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The Economics of Cash and Local Resource Use in Shishmaref, Alaska: A Research Design

by

Sandra S. Sobelman

1983

Alaska Department of Fish and Game

Division of Subsistence



Symbols and Abbreviations

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Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code	AAC	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly-accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H_A
gram	g			base of natural logarithm	e
hectare	ha			catch per unit effort	CPUE
kilogram	kg	all commonly-accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	coefficient of variation	CV
kilometer	km			confidence interval	CI
liter	L	at	@	correlation coefficient (multiple)	R
meter	m	compass directions:		correlation coefficient (simple)	r
milliliter	mL	east	E	covariance	cov
millimeter	mm	north	N	degree (angular)	$^\circ$
		south	S	degrees of freedom	df
Weights and measures (English)		west	W	expected value	E
cubic feet per second	ft ³ /s	copyright	©	greater than	>
foot	ft	corporate suffixes:		greater than or equal to	≥
gallon	gal	Company	Co.	harvest per unit effort	HPUE
inch	in	Corporation	Corp.	less than	<
mile	mi	Incorporated	Inc.	less than or equal to	≤
nautical mile	nmi	Limited	Ltd.	logarithm (natural)	ln
ounce	oz	District of Columbia	D.C.	logarithm (base 10)	log
pound	lb	et alii (and others)	et al.	logarithm (specify base)	log ₂ , etc.
quart	qt	et cetera (and so forth)	etc.	minute (angular)	'
yard	yd	exempli gratia (for example)	e.g.	not significant	NS
		Federal Information Code	FIC	null hypothesis	H_0
Time and temperature		id est (that is)	i.e.	percent	%
day	d	latitude or longitude	lat. or long.	probability	P
degrees Celsius	°C	monetary symbols (U.S.)	\$, ¢	probability of a type I error (rejection of the null hypothesis when true)	α
degrees Fahrenheit	°F	months (tables and figures)	first three letters (Jan.,...,Dec)	probability of a type II error (acceptance of the null hypothesis when false)	β
degrees kelvin	K	registered trademark	®	second (angular)	"
hour	h	trademark	™	standard deviation	SD
minute	min	United States (adjective)	U.S.	standard error	SE
second	s	United States of America (noun)	USA	variance	
		U.S.C.	United States Code	population	Var
Physics and chemistry		U.S. state	two-letter abbreviations (e.g., AK, WA)	sample	var
<i>all atomic symbols</i>					
alternating current	AC	Measures (fisheries)			
ampere	A	fork length	FL		
calorie	cal	mideye-to-fork	MEF		
direct current	DC	mideye-to-tail-fork	METF		
hertz	Hz	standard length	SL		
horsepower	hp	total length	TL		
hydrogen ion activity (negative log of)	pH				
parts per million	ppm				
parts per thousand	ppt, ‰				
volts	V				
watts	W				

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**THE ECONOMICS OF CASH AND LOCAL RESOURCE USE IN
SHISHMAREF, ALASKA: A RESEARCH DESIGN**

by

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1983

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The Economics of Cash and Local Resource Use
in Shishmaref, Alaska

A Research Design

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ABSTRACT

Resource and land use issues potentially affecting the northern Seward Peninsula area include federal and state land management, offshore and upland oil and gas exploration, and management of marine mammal species. The area's human population maintains close and intimate ties to the land and sea through a mixed economic system which emphasizes the harvest of wild resources. An understanding of the human ecology, that is, the relationship between human populations and their physical and biotic environments, is essential if the successful integration of a management-development scenario is to be achieved. The present study, The Economics of Cash and Local Resource Use in Shishmaref, Alaska, is one component of a six village regional research project designed to examine the rural economy of northern Seward Peninsula. The goal of the Shishmaref study is to present a village profile which describes: (1) the nature and extent of recent historic and contemporary natural resource use, and (2) aspects of the relationship between wage employment and resource use. In-depth interviews, participant-observation and other ethnographic field methods will be employed for purposes of data gathering. Initial fieldwork allowed for the refinement of research questions so a valid and appropriate survey instrument could be developed. This revised research design includes an appropriate sampling methodology and the finalized questionnaire which were intentionally deleted from the earlier versions.

INTRODUCTION

For the next few years northern Alaska will be faced with the dilemma of deciding how it will manage and develop its natural resources. In the northern Seward Peninsula area, specific issues such as exploration for offshore and upland oil and gas reserves, protection of the marine mammal population and management of the Bering Land Bridge National Preserve and Alaska Maritime Wildlife Refuge raise competing and often conflicting voices for the future use of land and sea resources. Also of concern is the future of the Inupiat Eskimo of northern Seward Peninsula who reside in the villages of Shishmaref, Wales, Buckland, Deering, Teller, and Brevig Mission. The Inupiat people maintain a mixed economy centered around a seasonal cycle of hunting, fishing and the gathering of edible plants supplemented by wage employment. An understanding of the nature and extent of that rural economic system is essential if the successful integration of a land-use scenario while maintaining the delicate ecological balance of the northern Seward Peninsula environment is to be achieved.

In keeping with the responsibility of the Division of Subsistence, Alaska Department of Fish and Game to conduct studies on "subsistence hunting and fishing" (See AS 16.05.094, Chapter 151 of the 1978 Alaska Session Laws for full text), the objective of the present project is to examine aspects of the rural economy of a northern Seward Peninsula village, Shishmaref. Specific research goals are to present a village profile of Shishmaref which describes: (1) recent historic and contemporary use of local natural resources by village residents, and (2) some aspects of the relationship between subsistence and cash economies. Research to achieve

these goals will be conducted from June 1982 through May 1983 and will include a thorough examination of the relevant literature and the use of ethnographic field methods for purposes of data gathering.

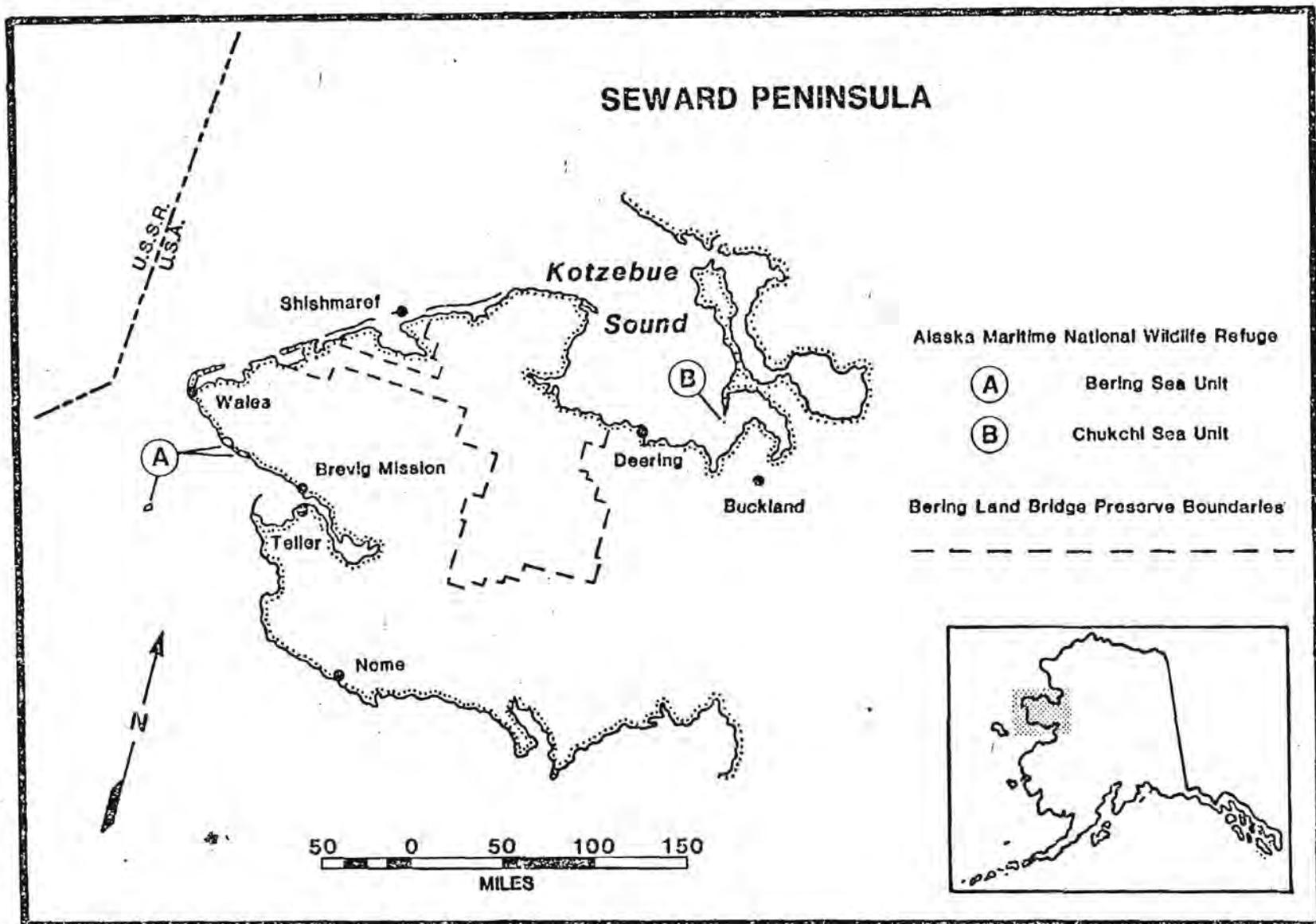
The Shishmaref project is considered one component of a six village regional economic study which will also include Buckland, Deering, Wales, Teller and Brevig Mission. The final report for each project component will contain the full range of information outlined in the objectives yet they will be interrelated through research designs which share a similar purpose and methodology. A multi-phase project which concentrates on one or two villages at a time has the advantages of allowing the researcher to become familiar with one village and its residents and providing an opportunity to integrate insights gained from early phases into the later components of the project.

Physical and Cultural Environment

Located on a barrier island along the northwest coast of Seward Peninsula (Map 1), Shishmaref is the largest of the northern Seward Peninsula villages with a 1980 population of 367 people occupying 79 households (BIA Directory 1980). It is a second class city with an elected village council, post office, high school, three stores and regular flight service to and from Nome. These services along with the continued viability of reindeer herding in the form of two locally owned herds provide some job opportunities for local residents. However, wage employment opportunities are limited and tend to be highly seasonal.

Village residents have continued to maintain their deep and intimate ecological, cultural and social ties to the land and sea. Shishmaref

SEWARD PENINSULA



Alaska Maritime National Wildlife Refuge

(A) Bering Sea Unit

(B) Chukchi Sea Unit

Bering Land Bridge Preserve Boundaries

MAP 1

residents actively participate in local resource harvests deriving an estimated 75 to 80 percent of their total protein, fat and vegetable intake from locally procured resources (Ellanna 1980:256). Of particular importance in the diet is the reliance upon small sea mammals, especially seal species which residents depend on as a year round staple.

RESEARCH QUESTIONS

This background provides a foundation for asking two interrelated questions about rural economies.

Question 1: What are the local patterns of recent historic and contemporary resource use?

This question is concerned with the cultural-ecological relationship which exists between human populations and their biotic and physical environment. For hunter-gatherer groups like the Inupiat, economic strategies for "making a living off the land" are guided by ecological considerations that are closely tied to local plant and animal resource communities. A change in environmental conditions may necessitate a strategic change in economic behavior. Studies indicate that the various subsistence strategies adopted by hunter-gatherer groups are usually influenced by choices which will achieve efficiency, stability and security rather than accumulation of wealth or production for commercial purposes (Jochim 1981).

Inupiat decisions about what resources to harvest -- when, where, why, how and by whom -- are determined in part by their knowledge of animal species population cycles and migrations, technological changes and flexibility in the types of animals pursued. For Shishmaref residents, many of

these decisions are tied to their knowledge of the marine environment. An investigation of this question should provide insight into the nature of cultural-ecological relationships in this environment.

Question 2: To what extent does wage employment affect subsistence?

Any economic analysis of a contemporary subsistence system cannot ignore the presence of a cash component. Data suggest that, in comparison with a household's yearly monetary income, substantial outlays of cash are necessary to enable one to successfully engage in certain local resource harvests (Kruse 1979, Wolfe 1979). Technological advances which increase efficiency, such as high powered rifles, snow machines and outboard motors have become incorporated by the rural hunter in harvest methods. Cash and local resource use have become interdependent, since for most rural economies neither strategy alone can provide economic security to a household or community.

This inquiry seeks to examine the nature of the relationship between local resource use and one form of cash, wage employment. The scheduling demands of wage employment have the potential for conflict with those of hunting and fishing; however, increased wage employment participation does not necessarily decrease local resource use activity (Kruse et al. 1981). Results from studies suggest that up to the point of conflict with critical resource periods, wage employment may enhance resource harvest activity (Ibid; Wolfe 1979). At a time when employment opportunities can be seen as possibly increasing in the foreseeable future, it is important to ask how present resource use patterns will be maintained in conjunction with increased monetary income.

Objectives

In order to answer the two research questions, certain types of information will be collected. The following tasks or objectives are considered necessary to accomplish this.

1. Determine past and present animal and plant species used.
2. Describe seasonality of resources, characteristics of the producers, and methods of harvest.
3. Map where each resource can be found and designate seasonality of harvest activity.
4. Investigate sources and levels of available wage employment.
5. Describe seasonal round of reindeer herding activities.
6. Map location of reindeer herds throughout their annual cycle.
7. Examine how hunting and fishing activities interface with reindeer herding.
8. Identify past and present settlements associated with resource use.
9. Identify factors which affect resource harvests.
10. Record household employment profile, patterns of resource sharing and attitudes about employment.

In addition, other information related to the above objectives will be gathered, such as community and household composition, consumer group composition, and geneology during the course of the research. However, emphasis will be placed on obtaining this information to the extent needed to accomplish the stated objectives.

Limitations

The study does not attempt to examine all aspects of a subsistence-cash economy, and thus the research is constrained by the nature of the research questions. In addition, it may not be possible to work with all residents of the community, which would mean results will be based on a proportion of the total number of residents. Perhaps the most serious limitation, and one that should be emphasized, is that the study will seek to document at one point in time a dynamic and flexible economic system, and the results should be viewed as expressing relationships and patterns without attempting to quantify income levels or species numbers harvested.

RATIONALE

There is a notable lack of published material available on the contemporary northern Seward Peninsula economy, specifically, how residents utilize local natural resources. Study objectives were developed to meet the needs of land and resource managers, planners, and decisionmakers for useful and substantive information. Scientific and management considerations which prompted and guided development of this research design are discussed more fully below.

On December 2, 1980, 2,457,000 acres surrounding Shishmaref were incorporated into the Bering Land Bridge National Preserve. Managed by the National Park Service (NPS), current uses allowed in the preserve include the continuation of subsistence activities and reindeer grazing. However, there is some concern among local residents regarding future management restrictions which could be imposed in the area. The National Park Service

is in the process of developing a management plan. The results from this investigation can provide decision-makers and land managers with information about current and past uses of lands and resources located within the preserve.

The study attempts to address issues which are of importance to the residents of Shishmaref. Information resulting from the investigation of wage employment and local resource use requirements may assist the community in making recommendations regarding the structure of jobs. Information from the study may also be useful in making recommendations about fish and game regulations, state and federal land management and potential impacts related to development.

The Bureau of Land Management-Outer Continental Shelf (BLM-OCS) is developing a plan for the exploration and development of oil and gas resources. As part of the overall OCS program, off-shore tracts north and south of Shishmaref are scheduled for lease sales within the next five years. Both off-shore and on-shore impacts associated with the project could be substantial (BLM 1982:22-23). Among other things, data regarding human utilization of the land and sea will be critical in determining measures needed to mitigate those impacts. Also, current employment information may assist in integrating the expected increase in employment opportunities with the local economy.

Another rationale for the study pertains to the management status of marine mammals. Management for the protection of marine species has alternated between the state and federal governments with criticism leveled at both. Since 1979, marine mammal management has been under the jurisdiction of federal authorities. The State Department of Fish and Game is

considering its future role in the management of at least some marine mammal species. The information generated from the study could prove useful in supporting the development of an acceptable marine mammal management plan.

METHODOLOGY

Research methods will include two approaches: literature review and ethnographic fieldwork which will include field techniques of formal and informal interviews and participant-observation. Before discussing a specific field approach, a definition of the field techniques to be used is in order.

Informal interview - Will be conversational in nature and not led by a directed set of questions. Informal interviews may take place in a variety of settings or while engaged in some other activity and may involve conversations between more than two individuals.

Formal interview - Will take place at a designated time and place prearranged by the interviewee and researcher. The formal interview will involve prepared questions, and in some cases, map work. Interviewees will be compensated for their time at a rate of \$8/hour.

Participant-observation - Researchers will involve themselves in attempting to observe and participate first hand in subsistence related activities. By observing and talking with people a better understanding of the interview information is possible.

Question 1: Resource use and reindeer herding. (Objectives 1, 2, 3, 5, 6, 7, 8 and 9)

For northern Seward Peninsula, and Shishmaref in particular, there is a limited body of anthropological literature that deals with past and present local resource use patterns. Prehistoric and early historic settlement and subsistence patterns reconstructed from oral history accounts and early written records are summarized in the works of Ray (1964, 1967,

1975), Koutsky (1981) and Burch (1980). Edward Keithahn (1963), a school teacher in Shishmaref in the early 1920s, has recorded some of his experiences and observations. Other authors such as Ellanna (1980) and Sherrod (1981) offer in their reports more contemporary information about Shishmaref in the context of researching Bering Strait communities. Much insightful information about reindeer herding on Seward Peninsula is found in the work of Stern et al. (1980). Also useful from the perspective of this research design is a draft report submitted to National Park Service (Eisler 1977) which discusses traditional and contemporary subsistence use in what is now the Bering Land Bridge National Preserve. Some of the information contained in Eisler's manuscript will be updated, corrected and expanded.

All fieldwork conducted in Shishmaref will be coordinated through the Shishmaref Subsistence Committee, a 12 member group of village residents who oversee village-based subsistence studies. The committee will be asked to provide a list of individuals in the village who may be knowledgeable about hunting and fishing and resource use. A list of individuals knowledgeable about the reindeer industry will also be compiled. These individuals will then be contacted by the researcher and asked to participate in the study. Key respondents will be asked to provide information related to the objectives and guided by questions like those in Appendix I. Both formal and informal interview techniques will be employed to identify characteristics of strategies associated with resource use and reindeer herding.

Resource use "map biographies" (Freeman 1976) will be compiled with the direct assistance of key resource use respondents. On a 1:250,000 topographic map with a transparent overlay, respondents will be requested

to delineate with colored pens areas where they engage in particular types of fishing, hunting, gathering, and trapping activities -- such as summer sealing or fall moose hunting. The individual map biographies will then be combined to form a composite map which shows the areas used by all those interviewed on a species by species basis. This composite map will show the outer boundary of where each resource is found, and in this way the confidentiality of key resource respondents will be protected.

For mapping the seasonal round of reindeer, key reindeer herding respondents will be asked to indicate on a map (either 1:63,000 or 1:250,000) grazing, butchering, and corralling areas used throughout the yearly cycle.

Although mapping sessions and resource use and reindeer herding interviews are expected to occur throughout the fieldwork, emphasis will be placed on collecting this information during the early field visits. In order to check and evaluate key respondent data, interview and mapping sessions will be closely integrated with participant observation (Pelto and Pelto 1974:75). After the initial six week summer field session village visits will be made at least once during each season -- fall, winter and spring. Periodically staggered fieldwork over the course of a year affords researchers an opportunity to observe and participate in seasonal activities and allows close village contact to be maintained.

Question 2: Subsistence and wage employment. (Objectives 4, 9 and 10)

The issue of wage employment and subsistence has been dealt with to varying degrees in northern Alaskan studies. Particularly useful are works by Wolfe (1979, 1981), Foote and Williamson (1966), Sonnefeld (1957) and Van Stone (1962). Ellanna and Roche (1976) have compiled demographic and employment data for the Bering Strait region including Shishmaref. Perhaps

most pertinent for exploring this issue are the findings of a subsistence and wage employment study conducted on the North Slope (Kruse et al. 1981, 1982). Although the study examined the impacts of on-shore development as opposed to the off-shore exploration and was conducted after the development had already begun, there are some major similarities between the two areas. The majority of the population of both the North Slope and the Seward Peninsula are Inupiat who maintain a mixed economic strategy which stresses the pursuit of wild resources and in both cases the location of the development or exploration is away from the actual location of the villages.

One of the central questions addressed by the North Slope study was how oil development had changed the lives of the Inupiat residents in terms of new employment opportunities and land use (Kruse et al. 1982:100). Findings from the North Slope study showed that higher income resulting from wage employment was positively related to more time being spent on hunting and fishing activities as well as widening the variety of resources sought. Although not confirmed, the researchers noted that increased hunting and fishing activity may be related to greater harvest success which could potentially lead to increased pressure on the resources.

For the Shishmaref study a household questionnaire will be used to systematically record local experiences and perceptions surrounding resource use and wage employment. Among other things, interviewees will be asked to recount household resource use, activities, sharing patterns, and wage employment history for 1982. Perceptual accounts of factors which may affect resource harvest and how hunting and fishing activities are affected by wage employment will also be noted.

Wage employment is defined here as a prearranged situation in which an individual performs a service for which he receives a monetary compensation. In order to investigate the relationship between wage employment and subsistence, individual households will be contacted. A household for the purposes of this study is defined as a group of either related or non-related individuals who consider the same house their principal place of residence.

Households to be interviewed will be selected by means of a simple random sample. The construction of 40 new housing units and the subsequent abandonment of present housing precludes the use of a village housing map as a sampling pool. Instead the sample will be drawn from an up-to-date telephone listing. This appears to be a reliable source since a single party line will be installed in each new housing unit and nearly all of the older housing still to be occupied have phones. Households without phones will be identified by name and incorporated into the alphabetical listing. Each name on the list will be considered to represent a discrete household and names will be numbered consecutively "1" through "n." The number assigned will serve as the household code used to insure confidentiality.

A random sample of 50 percent of the names will be drawn to be included in the survey. From this 50 percent, the questionnaire will be pretested on approximately 10 households to insure accuracy of content and question phrasing. Two local bilingual assistants will be hired and they will accompany the researchers on at least one interview. Once the final format is determined, village assistants will continue with the survey and contact the remaining selected households. Households which elect to participate will have the option of hearing or answering the questions in

English or Inupiat. Completed survey forms will then be sent to Fairbanks for computer coding and analysis. The questionnaire should require 30 to 45 minutes to complete and households will receive \$10 for their time.

Since occupation of the new housing is not expected to be complete until December 1982, questionnaire interviews will not begin until early 1983. This will also allow the researchers to have spent a reasonable amount of time in the village so that a valid and reliable questionnaire can be designed.

It is important to reiterate that names or identities of individuals will not appear in the field notes, interview notes or written reports. Members of the community will be free at any time to examine the researcher's field notebooks about their own information. The Shishmaref Subsistence Committee will be updated periodically on the progress of the study. The final report will be subject to village review to insure content accuracy.

RESEARCHERS

Sandra Sobelman - Resource Specialist II, M.A. Anthropology, Division of Subsistence, Department of Fish and Game, Fairbanks/Nome. Responsible for development of research design, village logistical coordination, organizing fieldwork and initiating study (data collection). Will also do the majority of data analysis and will be main author of report.

Muriel Germeau - Fish and Game Technician III, Division of Subsistence, Department of Fish and Game, Nome. Will assist in literature review, data collection, survey monitoring, and data analysis. Will be responsible for some bilingual translation and map compilation.

REPORT PRESENTATION

Research results will be presented in a written report which will be subject to in-house and village review prior to reproduction. The report format will include:

- I. Introduction
 - Environmental setting and background
 - Research goals and theoretical approach
- II. Methodology and Research Techniques
- III. Discussion of Results
 - Historic settlement and subsistence patterns
 - Present day community profile (demographics)
 - Contemporary village economy (subsistence patterns, cash economy, reindeer)
 - Questionnaire results
- IV. Conclusions and Recommendations
 - Gaps in current knowledge
 - Management recommendations
- V. References, Maps, Appendices

NSP = Northern Seward Peninsula

RD = Research Design

PROJECT TIME SCHEDULE

Tasks	1983																		
	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	
Contact with NSP villages	—																		
Hire F & G Technician	—	—																	
Literature review	—	—																	
Village contact and field logistics		—																	
Village and in-house RD review and revision		—	—																
Initial 6-wk fieldwork			—	—	—														
Visits to collect additional information and meet with village council								—	—		—			—					
Coordination with other NSP villages					—					—									
Begin compilation of data					—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Interim report										—									
Compile survey data																		—	
Submission of draft report for review																		—	
Reproduction and final drafting of maps																		—	
Submission of final report																		—	

PROJECT BUDGET

Line 200 - Travel

RS II - 8 RT Fai-Nome-Shishmaref @ \$470	3,760
Tech III - 5 RT Nome-Shishmaref @ \$120	600
Per diem: 80 days @ \$50/day (field for 2 people)	4,000
10 days @ \$90/day (RS II - Nome)	900

Line 300 - Contractual

Local Participant Fees - 75 hrs @ \$10/hr	750
Village assistant - 50 forms @ \$5/form	250
Map drafting	500
Report Review (Shishmaref Subsistence Comm. and Alaska Native Language Center)	100
Map reproduction	500
Report reproduction	1,500

Line 400 - Commodities

Maps	75
Acetate: one roll @ \$90/roll	90
Office supplies (notebooks, pencils, etc.)	50
Miscellaneous (film, xerox, etc.)	60

TOTAL 13,135

APPENDIX I - RESOURCE USE/REINDEER HERDING

The following provides a checklist of topics to be covered in interviews with key respondents about resource use/reindeer herding. The list is intended to serve as a guide and is not a questionnaire. It represents the minimum list of questions that may be discussed during an interview.

1. Do you or members of your household currently hunt, fish, trap or gather plants?
2. If yes, which resources?
3. For each resource:
 - a. Where in your lifetime have you looked for it? (map)
 - b. Where do you look for it currently? (map)
 - c. If different, why the change?
 - d. When do you look for it (season)?
 - e. What method do you use to harvest it for each season when it is available?
 - f. Where do you stay when you go? (camp, shelter cabin, etc.)
 - g. Who goes with you?
 - h. How long do you stay?
 - i. How do you get there?
4. Are you involved in reindeer herding?
5. If yes, what do you do and when do you work?
 - a. During the season that you work, where are the reindeer? (map)
 - b. What activities are involved?
 - c. Where do you stay?

- d. What methods do you use for butchering, corralling, marking, etc.?
- e. How long do you stay?
- f. How do you get there?

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Dear Household:

We are asking for your help in answering some questions about your household's use of fish, game and plants and the importance of these resources in your lives. We are also interested in learning about your household's experience with jobs and how jobs affect subsistence activities. This study is sponsored by the Division of Subsistence, Alaska Department of Fish and Game.

Your help in this study is voluntary - you can answer as many of the questions or as few as you wish. The questionnaire should require only 30 - 45 minutes to complete and your household will receive \$10 as payment for your time.

Please note that you will not be identified in this information. The only time your name appears is on this top sheet and this is for purposes of payment - this top sheet will be separated from the rest of the questionnaire.

Thanks for your help

Sandra Sobelman
Muriel Germeau

[DETACH RECEIPT AND LEAVE THE REST OF THIS SHEET WITH HOUSEHOLD]

RECEIPT: RESOURCE USE/WAGE EMPLOYMENT SURVEY

HOUSEHOLD: _____

INTERVIEWER: _____

DATE: _____

HOUSEHOLD CODE # _____

TIME BEGIN: _____

(Page 1 of 5)

SECTION A - HOUSEHOLD PROFILE:

1. Would you like us to ask the questions in Inupiaq or English? [CIRCLE]

1. Inupiaq

2. English

2. We would like to know who normally lives in this household and a little about them. No names are used; instead each individual will be coded by "Person Number".

[INTERVIEWER: PLACE A "*" NEXT TO THE PERSON NUMBER OF THOSE INDIVIDUALS HELPING IN ANSWERING QUESTIONS]

Person Number	Relationship of each person to head or oldest adult in household	[CIRCLE] Sex	Age	Birthplace	Occupation	[CIRCLE] Employed in 198
1	Head or oldest adult	M / F				Yes / No
2		M / F				Yes / No
3		M / F				Yes / No
4		M / F				Yes / No
5		M / F				Yes / No
6		M / F				Yes / No
7		M / F				Yes / No
8		M / F				Yes / No
9		M / F				Yes / No

3. Are there people who were considered part of your household last year but are not staying here now?

Person Number	Relationship of each person to head or oldest adult in household	[CIRCLE] Sex	Age	Birthplace	Why not here? (moved, job, school, hospital, etc)
10		M / F			
11		M / F			
12		M / F			

SECTION B - RESOURCE USE:

1. We are interested in finding out what subsistence resources are important to your household, if you are satisfied with the amount you harvested and what factors may affect your ability to get enough of these resources.

- ① Last year (1982) did members of this household hunt, fish, trap or gather [RESOURCE] ? [CHECK]
- ② What members of the household were involved in the hunting, fishing, trapping or gathering? [USE PERSON NUMBERS FROM HH PROFILE]
- ③ Which month(s) did you look for [RESOURCE] ? [CHECK]
- ④ Were you satisfied with the amount that your household harvested? [CHECK]
- ⑤ If no, what reason(s) may have kept you from getting enough? [SHOW CARD A] [CIRCLE]
 - A. health
 - E. regulations
 - I. didn't have crew
 - B. age
 - F. job
 - J. community or social obligations
 - C. didn't have equipment
 - G. no animals, no fish
 - K. family responsibilities
 - D. weather or ice conditions
 - H. couldn't afford to go
 - L. school
 - M. other [EXPLAIN UNDER COMMENTS]
- ⑥ Do you have any comments you would like to add?

Resource	①			② Who's Involved	③												④		⑤ [CIRCLE] Factors affecting subsistence harvest	⑥ Comments
	Yes	No	Tried, no success		January	February	March	April	May	June	July	August	September	October	November	December	Yes	No		
bearded seal (ugruk)																			A B C D E F G H I J K L M	
ringed seal																			A B C D E F G H I J K L M	
spotted seal (hair)																			A B C D E F G H I J K L M	
ribbon seal																			A B C D E F G H I J K L M	
walrus																			A B C D E F G H I J K L M	
polar bear																			A B C D E F G H I J K L M	
moose																			A B C D E F G H I J K L M	
fox																			A B C D E F G H I J K L M	
wolverine																			A B C D E F G H I J K L M	
muskrat																			A B C D E F G H I J K L M	
arctic hare																			A B C D E F G H I J K L M	
squirrel																			A B C D E F G H I J K L M	

Resource	①			② Who's Involved	③												④		⑤ [CIRCLE] Factors affecting subsistence harvest	⑥ Comments
	Yes	No	Tried, no success		January	February	March	April	May	June	July	August	September	October	November	December	Yes	No		
ptarmigan																		A B C D E F G H I J K L M		
waterfowl																		A B C D E F G H I J K L M		
waterfowl eggs																		A B C D E F G H I J K L M		
herring																		A B C D E F G H I J K L M		
blue cod																		A B C D E F G H I J K L M		
tomcod																		A B C D E F G H I J K L M		
smelt																		A B C D E F G H I J K L M		
sculpin (bullhead)																		A B C D E F G H I J K L M		
flounder																		A B C D E F G H I J K L M		
ling cod																		A B C D E F G H I J K L M		
pike																		A B C D E F G H I J K L M		
whitefish																		A B C D E F G H I J K L M		
grayling																		A B C D E F G H I J K L M		
salmon, chum																		A B C D E F G H I J K L M		
salmon, humpy																		A B C D E F G H I J K L M		
berries/greens																		A B C D E F G H I J K L M		
other:																		A B C D E F G H I J K L M		
other:																		A B C D E F G H I J K L M		
other:																		A B C D E F G H I J K L M		
other:																		A B C D E F G H I J K L M		

2. Of all the meat and fish your household ate last year (January - December 1982) how much of it would you say were wild foods (that is, not purchased in a store)? [CIRCLE ONE]

- 1. Most
- 2. More than $\frac{1}{2}$
- 3. About $\frac{1}{2}$
- 4. Less than $\frac{1}{2}$
- 5. Little
- 6. None

Was this amount more or less than usual or was it about average? [CIRCLE ONE]

- 1. More
- 2. Less
- 3. Average

3. How much of all wild foods (meat, fish, and berries/greens) that your household obtained last year (1982) did you share with others not in your household? [CIRCLE ONE]

- 1. Most
- 2. More than $\frac{1}{2}$
- 3. About $\frac{1}{2}$
- 4. Less than $\frac{1}{2}$
- 5. Little
- 6. None

If you shared, which wild foods did you share most often? [LIST UP TO 3 FOODS]

4. How much of all wild foods (meat, fish, and berries/greens) that your household had last year (1982) was obtained from others outside of your household? [CIRCLE ONE]

- 1. Most
- 2. More than $\frac{1}{2}$
- 3. About $\frac{1}{2}$
- 4. Less than $\frac{1}{2}$
- 5. Little
- 6. None

If wild foods were shared with your household, which wild foods did you most often receive? [LIST UP TO 3 FOODS]

5. Do you have any comments you would like to add about subsistence that we have not covered in this questionnaire?

HOUSEHOLD CODE # _____

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SECTION C - WAGE EMPLOYMENT PROFILE:

1. We would like to know about jobs that members of this household had last year (January to December 1982). Try to remember from your most recent job and work back toward the beginning of the year.

[INTERVIEWER: FILL OUT SEPARATE EMPLOYMENT PROFILE FOR EACH ADULT WHO WAS EMPLOYED DURING 1982]

- ① Person Number [CODE FROM HOUSEHOLD PROFILE]
- ② Month(s) employed [CIRCLE]
- ③ Job title (For example, reindeer herder, carver, store clerk, etc)
- ④ Who did you work for? [IF WORKED FOR SELF, PUT "SELF-EMPLOYED"]
- ⑤ Was it fulltime, parttime, and/or seasonal? [CIRCLE]
- ⑥ Was it in the village or somewhere else? [CHECK BOX]
- ⑦ If elsewhere, where?
- ⑧ Reason for leaving [INTERVIEWER: CIRCLE RESPONSES]
 - A. No reason, still employed
 - G. wanted to go home
 - B. Summer or seasonal
 - H. job ended
 - C. didn't like job
 - I. not making enough money
 - D. had enough money
 - J. to go hunting
 - E. didn't like location
 - K. family responsibilities
 - F. got better job
 - L. other reasons

① Person Number: _____

[CIRCLE] Month(s) Employed	③ Job title	④ Employer	⑤ [CIRCLE] Type	⑥ [CHECK] V E		⑦ Where, if elsewhere	⑧ Reason for leaving
J F M A M J J A S O N D			F/T P/T Seas				A B C D E F G H I J K L
J F M A M J J A S O N D			F/T P/T Seas				A B C D E F G H I J K L
J F M A M J J A S O N D			F/T P/T Seas				A B C D E F G H I J K L
J F M A M J J A S O N D			F/T P/T Seas				A B C D E F G H I J K L
J F M A M J J A S O N D			F/T P/T Seas				A B C D E F G H I J K L

2. Were there months during 1982 when you wanted a job but didn't have one? [CIRCLE]

- 1. yes
- 2. no

If yes, what months? [CIRCLE]

J F M A M J J A S O N D

3. Did the jobs that you have/had last year affect the time you could spend hunting, fishing, trapping or making crafts?

- 1. yes
- 2. no

In what ways? _____

THANK YOU FOR YOUR ASSISTANCE!

TIME ENDED: _____

INTERVIEWER: _____