSE									
4 1 301602000									
5TH HUNTER IN THIS HOUSE									
5 1 301602000									
6TH HUNTER IN THIS HOUSE									
6 1 301602000									
7TH HUNTER IN THIS HOUSE									
7 1 301602000									
8TH HUNTER IN THIS HOUSE									
8 1 301602000									
9TH HUNTER IN THIS HOUSE									
9 1 301602000									
10TH HUNTER IN THIS HOUSE									
10 1 301602000									
11TH HUNTER IN THIS HOUSE									
11 1 301602000									
12TH HUNTER IN THIS HOUSE									
12 1 301602000									
13TH HUNTER IN THIS HOUSE									
13 1 211000000									

NETWORK: 67 **SHARING SURVEY: 364**

BELUGA WHALE SOURCES: SHARES FROM COOPERATIVE HUNTING

HHID

During the last 12 MONTHS, did you or anyone from your HH
receive BELUGA WHALE as their share from hunting together with people from other HHs?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

#REF!

HUNTERS from THIS HH				*HUNTERS from OTHER HHS*					
Who received BELUGA WHALE as a share when hunting with others?		How much did this person receive as a share?		Who hunted with this person?					
	Person Code	Amount Received	Units	Person Code	Person Code	Person Code	Person Code	Person Code	Person Code
order | role | res.	*00000*	*number*	**specify*	*00000*	*00000*	*00000*	*00000*	*00000*	*00000*
1ST HUNTER IN THIS HOUSE									
1 1 301602000									
2ND HUNTER IN THIS HOUSE									
2 1 301602000									
3RD HUNTER IN THIS HOUSE									
3 1 301602000									
4TH HUNTER IN THIS HOUSE									
4 1 301602000									
5TH HUNTER IN THIS HOUSE									
5 1 301602000									
6TH HUNTER IN THIS HOUSE									
6 1 301602000									
7TH HUNTER IN THIS HOUSE									
7 1 301602000									
8TH HUNTER IN THIS HOUSE									
8 1 301602000									
9TH HUNTER IN THIS HOUSE									
9 1 301602000									
10TH HUNTER IN THIS HOUSE									
10 1 301602000									
11TH HUNTER IN THIS HOUSE									
11 1 301602000									
12TH HUNTER IN THIS HOUSE									
12 1 301602000									
13TH HUNTER IN THIS HOUSE									
13 1 301602000									
14TH HUNTER IN THIS HOUSE									
14 1 301602000									
15TH HUNTER IN THIS HOUSE									
15 1 301602000									
16TH HUNTER IN THIS HOUSE									
16 1 301602000									

NETWORK: 67 **SHARING SURVEY: 364**

BELUGA WHALE SOURCES: SHARES FOR HELPING WITH THE HUNTING OF OT HHID

During the last 12 MONTHS, did anyone in your HH get any SHARES of BELUGA WHALE
because they contributed to the hunting effort of other HHs, but did NOT actually hunt with them?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if Beluga was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of BELUGA WHALE?	How much BELUGA WHALE did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 301602000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 301602000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 301602000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 301602000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 301602000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 301602000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 301602000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 301602000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 301602000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 301602000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 301602000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 301602000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 301602000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 301602000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 301602000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 301602000											

NETWORK: 67 **SHARING SURVEY: 364**

BELUGA WHALE SOURCES: SHARING, TRADES, & PURCHASES

HHID

During the last 12 MONTHS, did anyone give CARIBOU to your HH, or did you receive BELUGA WHALE by trading or buying it from someone living in Wainwright HH or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

	MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*						
	From WHOM did your HH receive BELUGA WHALE?	Did this person KILL the BELUGA WHALE?	How much BELUGA WHALE did your HH receive from this person? Amount Received	Units	Was this SHARING, TRADE, or PURCHASE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order | role | res.	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*						*enter text*
1ST HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
1 3 301602000												
2ND HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
2 3 301602000												
3RD HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
3 3 301602000												
4TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
4 3 301602000												
5TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
5 3 301602000												
6TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
6 3 301602000												
7TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
7 3 301602000												
8TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
8 3 301602000												
9TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
9 3 301602000												
10TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
10 3 301602000												
11TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
11 3 301602000												
12TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
12 3 301602000												
13TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
13 3 301602000												
14TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
14 3 301602000												
15TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
15 3 301602000												
16TH HUNTER FROM OTHER HH		Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO	
16 3 301602000												

S="SOMETIMES" ?= "DON'T KNOW"

NETWORK: 67 **SHARING SURVEY: 364**

BELUGA WHALE: PROCESSORS

HHID

During the last 12 MONTHS,
did anyone cut, dry, freeze, or put away BELUGA WHALE for your HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

During the last 12 MONTHS, who cut, dried, froze, rendered into oil (?), or put away BELUGA WHALE for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	*PROCESSORS*	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 301602000		
2ND PROCESSOR		
2 2 301602000		
3RD PROCESSOR		
3 2 301602000		
4TH PROCESSOR		
4 2 301602000		
5TH PROCESSOR		
5 2 301602000		
6TH PROCESSOR		
6 2 301602000		
7TH PROCESSOR		
7 2 301602000		
8TH PROCESSOR		
8 2 301602000		
9TH PROCESSOR		
9 2 301602000		
10TH PROCESSOR		
10 2 301602000		
11TH PROCESSOR		
11 2 301602000		
12TH PROCESSOR		
12 2 301602000		
13TH PROCESSOR		
13 2 301602000		
14TH PROCESSOR		
14 2 301602000		
15TH PROCESSOR		
15 2 301602000		
16TH PROCESSOR		
16 2 301602000		

NOTES:

BOWHEAD WHALE SOURCES: CREW SHARES

HH ID

In the last 12 months, did members of your household:

	circle one	
Use Bowhead Whale (eat, carve)?	Y	N
Receive Bowhead Whale?	Y	N
Give Bowhead Whale away?	Y	N
Try to harvest Bowhead Whale?	Y	N

Now we'll begin to go through the different ways that Bowhead Whale might have come into your HH…First, during the last 12 MONTHS, …was anyone in your HH on a SUCCESSFUL BOWHEAD WHALE CREW, either as a captain or a crew member?

Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

CAPTAIN AND CREW from THIS HH only

Who was on a whaling crew in this HH last year?		Was this person a whaling captain?	How much did this person receive as a share from… Whale 1			Whale 2			Whale 3		
	Person Code		Shares Received	Amount Received	Units	Shares Received	Amount Received	Units	Shares Received	Amount Received	Units
order | role | res.	*00000*	*circle one*	*number*	*number*	**spec.*	*number*	*number*	**spec.*	*number*	*number*	**spec.*
1ST HUNTER IN THIS HOUSE		Y N									
1 1 301606000											
2ND HUNTER IN THIS HOUSE		Y N									
2 1 301606000											
3RD HUNTER IN THIS HOUSE		Y N									
3 1 301606000											
4TH HUNTER IN THIS HOUSE		Y N									
4 1 301606000											
5TH HUNTER IN THIS HOUSE		Y N									
5 1 301606000											
6TH HUNTER IN THIS HOUSE		Y N									
6 1 301606000											
7TH HUNTER IN THIS HOUSE		Y N									
7 1 301606000											
8TH HUNTER IN THIS HOUSE		Y N									
8 1 301606000											
9TH HUNTER IN THIS HOUSE		Y N									
9 1 301606000											
10TH HUNTER IN THIS HOUSE		Y N									
10 1 301606000											

*spec.="specify"

NETWORK: 67 **SHARING SURVEY: 364**

BOWHEAD WHALE SOURCES: SHARES FOR HELPING

HH ID

During the last 12 MONTHS, did anyone in your HH get any SHARES from BOWHEAD WHALE because they contributed to the hunting effort of whaling crews, but were not actually crew members?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Note: If respondent replies that they did "nothing" to earn their share, note this as a comment, and follow up by asking if whale was a gift. If so, note on the next page.

	MEMBERS of OTHER HHS only			What did YOUR HH do to earn your SHARE?							
	From WHOM did members of your HH get a SHARE of BOWHEAD WHALE?	How much BOWHEAD WHALE did members of your HH receive as SHARES? Amount Received	Units	FOOD PROCESSING LABOR	OTHER LABOR	LOANED THEM EQUIPMENT	GAVE THEM GASOLINE	GAVE THEM AMMO	GAVE THEM SUPPLIES	GAVE THEM CASH	Comments?
order | role | res.	*00000*	*number*	**specify*	*circle ALL that apply*							*enter text*
1ST HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
1 3 301606000											
2ND HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
2 3 301606000											
3RD HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
3 3 301606000											
4TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
4 3 301606000											
5TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
5 3 301606000											
6TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
6 3 301606000											
7TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
7 3 301606000											
8TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
8 3 301606000											
9TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
9 3 301606000											
10TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
10 3 301606000											
11TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
11 3 301606000											
12TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
12 3 301606000											
13TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
13 3 301606000											
14TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
14 3 301606000											
15TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
15 3 301606000											
16TH HUNTER FROM OTHER HH				FOOD LABOR	OTHER LABOR	EQUIP. LOAN	GAVE GAS	GAVE AMMO	GAVE SUPPLIES	GAVE CASH	
16 3 301606000											

NETWORK: 67 **SHARING SURVEY: 364**

BOWHEAD WHALE SOURCES: SHARING, TRADES, & PURCHASES

HH ID _____

During the last 12 MONTHS, did anyone give BOWHEAD to your HH, or did you receive BOWHEAD by trading or buying it from someone living in a Wainwright HH or in another community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

			MEMBERS of OTHER HHS only					*If this was a trade, what did YOUR HH trade?*							
			From WHOM did your HH receive BOWHEAD WHALE?	Did this person KILL the BOWHEAD WHALE?	How much BOWHEAD WHALE did your HH receive from this person? Amount Received	Units	Was this SHARING, TRADE, or PURCHASE?	OTHER WILD FOOD	FOOD PROCESSING LABOR	OTHER LABOR	EQUIPMENT	GASOLINE	AMMO	Comments
order	*role*	*res.*	*00000*	*circle one*	*number*	**specify*	*circle one*	*circle ALL that apply*							*enter text*
	1ST HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
1	3	301606000													
	2ND HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
2	3	301606000													
	3RD HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
3	3	301606000													
	4TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
4	3	301606000													
	5TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
5	3	301606000													
	6TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
6	3	301606000													
	7TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
7	3	301606000													
	8TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
8	3	301606000													
	9TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
9	3	301606000													
	10TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
10	3	301606000													
	11TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
11	3	301606000													
	12TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
12	3	301606000													
	13TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
13	3	301606000													
	14TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
14	3	301606000													
	15TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
15	3	301606000													
	16TH HUNTER FROM OTHER HH			Y N S ?			S T P	SUBS. FOOD	FOOD LABOR	OTHER LABOR	EQUIP.	GAS	AMMO		
16	3	301606000													

S="SOMETIMES"; ?="DON'T KNOW" S

NETWORK: 67 **SHARING SURVEY: 364**

BOWHEAD WHALE: PROCESSORS

HH ID

During the last 12 MONTHS,
did anyone cut, dry, freeze, or put away BOWHEAD WHALE for your HH?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

During the last 12 MONTHS, who cut, dried, froze, or put away BOWHEAD WHALE for your HH, including people living in your HH?
If any people named on the previous two pages for food processing labor also processed food used by this HH, enter them again here.

Please list the most important person first. INCLUDE people in this HH.	***PROCESSORS***	
	Person Code	Comments?
order | role | res.	*00000*	*enter text*
1ST PROCESSOR		
1 2 301606000		
2ND PROCESSOR		
2 2 301606000		
3RD PROCESSOR		
3 2 301606000		
4TH PROCESSOR		
4 2 301606000		
5TH PROCESSOR		
5 2 301606000		
6TH PROCESSOR		
6 2 301606000		
7TH PROCESSOR		
7 2 301606000		
8TH PROCESSOR		
8 2 301606000		
9TH PROCESSOR		
9 2 301606000		
10TH PROCESSOR		
10 2 301606000		
11TH PROCESSOR		
11 2 301606000		
12TH PROCESSOR		
12 2 301606000		
13TH PROCESSOR		
13 2 301606000		
14TH PROCESSOR		
14 2 301606000		
15TH PROCESSOR		
15 2 301606000		
16TH PROCESSOR		
16 2 301606000		

NOTES:

HARVESTS: MARINE MAMMALS

HH ID

Do members of your HH USUALLY hunt for other marine mammals,
such as WALRUS or RINGED SEAL?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO HUNT these other marine mammals?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did members of your HH….				For each resource HARVESTED, ask…		
	Use? (eat, carve, sew, trade, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many marine mammals ALL MEMBERS OF YOUR HH HUNTED the last 12 months. INCLUDE marine mammals you gave away, ate fresh, dried, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the hunt.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
WALRUS	Y N	Y N	Y N	Y N			
301400000							
RINGED SEAL	Y N	Y N	Y N	Y N			
300810000							
SPOTTED SEAL	Y N	Y N	Y N	Y N			
300812000							
POLAR BEAR	Y N	Y N	Y N	Y N			
300400000							
	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			
	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			

During the last 12 MONTHS,
did your HH use or hunt any other kind of marine mammals?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

MARINE MAMMALS: 12 **SHARING SURVEY: 364**

HARVESTS: SMALL LAND MAMMALS

HH ID

Do members of your HH USUALLY hunt small land mammals,
such as GROUND SQUIRREL or MARMOT?..... Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO HUNT small land mammals?..... Y N (Circle)

IF NO, go to the next harvest page.

If YES, continue on this page…

	In the last 12 months, did your HH...				For each resource HARVESTED, ask…		
	Use? (eat, sell, trade, sew, etc.)	Receive?	Give Away?	Try to Harvest?	Please estimate how many small land mammals ALL MEMBERS OF YOUR HH HUNTED the last 12 months. INCLUDE small land mammals you gave away, ate fresh, fed to dogs, lost to spoilage, or got by helping others. If hunting with others, report ONLY YOUR SHARE of the take.		
					Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
GROUND SQUIRREL	Y N	Y N	Y N	Y N			
222802000							
MARMOT	Y N	Y N	Y N	Y N			
221800000							
WOLF	Y N	Y N	Y N	Y N			
223200000							
WOLVERINE	Y N	Y N	Y N	Y N			
223400000							
ARCTIC FOX	Y N	Y N	Y N	Y N			
220802000							
LYNX	Y N	Y N	Y N	Y N			
221600000							
MARTEN	Y N	Y N	Y N	Y N			
222000000							
RED FOX	Y N	Y N	Y N	Y N			
220804000							
SNOWSHOE HARE	Y N	Y N	Y N	Y N			
221004000							
	Y N	Y N	Y N	Y N			
	Y N	Y N	Y N	Y N			
	Y N	Y N	Y N	Y N			

During the last 12 MONTHS,
did your HH use or hunt any other kind of small mammals?..... Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

LAND MAMMALS: 10 **SHARING SURVEY: 364**

HARVESTS: BERRIES

HH ID ____

Do members of your HH USUALLY pick berries,
such as SALMONBERRIES or BLUEBERRIES?.. Y N (Circle)

During the last 12 MONTHS,
did members of your HH USE or TRY TO PICK berries?.. Y N (Circle)

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

	In the last 12 months, did your HH...				For each resource HARVESTED, ask… Please estimate how many berries ALL MEMBERS OF YOUR HH PICKED the last 12 months. INCLUDE berries you gave away, ate fresh, lost to spoilage, or got by helping others. If picking with others, report ONLY YOUR SHARE of the take.		
	Use? (eat, sell, trade, sew, etc.)	Receive?	Give Away?	Try to Harvest?	Amount Harvested?	Units	Comments?
resource name	*circle Y or N for each*				*number*	**specify*	*enter text*
SALMONBERRIES 601022002	Y N	Y N	Y N	Y N			
BLUEBERRIES 601002002	Y N	Y N	Y N	Y N			
CRANBERRIES 601004002	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			
	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			
	Y N	Y N	Y N	Y N			
	Y N	Y N	Y N	Y N			

During the last 12 MONTHS,
did your HH use or pick any other kind of berries?.. Y N (Circle)
IF YES, enter the name in a blank row and answer the questions in the table above.

FOOD AND EQUIPMENT SHARING

HH ID

In most of this survey, we have asked how your HH got your traditional foods. On this page, we ask the opposite question, with much less detail. During the last 12 months, did anyone in your HH GIVE traditional foods or provide equipment, or other help to someone in Wainwright or ANOTHER community?..... Y N (Circle)

IF NO, go to the next page.

IF YES, continue on this page…

Please list the most important HHs that members of your HH provided with fish, game, marine mammals or equipment. IF your HH gave to Feasts that were associated with Thanksgiving or Christmas holidays, other community get togethers, funerals or Nalukatuk, please indicate this as well.

Enter HH ID codes in the space provided. The map on the following page may help people remember HHs they helped.

Now check the boxes to show the goods and services that MEMBERS OF YOUR HH provided to each HH…

1 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

2 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

3 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

4 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

5 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

6 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

7 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

8 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

9 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

10 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

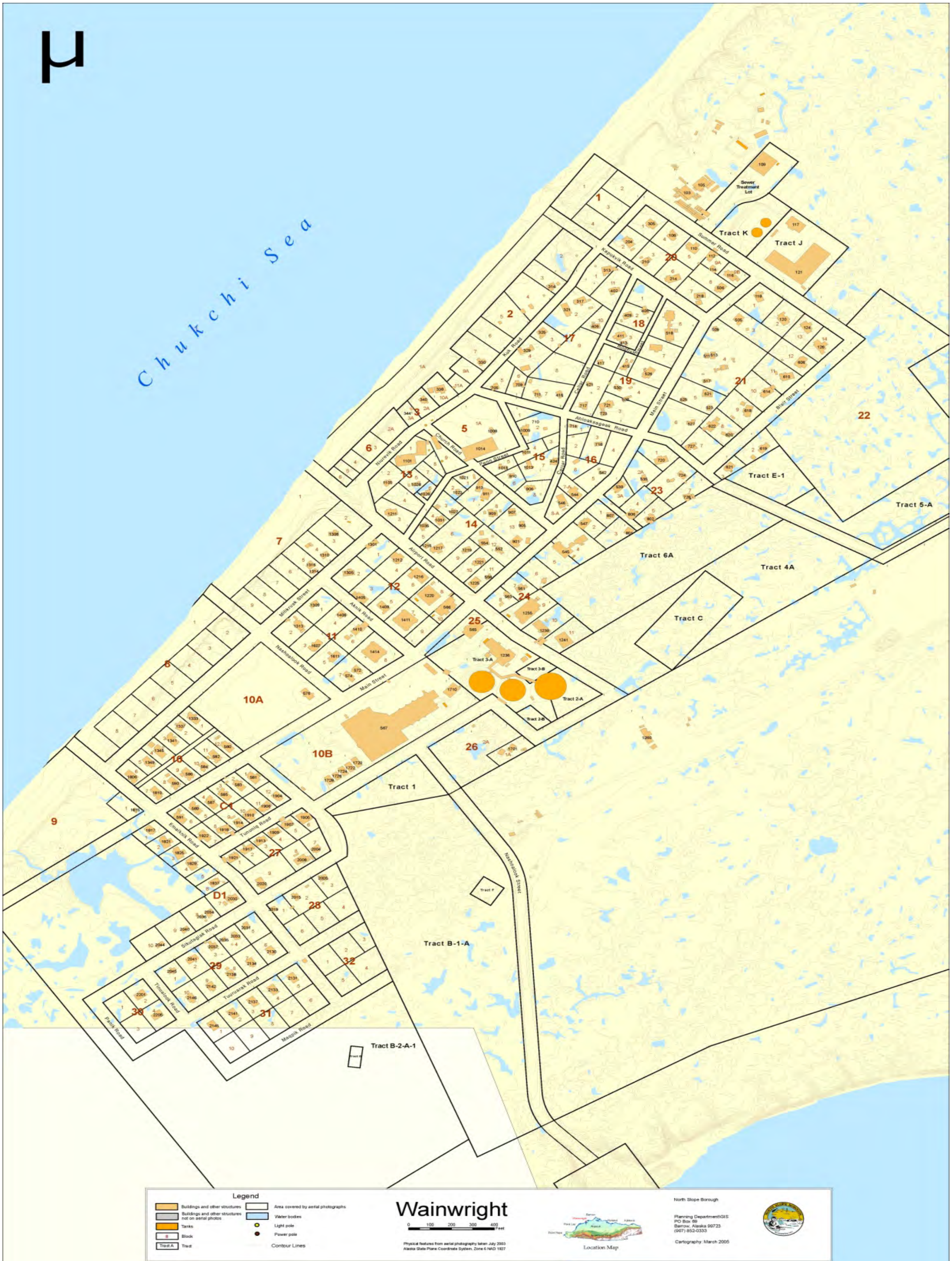
11 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

12 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

13 HH ID_____
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

14 FUNERALS/OTHER COMM'TY FEASTS
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?

15 THANKSGIVING AND CHRISTMAS FEASTS
- ☐ Provided Fish?
- ☐ Provided Game?
- ☐ Provided Marine Mammals?
- ☐ Provided Equipment?


Chukchi Sea
Tract K
Tract J
Sewer Treatment Lot
Tract E-1
Tract 5-A
Tract 6A
Tract 4A
Tract C
Tract 1
Tract B-1-A
Tract B-2-A-1
10A
10B
22
Legend
Buildings and other structures
Buildings and other structures not on aerial photos
Tanks
Block
Tract
Area covered by aerial photographs
Water bodies
Light pole
Power pole
Contour Lines
Wainwright
Location Map
North Slope Borough
Planning Department/GIS
PO Box 69
Barrow, Alaska 99723
(907) 852-0333
Cartography: March 2005

FOOD SECURITY

HH ID

Whether or not people in a HH have enough of the kinds of food they want to eat is sometimes a good indicator of how well they are doing. The questions on this page have been asked all over the United States to find out if Americans have enough to eat. I am going to read you FIVE statements about different food situations. Please tell me whether EACH statement was true for your HH in the last 12 months.

Think about all your HH's food, both traditional and store-bought…

STATEMENT 1. We WORRIED that our HH would not have ENOUGH FOOD. HH1

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES…

…in which months did this happen?..... N D J F M A M J J A S O

…did this happen because your HH couldn't get WILD (nikipiaq) foods, your HH couldn't get STORE-BOUGHT foods, or your HH couldn't get BOTH KINDS of food?..... SUB STOR BOTH

STATEMENT 2. We could not get the kinds of foods we wanted to eat because of a LACK OF RESOURCES. HH2

By "lack of resources," we mean your HH did NOT have what you needed to get out on the land to hunt, fish, gather OR to buy food at the store.

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES…

…in which months did this happen?..... N D J F M A M J J A S O

...what resources were lacking that prevented your HH from getting the kinds of foods it wanted? (*please list responses in space below)*

STATEMENT 3. The food we had JUST DID NOT LAST, and we could not get more. HH3

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES, in which months did this happen?..... N D J F M A M J J A S O

Now, think just about your HH's TRADITIONAL food…

STATEMENT 4. The TRADITIONAL food we had just did not last, and we could not get more. HH4

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES, in which months did this happen?..... N D J F M A M J J A S O

Now, think just about your HH's STORE-BOUGHT food…

STATEMENT 5. The STORE-BOUGHT food we had just did not last, and we could not get more. HH5

In the last 12 months, was this ever true for your HH?..... N Y ?

If YES, in which months did this happen?..... N D J F M A M J J A S O

If NO statement above WAS TRUE for this HH, go to the next page.

If ANY statement above WAS TRUE for this HH, continue on this page…

In the last 12 months, did you or other adults in your HH ever CUT THE SIZE OF YOUR MEALS OR SKIP MEALS because the HH could not get the food that was needed?..... N Y ? AD1

If YES, in which months did this happen?..... N D J F M A M J J A S O

In the last 12 months, did you or other adults in your HH ever EAT LESS THAN YOU FELT YOU SHOULD because the HH could not get the food that was needed?..... N Y ? AD2

In the last 12 months, were adults in the HH ever HUNGRY BUT DID NOT EAT because there was not enough food?..... N Y ? AD3

In the last 12 months, did adults in the HH LOSE WEIGHT because there was not enough food?..... N Y ? AD4

In the last 12 months, did you or other adults in your HH ever NOT EAT FOR A WHOLE DAY because there was not enough food?..... N Y ? AD5

If YES, in which months did this happen?..... N D J F M A M J J A S O AD5a

FOOD SECURITY: 201 **SHARING SURVEY: 364**

FOOD CONSUMPTION & SHARING

HH ID

FOOD CONSUMPTION EXERCISE

If my ten fingers represent ALL THE FOOD that members of your HH ate in the past 12 months, please tell me how many fingers were store-bought foods and how many were harvested foods – that is, nikipiaq.

Traditional Foods Blocks
enter #

Surveyor: Write down the number of fingers cited for TRADITIONAL FOODS (T) and STORE BOUGHT (SB)..... T

SB

SHARING DECISIONS: We are trying to understand more about how the sharing occurs between people and HHs.

I am going to give you a situation - You have just gotten a fat caribou.

Decision Codes

Who in this household decides HOW to share this caribou?

How does this person decide HOW MUCH of the caribou to share?

SHARING IN GOOD TIMES VERSUS SCARCE TIMES

Can you remember of a year when your HH had lots of traditional foods? *circle* Y N

If yes, what year was that? Yr?

Can you remember a year when your household did not have lots of wild foods? *circle* Y N

If yes, what year was that? Yr?

How did those two years differ in the way your household shared?

Different?
circle one
Y N

Difference Codes-HH

How did those two years differ in the way the community shared?

Difference Codes-Com

PERCENTAGE OF FOOD FROM WILD RESOURCES: 33 SHARING SURVEY: 364

SHARING CONTINUED

HH ID

CHANGES IN SHARING RELATIONSHIPS

Has sharing in your household changed in the last 10 years? *circle* Y N

IF YES: How has it changed in the past 10 years? Cause / Codes

What caused the changes? Cause / Codes
(Discuss things that strengthen and weaken sharing)

Finally, how does sharing contribute to the well-being of your household? HH WB / Codes

How does sharing contribute to the well-being of your community? COM WB / Codes

SHARING SURVEY: 364

COMMENTS

HH ID

DO YOU HAVE ANY QUESTIONS, COMMENTS, OR CONCERNS?

INTERVIEW SUMMARY:

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

COMMENTS: 30 **SHARING SURVEY: 364**

CODE WORKSHEET FOR OUT-OF-TOWN SOURCES & RECIPIENTS

If people outside of Sharing Survey 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
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		
0035					M F		
0036					M F		
0037					M F		
0038					M F		
0039					M F		
0040					M F		

CODE WORKSHEET FOR OUT-OF-TOWN SOURCES & RECIPIENTS

If people outside of Sharing Survey 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		
0018					M F		
0019					M F		
0020					M F		

APPENDIX II

The Conversion Table

Appendix II. Standard conversion factors for individual species to pounds, developed by ADFG.

Sum of ConvFactor	Column Labels						
Row Labels	Individual	Pounds	Gallons	Pints (16 fl. oz)	Quarts	Cups (8 fl. oz)	Plastic carrying bag (2 gal.)
Arctic char	2.80	1.00					
Arctic cisco	0.70	1.00					10.00
Arctic cod	0.11	1.00					
Arctic fox	0.00	1.00					
Arctic ground squirrel (parka)	0.50	1.00					
Bearded seal	420.00	1.00					
Beaver	20.00	1.00					
Belukha	700.00	1.00					
Bering cisco	1.40	1.00					
Black bear	88.00	1.00					
Blackberry		1.00	6.50		1.63		
Blueberry	6.00	1.00	6.50	0.81	1.63	0.41	
Bowhead	28,677.00	1.00					
Brant	2.28	1.00					
Broad whitefish	3.25	1.00					
Brown bear	86.00	1.00					
Burbot	4.20	1.00					
Caribou	136.00	1.00					
Chinook salmon	12.40	1.00					
Chum salmon	6.00	1.00					
Clams		1.00	2.00				
Coho salmon	5.20	1.00					
Common eider	4.15	1.00					
Crowberry		1.00	6.50		1.63	0.41	
Dall sheep	104.00	1.00					
Deer	0.00	1.00					
Dolly Varden	3.30	1.00					
Eider	4.15	1.00					
Grayling	0.90	1.00	5.00				
Grouse	1.00						
Halibut	20.00	1.00					
Herring	0.20	1.00					
Humpback whitefish	2.10	1.00	5.00				
King eider	2.67	1.00					
Lake trout	4.00	1.00					
Land otter	0.00	1.00					

Standard conversion factors for individual species to pounds, continued.

Sum of ConvFactor	Column Labels						
Row Labels	Individual	Pounds	Gallons	Pints (16 fl. oz)	Quarts	Cups (8 fl. oz)	Plastic carrying bag (2 gal.)
Least cisco	1.75	1.00	5.00				10.00
Lingcod	4.20	1.00					
Low bush cranberry		1.00	6.50	0.81	1.63		
Lynx	0.00	1.00					
Marmot	5.00	1.00					
Marten	0.00	1.00					
Mink	0.00						
Moose	538.00	1.00					
Muskox	152.00	1.00					
Muskrat	1.80	1.00					
Northern pike	3.30	1.00					
Other wild berry		1.00	6.50	0.81	1.63	0.41	10.00
Pink salmon	2.10	1.00					
Plants/greens/ mushrooms		1.00	4.00				
Polar bear	372.00	1.00					
Porcupine	8.00	1.00					
Ptarmigan	1.00	1.00					10.00
Puffballs		1.00	4.00				
Rainbow smelt	0.14	1.00					
Rainbow trout	2.30	1.00					
Raspberry		1.00	6.50		1.63		
Red fox	0.00	1.00					
Ringed seal	74.00	1.00					
Round whitefish	0.70	1.00	5.00				
Saffron cod	0.21	1.00					
Salmon		1.00					
Salmonberry		1.00	6.50	0.81	1.63	0.41	10.00
Sandhill crane	6.75	1.00					
Sculpin	0.21	1.00					
Sheefish	11.10	1.00					
Smelt	0.14	1.00					
Snow geese	4.00	1.00					
Snowshoe hare	2.00	1.00					
Sockeye salmon	5.00	1.00					
Spotted seal	98.00	1.00					
Strawberry			6.50				

Standard conversion factors for individual species to pounds, continued.

Sum of ConvFactor	Column Labels						
Row Labels	Individual	Pounds	Gallons	Pints (16 fl. oz)	Quarts	Cups (8 fl. oz)	Plastic carrying bag (2 gal.)
Tundra swan (whistling)-season unknown	11.21	1.00					
Tundra swan eggs	0.63	1.00					
Unknown char	3.30	1.00					
Unknown ducks	1.88	1.00					
Unknown ducks, season unknown	1.88	1.00					
Unknown geese	3.24	1.00					
Unknown non-salmon fish	3.30	1.00					
Unknown salmon	6.00	1.00					
Unknown smelt	0.14	1.00					
Unknown swan	11.21	1.00					
Unknown trout	3.30	1.00					
Walrus	770.00	1.00					
Weasel	0.00	1.00					
Whitefish	2.10	1.00					
White-fronted geese	4.20	1.00					
Wild rhubarb		1.00	4.00				
Wild rose hips		1.00	4.00				
Wolf	0.00	1.00					
Wolverine	0.00	1.00					