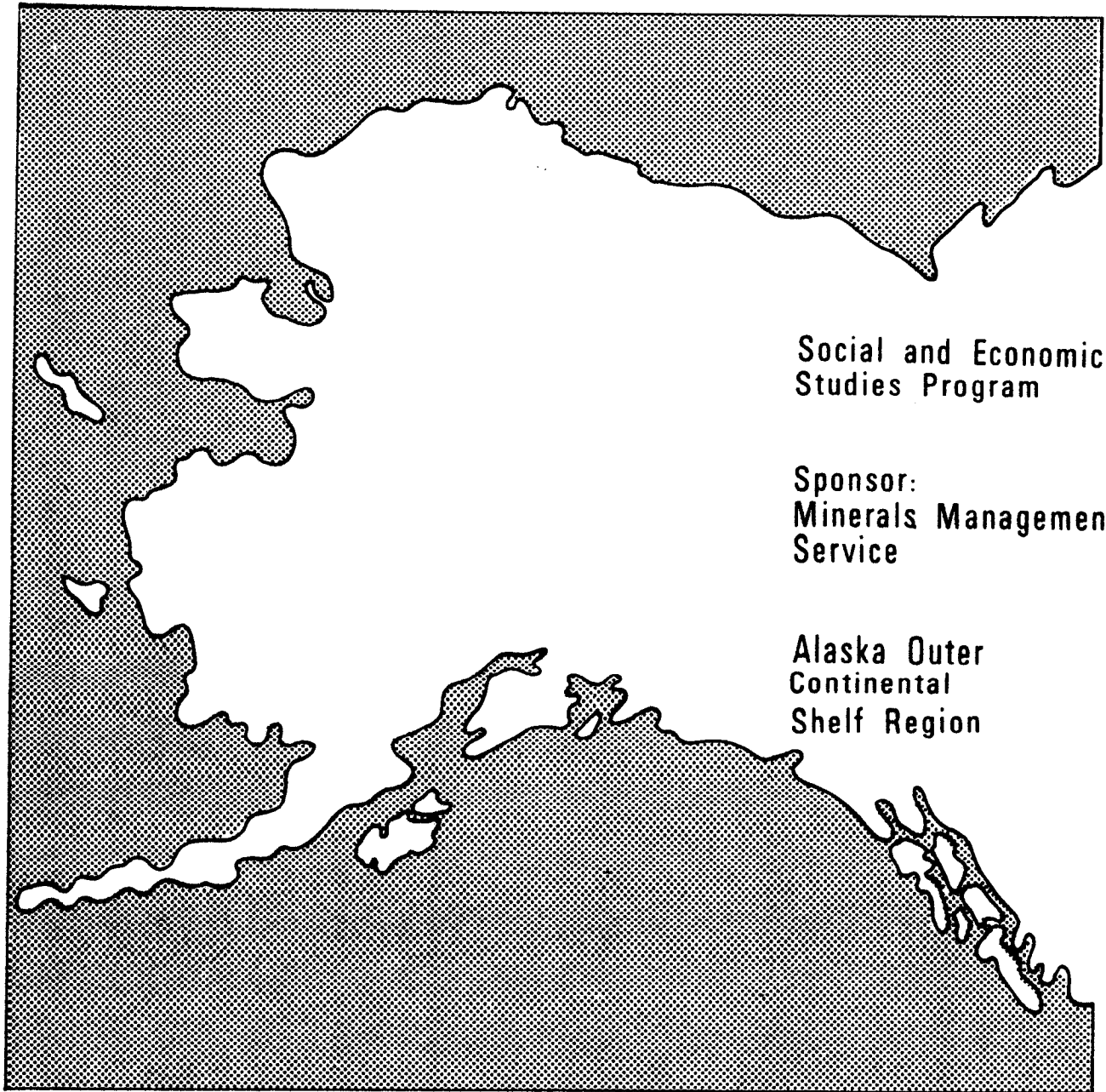


Technical Report
Number 91



Social and Economic
Studies Program

Sponsor:
Minerals Management
Service

Alaska Outer
Continental
Shelf Region

**Effects of Renewable Resource Harvest
Disruptions on Socioeconomic and Sociocultural
Systems: Chukchi Sea**

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

TECHNICAL REPORT NO. 91

Contract No. AA851-CT1-59

Effects of Renewable Resource Harvest Disruptions on
Socioeconomic and Sociocultural Systems:
Wainwright, Alaska

Prepared by

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for

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Alaska Outer Continental Shelf Office
Socioeconomic Studies Program
Minerals Management Service
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ALASKA OCS SOCIOECONOMIC STUDIES PROGRAM
Effects of Renewable Resource Harvest Disruptions on
Socioeconomic and Sociocultural Systems: Wainwright, Alaska
Final Report

Prepared by

Harry H. Luton

January 1985

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First and foremost I extend my thanks and gratitude to the residents of Wainwright. They allowed me to conduct an ethnographic investigation of the manner in which they use their environment, the ways in which they are organized to do so, and the meanings which they attribute to it. I learned how Wainwright villagers regard their homeland. I learned about the ways they maintain relations at home and abroad, ways formed, in part, by the villagers' many interdependencies on naturally-occurring resources.

The research was difficult. At first the study and the field researcher was ignored by villagers tired and suspicious of outside studies. Yet, time overcame many of these difficulties. I was the interloper. Acceptance of my presence is but another example of the basic friendliness and understanding so often encountered by visitors to the North. So many people assisted with kindness and information that I cannot list them all. Perhaps they would not care to be singled out. Nevertheless, my gratitude for the help and hospitality received runs deep.

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TABLE OF CONTENTS

	<u>Page</u>
PART I: ETHNOGRAPHIC BASELINE, WAINWRIGHT, ALASKA	
CHAPTER I - INTRODUCTION	3
Methodology	4
Research Methods and Design	5
Data Collection	5
Anthropological Observations	6
Protocol Observations	7
Archival Observations	9
Triangulation	9
Course of Fieldwork	11
A Final Note	17
CHAPTER II - WAINWRIGHT: PAST AND PRESENT	19
Settlement and History	22
Early North Slope History	25
The Founding of Wainwright	32
Population	35
Population Growth	35
Inupiaq Population	40
White Population of Wainwright	41
Changes in Native-White Relations	46
CHAPTER III - SOCIAL INSTITUTIONS	53
Governance	53
Traditional Native Village Organization	54
IRA Government and BIA Authority	59
The "Blue Ticket"	61
ICAS and the BIA	64
Wainwright City Government	68
Social Institutions	71
Religion	71
A Social Movement	80

	<u>Page</u>
CHAP III (cont.)	
Property	83
Voluntary Associations	89
Search and Rescue	91
 CHAPTER IV - THE CASH ECONOMY	 99
Introduction	99
Economic Seasonality	103
Wage Labor, 1982	106
Local Employees	107
Olgoonik Corporation	107
North Slope Borough	108
School District	109
Employment	109
Capital Improvement Projects	120
Financing the CIP	129
Prices and Expenditures	131
Summary	134
 CHAPTER V - KINSHIP	 139
Household Size	142
Household Size and Resource Extraction	147
Historical Changes in Household Size	150
Kinship Composition of Households	156
One-Generational Households	158
Two-Generational Households	159
Three-Generational Households	159
Four-Generational Households	161
Other Households	162
Adoption	167
 CHAPTER VI - SUBSISTENCE TASK GROUPS	 193
General Factors Affecting Task Group Organization	173

	<u>Page</u>
CHAP VI (cont.)	
Common Task Groups	180
Couples and Nuclear Family Task Groups	180
Partners	181
Complex Task Groups	182
Whaling Crews	183
Individuals as Subsistence Units	183
Winter Trapping	184
Winter Hunting	185
Winter Fishing (smelt)	186
Winter Sealing	187
Spring and Summer Bird Hunting	188
Summer Netting	189
Summer Berrying and Collecting	190
CHAPTER VII - SUBSISTENCE ECONOMY	193
Availability of Naturally-Occurring Resources	195
Changes in Resource Availability	202
Current Technology of Subsistence	216
Firearms	216
Boats	220
Nets	223
Dogs	227
CHAPTER VIII - SHARING	239
Giving to "Old People"	240
<u>Nalukataq</u>	241
Thanksgiving and Christmas Feasts	258
CHAPTER IX - LAND MAMMALS	261
Big Game	261
Brown Bear	261
Caribou	262
Moose	281
Dall Sheep	282

CHAP IX (cont.)

Small Game, Furbearers	283
Arctic Fox	284
Red Fox and Red Fox Variants	286
Snowshoe Hare	288
Lemmings	288
Lynx	289
Hoary Marmot	290
Porcupine	290
Arctic Ground Squirrel	291
Weasel	292
Ermine	292
Wolf	292
Wolverine	293

CHAPTER X - MARINE MAMMALS, PART 1 295

Polar Bear	296
Seals	306
Walrus	314

CHAPTER XI - MARINE MAMMALS, PART 2 325

Beluga Whale	325
Bowhead Whale	329
Grey Whale	348
Killer Whale	350
Other Marine Mammals	352
Narwhal	353
Harbor Porpoise	354
Fin Whale	355
Minke Whale	355
Northern Fur Seal	356
Ribbon Seal	356
Conclusions	357

CHAPTER XII - BIRDS 359

Eiders, Brants, and White-Fronted Geese	363
Other Birds	372
Canada Geese	373
Emperer Goose	373
Snow Goose	373
Swans and Cranes	374
Ptarmigan	375
Snowy Owls	377

CHAP XII (cont.)	<u>Page</u>
Hawks, Eagles, Falcons	378
Guillemots and Murres	379
Gulls, Kittiwakes	381
Loons	382
Fulmars, Petrels, and Cormorants	387
Arctic Terns	388
Puffins, Murrelets, and Auklets	389
Sparrows and Longspurs	390
Buntings	391
Oldsquaw	392
Surf Scoter	393
Red-Breasted Merganser	394
Mallard	394
Plovers and Snipe	394
Other Birds	395
 CHAPTER XIII - FISH, INVERTIBRATES, PLANTS, MINERALS .	 397
Fish	397
Spin Fishing	400
Ocean Netting	401
Upriver Fishing	405
Other Species of Fish	410
Blackfish	410
Northern Pike	411
Sculpin	412
Shark	413
Smelt	413
Tom-Cod	417
Capelin	418
Invertebrates	419
Clams	419
Crabs	419
Starfish	421
Sea Worms	421
Shrimp	422
Summary of Invertebrates	423
Plants	423
Minerals	428
Sand and Gravel	428
Clay	429
Driftwood	429
Coal	430
Oil/Gasoline	435
Natural Gas	436
Ice/Fresh Water	437

PART II: ETHNOGRAPHIC SUMMARY AND CONCLUSIONS	<u>Page</u>
CHAPTER XIV - ETHNOGRAPHIC SUMMARY AND CONCLUSIONS . .	441
Wainwright: Past and Present	441
Social Institutions	444
Political Structures	444
IRA Government and BIA Authority	445
City Council	445
Religion	446
Formal Education	447
Property	447
Voluntary Associations	449
The Cash Economy	450
Wage Labor	450
Expenditures	452
Kinship	453
Households	453
Kinship and Household Composition	455
Kinship and Economic Organization	457
Sharing	460
Species Availability, Collection, and Use	462
Big Game	462
Small Game, Fur-Bearers	467
Marine Mammals	469
Birds	471
Fish	473
Other Resources	477
Invertebrates	477
Plants	477
Conclusions	478
 PART III: METHODS, STANDARDS, ASSUMPTIONS, IMPACT CATEGORIES SYSTEM PARAMETERS, METHODS AND ASSUMPTIONS	
CHAPTER XV - HARVEST DISRUPTION ASSUMPTIONS AND IMPACT CATEGORIES	487

CHAP XV (cont.)	<u>Page</u>
Methods, Standards, and Methodological Assumptions . . .	495
Assumptions About the Relationships Among Categories of Culture	495
Impact Categories and Assumptions About Relations Among Impact Categories	499
Methods and Standards	513
Assumptions About External Validity	515
Analytical Assumptions	517
Assumptions About Government Regulations	517
Assumptions About ANCSA	521
Assumptions About Regional Unity	522
Assumptions About the NSB and CIP Programs	523
Assumptions About Local Political Authority	525
North Slope Borough	525
Arctic Slope Regional Corporation	526
Village Native Corporations	527
City Governments	527
Assumptions About Off-shore/On-shore Activities	529
Assumptions About Social Dysfunction	530
Assumptions About Wainwright's Culture	536
A Special Note on Sharing	538
 CHAPTER XIV - EFFECTS OF RENEWABLE RESOURCE HARVEST DISRUPTIONS ON SOCIOECONOMIC AND SOCIOCULTURAL SYSTEMS IMPACT ANALYSIS	
	541
Introduction	541
Harvest Disruptions: Definitions and Rational	546
Differences Between Family and Village Harvests	551
Levels of Disruptions: Low, Medium, High	553
Low Harvest Disruptions	553
Medium Harvest Disruptions	556
High Harvest Disruptions	557
Cultural Consequences Among Native Americans	558
Similarities and Differences Between Wainwright Eskimos and Western American Indians	561
Cultural Consequences to Western American Indians	564
Cultural Consequences to North Slope Inupiaq	569
Relevance of Energy-Related Developments	573

CHAP XIV (cont.)	<u>Page</u>
Plausible Cultural Consequences within Wainwright from Medium and High Level Harvest Disruptions	576
Introduction	576
Non-Natives	576
Consequences from Medium Level Disruptions . . .	578
Consequences from High Level Disruptions	583
 BIBLIOGRAPHY	 585

List of Tables

	<u>Page</u>
Table II-1, Population of Wainwright, 1890-1983 . . .	36
Table IV-1, Inupiaq Employment, Wainwright, 1982 . . .	111
Table IV-2, Annual Employment, Wainwright, 1982 . . .	115
Table IV-3, CIP Projects	121
Table V-1, Wainwright Household Size, 1982	144
Table V-2, Wainwright Household Size, 1955	153
Table V-3, Wainwright Household Structure, 1982 . . .	164
Table V-4, Adoptive Households by Size, 1982	168
Table V-5, Adoptive Households by Type, 1982	169
Table VII-1, Some Biotic Species Encountered	197
Table VII-2, Subsistence Cycle	201
Table VII-3, Observed Firearms	218
Table VII-4, Boat Types and Description	222
Table VII-5, Meat Consumption by Wainwright Dogs . . .	229
Table XI-1, Wainwright's Annual Bowhead Harvest . . .	332
Table XI-2, Wainwright's Bowhead Distribution	335
Table XV-1, Categories of Culture Assumed to be Impacted	501
Table XV-2, Violent Deaths in Alaskan Localities . . .	533
Table XVI-1, Biotic Resources Used by North Slope Villages	548

List of Figures

	<u>Page</u>
Figure II-1, Map of the North Slope	20
Figure II-2, Map of Wainwright and Vacinity	21
Figure VII-1, Set Net	225
Figure VII-2, Winter Set Net	226

PART I

ETHNOGRAPHIC BASELINE
VILLAGE OF WAINWRIGHT

CHAPTER I

INTRODUCTION

This report is part of a larger study of three villages conducted under contract AA851-CT1-59 from the Bureau of Land Management. The specific objectives as described by this contract are to:

1. Collect and analyze ethnographic information on socio-economic and socio-cultural systems in rural Alaska communities which are primarily dependent on the harvest of renewable resources for their livelihood, and
2. Identify and assess, in an integrated manner, the economic, social and cultural ramifications of possible renewable resource disruptions (stemming from the effects of offshore structures, tanker movements, noise, human disturbances, potential oilspills, etc.) on residents of Wainwright and the region as a whole.

Oil development is already taking place in Alaska. Its direct and indirect effects have been felt in village life. Many of these effects have been positive, others have not. The ultimate purpose of this study is to provide an analytical framework for examining a question weighing heavily on the minds of many Alaskans: How might village life be affected should environmental disturbances occur in the course of Outer Continental Shelf oil and gas development? If there were disruptions in the village use of naturally-occurring subsistence resources, what would be the likely impacts on the local economy, social structure, and culture of Alaska Eskimo villages?

These questions remain important ones despite the

changes that have occurred with oil development in recent years. Along with other North Slope villages and, indeed, along with most of Alaska's rural communities, Wainwright's economic, social, and cultural systems remain inextricably linked to the area's naturally-occurring species. As in the case of Gambell and Unalakleet, the two other villages considered in this study, hunting, fishing and gathering remain integral to a way of life. The forces of change at work in these three villages are representative of those faced by much of rural Alaska. For this reason it becomes crucial to forecast the likely social consequences which may result from subsistence harvest disruptions occurring with economic development. The following document constitutes the final report for the study of the village of Wainwright.

METHODOLOGY

Wainwright was our first choice for analysis on the North Slope. Its environment is less moderated by the warmer waters of the Bering Sea than are the environments of coastal communities to the west. Hence, Wainwright's subsistence system might be considered more typically arctic. Wainwright lies near to Barrow and, historically, the two communities are closely tied. For this reason Wainwright's present socio-political system reflects well the political changes, centered in Barrow, that have occurred throughout the North Slope as the result of the direct and indirect impacts of oil development. Wainwright has been a relatively stable com-

munity. This, we felt, would help in understanding change through time. Moreover, extensive ethnohistoric and ethnographic data are available for the area. This literature is supplemented by a number of socio-economic, socio-cultural, and political studies of the recent changes occurring on the North Slope. Wainwright also has the advantage of being small enough to encourage the use of the type of ethnographic field methodology we envisioned. Finally, this community is justly known for its friendliness and is considered one of the more traditional of the North Slope villages.

Research Methods and Design

In the interest of compatibility, the research design employed at Wainwright is essentially the same as that used in Unalakleet and Gambell (see Jorgensen, 1984; Little and Robbins, 1984). This design, which draws heavily on Alaskan studies as well as on studies of power development impacts outside Alaska, was prepared primarily by Joseph Jorgensen (Jorgensen, 1984). As in any anthropological approach, the specific methods for data collection and sampling were modified as conditions and contexts required. However, the goals of the inquiry remained unchanged. Data collection and data analysis for the Wainwright report was done by Harry Luton.

Data Collection

A multiple methodology was employed to gather ethnographic information at Wainwright. It included traditional anthropological observations, protocol observations, and archival observations. All observational approaches focused

upon the same issue: the relations among the harvest of renewable resources and the significant elements of life at Wainwright. The use of three methodologies provided information relatively more valid and reliable than would have been provided had only one of the data collection procedures been followed, data in many respects superior to that collected by survey research techniques alone.

Anthropological Observations

Anthropological observations are made while participating in village life. These direct observations of daily activities in Wainwright include not only information on what people do but also on what people say. They consist of non-directive conversations, overheard talk, and attendance at public meetings.

Many observations were focused by the existing scientific literature about Wainwright and the North Slope or by more theoretical work on subsistence activities and ethnic groups in the arctic and elsewhere. Other observations were unanticipated. These two types, those anticipated by the literature and those not, were obtained in several ways, including participation, casual viewing, and open-ended questioning. Behaviors which were not expected prompted new inquiry. Public statements by village residents regarding problems and issues they confronted opened new queries.

Anthropological observation is the most empirical of the three methodologies utilized; this is its strength. These observations provide the richest possible understanding of

village life. As many who have gone before have discovered, this approach is particularly well suited to Wainwright (see Bane, n.d.; Nelson, 1969). There, villagers do not like "too many questions;" they prefer to teach by example. Throughout the course of the study, people talked freely about many activities only after they had witnessed the researcher's active participation. Moreover, phenomena could often be discovered no other way. Understanding, which accrues to the observer of village life, also enriches the interpretation of data collected with other techniques.

The weaknesses of anthropological observations are obvious. These data do not benefit from the controls ideally applied to structured interviews and objective sampling, nor do they yield easily to formal analysis. The data are synchronous, observations of a single point in time. This last issue is particularly germane to our study of Wainwright since, as discussed in the report itself, the period of our fieldwork was an exceptional one. It was characterized by whaling quotas, a greater than average availability of several important subsistence resources, extremely high levels of employment, and rapid change. Here the advantages of our archival observations become apparent (see below).

Protocol Observations

The second data collection methodology used was protocols, a halfway procedure between structured interviews and anthropological observations. The protocols consisted of sets of topics rather than specific questions; they were open-ended; and, they were administered in conversations

without concern for the sequence of topics. This reduced the redundancy that so often occurs in structured interviews. The goals of the protocols were to determine the organization and activities of village institutions. As used here, institutions refer not merely to churches, schools, and other formal organizations, but include all patterned and recurring social interactions. Thus, whaling crews and family structures fall within the definition.

The strength of protocol data can be best illustrated by comparing them to anthropological observations. Unlike anthropological observations, protocol observations allow for repeatable comparisons among families, among institutions, and between families and institutions on a variety of topics. Actually, a narrative develops from the interplay between the understanding acquired through anthropological and protocol observations.

Protocol observations have their limitations. As administered here, they do not allow for formal, multivariate, statistical analysis. Like their anthropological counterpart, protocol observations are synchronous measurements; in themselves they are inadequate for making inferences about change. Since the conceptual structure which explains them is not obvious, they also have weak construct validity. Yet, generalizations from protocol data are somewhat more valid than anthropological observations alone. The latter enrich and enliven the former by providing context in which the protocol data can be understood.

Archival Observations

Village level data were collected from a number of existing sources including census reports, school archives, published books and articles, unpublished manuscripts, and research reports supplied by North Slope Borough, state, and federal agencies. The reader is referred to our extensive bibliography and, especially, to the works of Bane (n.d.), Brostad (1975), Milan (1964; 1970a; 1970b), Nelson (1969; 1982) and Schneider and Libby (1979). All these excellent works focus specifically on Wainwright; our work has benefitted greatly from them.

Even with this material, however, time-series data for Wainwright tends to be scarce or incomplete. The most notable exception is material on household composition. Even here, however, the further back in time one goes, the less certain one becomes about its completeness. In general, the time-series and other data that are available frequently do not address exactly the same questions addressed by this research project. Thus, comparisons can yield weak conclusions. However, many inferences about change over time can be supported by comparing archival data from an earlier time to present-day data. Indeed, we believe this is one of the real strengths of this report.

Triangulation

If, taken together, these three data collection methodologies support the same conclusion, the validity of that conclusion increases. Careful comparisons of data and conclusions from the three methods serve as a corrective for

the inherent weaknesses of each. For example, the anthropological observations which appear throughout this report are more than explanatory narrative and anecdote. The hypotheses generated from these observations cannot be tested until measurements from other points in time are made, and until a larger number of respondents provide quantitative data. Nevertheless, anthropological and protocol observations allow for an evaluation of similarities and differences among respondents within a village. Hence, the generalizations tentatively reached through anthropological observations can be compared with the individual-level data from protocol observations to either support or reject the initial hypotheses.

Neither protocol nor anthropological observation data sets support inferences about change because both are synchronous. Yet, these can be joined with remembrances by Native field assistants, recollections of elder members of the community, and archival evidence to form concluding hypotheses regarding change. (For an example, see the discussion of changes in walrus hunting crews.)

The information gathered by these various approaches was used to write the ethnographic description of Wainwright which makes up the body of this report. This ethnography explicates many relations among the harvest of renewable resources and village society and culture. It presents an empirically based portrait of village life. This portrait is important for it forms the basis of our evaluation of the

social consequences which could occur if off-shore oil development leads to significant subsistence harvest disruptions.

COURSE OF FIELDWORK

Our investigations began in August, 1981. During the early stages, methodologies, lists of variables and detailed protocols were developed and species-specific coding forms were designed. Also, the specific field techniques to be used were discussed. The more formal aspects of the Wainwright study began November 1, 1981. During this period Harry Luton analyzed and coded literature on this village, on Unalakleet, and on Gambell. This data analysis provided a foundation for the formal ethnographic baselines used in our comparative and temporal investigations.

During this period Joseph Jorgensen made the initial contacts with village leaders by mail and telephone. Charles Cortese made follow up contacts. The Mayor of the North Slope Borough, the Mayor of Wainwright, and the President of the Village Corporation were informed of the purpose of the study. They were told, as well, about the type of information we were seeking, the identities of the sponsor and contractor, and the use to which the study would be put. They were asked for their cooperation in the study.

The major periods of fieldwork took place between February 1 and July 31, 1982 and April 1 and May 31, 1983. During these periods Luton resided in Wainwright. Although

observation, participation, and interviewing occupied much of Luton's time, he continued to examine published and archival sources. In June and July, 1982, he was joined by Barbara Newman-Luton who contributed significantly to the fieldwork.

Getting the fieldwork moving in the right direction was our greatest obstacle. People on the North Slope are proud of their heritage and very independent. Many residents perceive outside threats to their communities and they react protectively. Wainwright has experienced many indirect social impacts from oil development at Prudhoe Bay. The high social costs of these undertakings mixed with obvious advantages encourages confusion and anger. The rapid change fuels insecurity about the present, anxiety about the future. The growing number of outsiders and the rising alien influence threaten a way of life. Naturally, in such a situation, strangers--and particularly ones associated some way with possible off-shore oil development--meet with some resistance and suspicion. Such feelings are common generally in communities experiencing energy development.

Other factors added to early resistance. Wainwright has been the center of several arctic studies. Many people in the village feel they "have been studied to death," that research benefits the researcher but not the community. Sometimes such feelings are expressed with hostility; much more often they appear as a blase attitude toward "another tanik study." Tanik is an Inupiaq term for outsider which, nowadays, is usually used in reference to whites.

A more specific issue added to such feelings. Our study focused on subsistence: on subsistence harvest, sharing, and use. These topics are particularly sensitive ones in the arctic today. The last decade has witnessed several attempts by outside authorities to regulate Inupiaq subsistence hunting. These include arrests in Barrow for spring duck hunting, restrictions on the caribou harvest, and present bowhead whale quotas. The interference with the caribou hunt has left a particularly bitter taste in Wainwright. Presently, many people react to outsider interest in harvest data as a possible threat to a cornerstone of their social life. With time and care, we were able to collect good material on this subject but not the thoroughgoing network sample originally envisioned. At present, the North Slope Borough is the political institution in Alaska with interest and clout enough to defend subsistence of the arctic. People in Wainwright are very aware of this fact. We believe that the collection of systematic household harvest data should be attempted with the strong and active support of the North Slope Borough.

Any attitude toward outside studies is not held monolithically by Wainwrighters. However, on some level and to some degree, all residents who worry about their village's future share some concerns about outsiders asking questions. In a formal effort to solicit cooperation and inform people of our goals, Cortese visited the village for several days in March, 1982 and, again, in July. During these times he met with village leaders to discuss the study. In late March, Luton

attended the first Village Council meeting held after his arrival. He was generously given the opportunity to introduce himself and talk about the study.

Informal approaches to these problems worked better. The initial resistance experienced in February of 1982 led us to settle on a "right time" approach to various aspects of our study. February was clearly not the "right time" to ask many questions about subsistence harvests and sharing. We turned to our ethnographic approaches of visiting, observing, and participating in village life. We also focused on our protocol observations. These were particularly helpful in acquainting people with us and our study.

February, March, and into May the project struggled. We acquainted ourselves with more people, talked more about subsistence, and examined such issues as governance, social structure, and household composition. Some individuals extended their hospitality and help almost from the moment we arrived, but many held back. We had the impression that people watched and waited to ascertain our openness to their way of life, our attitudes toward their society and village. They wanted to see patience and humor, too.

May was a turning point for our study. That month Wainwright crews took two whales. The drawing of a whale up onto the ice is a public event. Almost all villagers went out on the ice to help and we went also. Most subsistence events are not public; rather, they are strongly family and friendship-centered. They are times of cooperative labor

that require participants who share common goals, work well together, and who can rely on each other's skills and judgments. Subsistence activities are also times of pure enjoyment, eagerly anticipated by family and friends. After our participation in the public event, we were immediately invited to a more private one, upriver goose hunting.

June and July were busy months for everyone in Wainwright. Construction projects were in full swing. We began our examinations of the town's wage labor. Since subsistence activities also picked up, people were really working two jobs. We concentrated on these later activities, as well, and by mid-July were collecting some good household harvest data. By the end of July, walrus hunting was going full blast and caribou hunting was just around the corner. However, this was also when our researcher had to leave the field. For this reason, focused interviewing, protocol, and archival observations are particularly important. The timing of our work in Wainwright was tied to the original plans for our work in Unalakleet and Gambell. In retrospect, since subsistence activities occur later in Wainwright than in the other two villages, this was not the perfect solution. Obviously, too, since participant-observation is such a useful tool for the study of arctic subsistence (see Nelson, 1969), an entire year in the field would be the ideal approach.

The help we received from village leaders needs special comment. Today, such people find themselves in a stressful situation. As proper community leaders, their duty is to

protect their groups' interests against outside intervention. However, as proper representatives of the community, their duty is to present their village to the outside world. Added to tensions inherent in this situation are other demands. When we were in the village, the average Wainwrighter had two jobs; they were involved in wage work and subsistence hunting. Village leaders had three. Their responsibilities kept them on the phone, at meetings, and on the road. Sometimes, they were gone from town weeks at a time. When they returned they wanted to hunt, to earn a living, just to be with family and friends. Yet, because they were their people's representatives, they helped us when they could, and they did so carefully so as to not compromise their community.

The high availability of wage work in Wainwright in 1982 created one practical problem for our project, that of hiring field assistants. Most people who wanted jobs had them. Moreover, we could pay only \$12.50 an hour, roughly one half of the going hourly rate. We settled on having a number of people who would assist when they could. As mentioned in the acknowledgements, those who did work with us were very good. Their sacrifices made our efforts possible.

The major portion of fieldwork ended in July when Luton left Wainwright and began the write-up of the ethnographic baseline. However, this did not end active investigations. Luton continued his examination of archival sources. In April and May of 1983, he returned to the village. At this

time his work focused on wage labor and job related attitudes and behaviors. Luton has remained in contact with several residents since. Cortese returned to Wainwright for two days in October, 1983, this time to talk to village leaders about oil development scenarios. Information from all these activities has been incorporated in this final report.

A FINAL NOTE

In the early 1980s Wainwright remains a community of Inupiaq rooted in Inupiaq traditions and, on many levels and in many ways, tied to a subsistence way of life. In the early 1980s Wainwright is also a community adjusting to extremely rapid change, change reflected in both the physical and social landscape. Our charge in the "scope of work" is to analyze the changes which are occurring or may occur as the direct or indirect consequences of North Slope oil development. Since life is moving so rapidly in Wainwright, to do this we have often used dates rather than the "ethnographic present" in our baseline description.

Our goal, in the ethnography which follows, is to capture a moment in Wainwright's history. The Inupiaq qualities of Wainwright will not be washed away by the changes that are occurring. Our hope is that we have shown the strengths of a community that is facing a difficult time. A people's genius may appear greatest in adversity.

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CHAPTER II

WAINWRIGHT: PAST AND PRESENT

Wainwright is located 70 degrees, 40 minutes north latitude and 159 degrees, 50 minutes west longitude, 300 miles above the Arctic Circle. This coastal village stretches across bluffs 20 feet high which stand behind a narrow beach of the Chukchi Sea. The closest community is Barrow, known as the largest Eskimo settlement in the world. In 1982, its population was roughly 3,000. Barrow is located near the northernmost point of the North American mainland, about 90 air miles to the north and east of Wainwright. Barrow is the headquarters of the North Slope Borough and the locus of much activity and decision-making affecting the entire North Alaska region.

To the south and west of Wainwright lie Point Lay and Point Hope, approximately 100 miles and 180 miles distant respectively. All of these towns are located on the coast. Atkasuk is 75 miles inland, a little south of due east from Wainwright. Villages on the North Slope are linked by an increasing number of daily flights by small aircraft, either Borough charters, Borough subsidized flights, personal charters, or unscheduled commercial flights at times of peak demand. In winter, people also travel these distances between villages by snow machine. Such trips from Wainwright to Barrow, Atkasuk, and Point Lay are common (see Figure II-1 and Figure II-2 for maps of the region and locality).

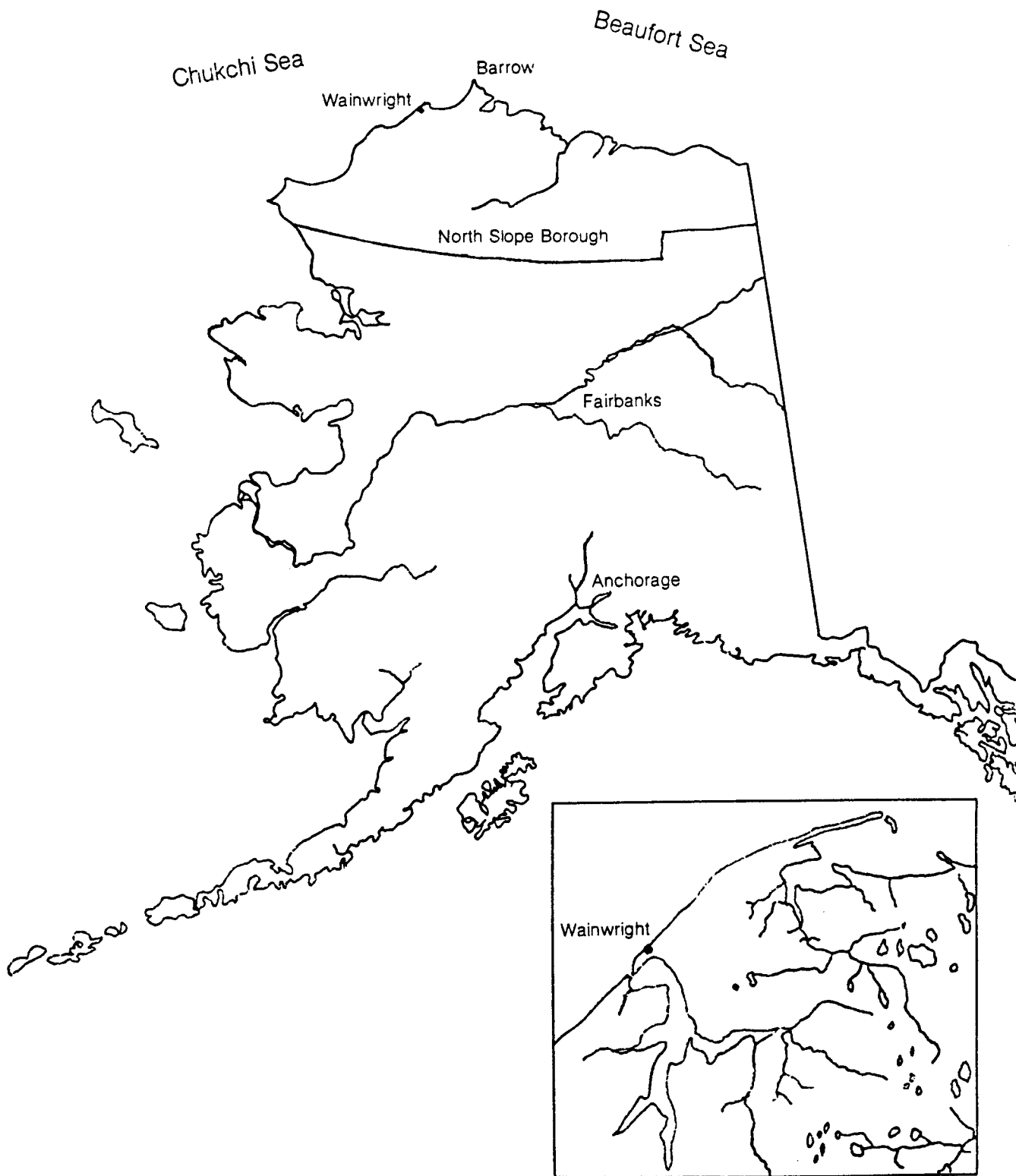


Figure II-1, Map of the North Slope

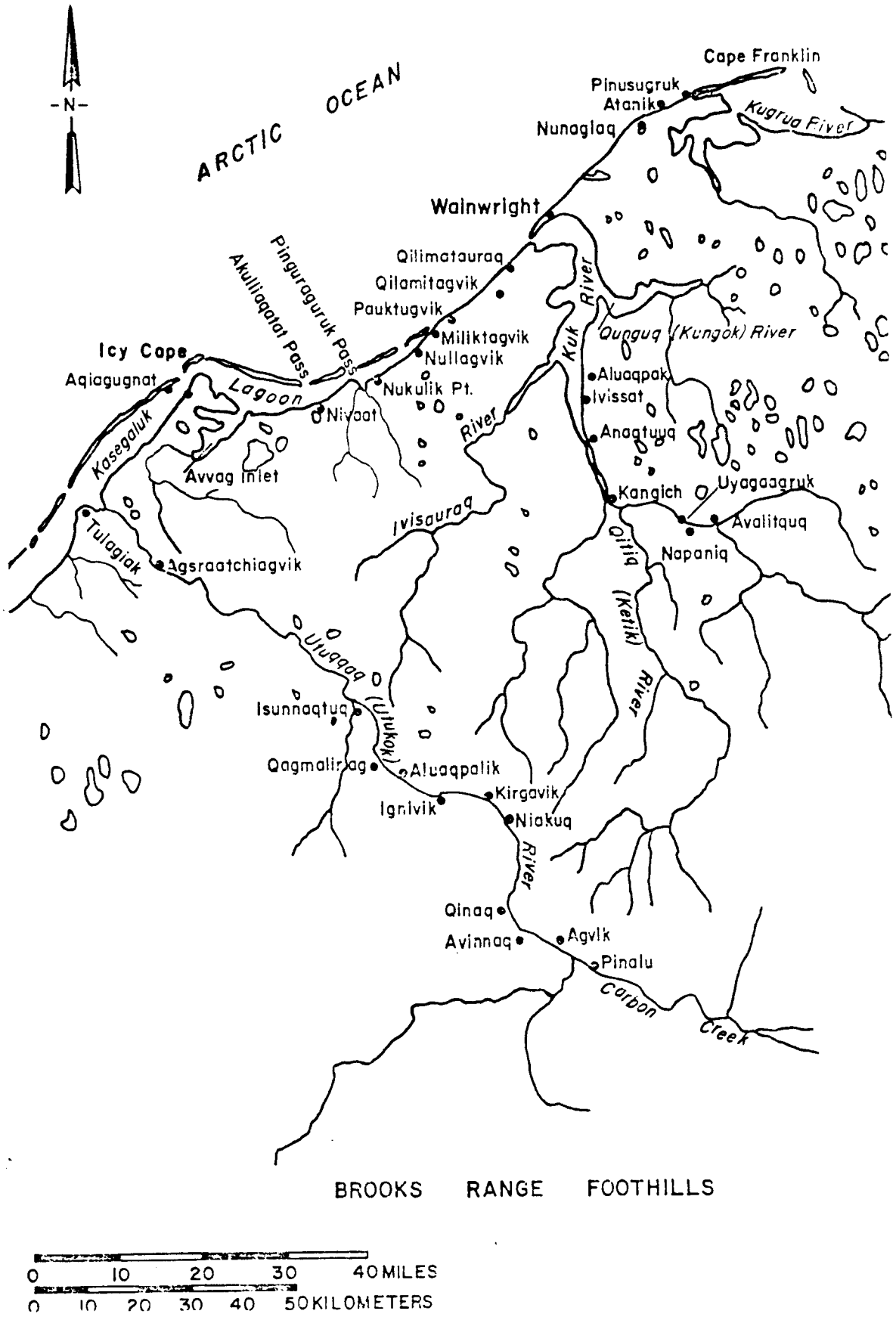


Figure II-2, Map of Wainwright and Vicinity

Although the coast at Wainwright runs approximately north-northeast, the people in the village talk about it as if it ran due north-south. To the north lies Peard Bay and Barrow; to the south Icy Cape, Point Lay, and Point Hope. To the west is the shallow Chukchi Sea, where sea mammals are hunted. To the east lies the tundra, a rolling treeless, grassy plain broken by shallow marshes and lakes and drained by slowly meandering rivers and streams.

Wainwright residents hunt land mammals, principally caribou; they also fish in this area. Actually, Wainwright itself rests on the peninsula formed by the ocean and the Kuk River Inlet, a large brackish lagoon running 30 miles or more inland. It is this lagoon, the Kuk River, and the other rivers and streams associated with it, that give the people of Wainwright relatively easy access to the hinterland, a "road" into the interior. The Kuk gives Wainwright a strategic position for exploiting the natural environment even though the town is not located at the most advantageous spot for whaling. Whaling camps are most often set up off Pt. Belcher north of the village, an area which contains many archeological sites. Within 10 to 15 miles from the village are three inactive coal mines where formerly residents collected fuel, a military radar site (DEW line), and a recently opened gravel operation.

SETTLEMENT AND HISTORY

Wainwright is located on the coast of the Chukchi Sea.

Inland, along the foothills of the Brooks Range, human habitation may date back 5,000 to 7,000 years (Campbell, 1962). Archeological remains at Point Hope to the south and Barrow to the north indicate long and continuous human habitation. The earliest evidence of such occupation at Point Hope dates from about BC 600 although the eroding coast line may have obliterated earlier remains (Dumond, 1980; Workman, 1980; Shinkwin, et al., 1978:16; Burch, 1981). The Birnirk culture appears around AD 500. Developments from this culture lead through the Thule culture to the early historical population of Point Hope (Burch, 1981; Bockstoce, 1979).

Near Barrow, Denbigh cultural remains have been found. These date back at least 5,000 years (Giddings, 1967). Barrow's Birnirk cultural remains date to about AD 700 (Oswalt, 1967:46). The term "Birnirk" comes from the name of an archeological site a few miles to the north of town, a place referred to locally as Pigniq. From AD 700 on, developments around Barrow roughly parallel those at Point Hope; they lead through Thule culture to the early historical populations.

In a summary of the area's prehistory, Burch stresses that Thule culture exhibited a "progressive regional specialization" which "led eventually to the formation of the several regional groups who lived there at the beginning of the historic period" (Burch, 1981:11). Archeological remains indicate, as well, a strong marine orientation with an old and well established whaling complex. Except in the case of

the Caribou Eskimo of Canada, apparently all of the adaptations which developed out of Thule culture into the historic period were either maritime or riverine ones.

Spencer notes a situation unique to the prehistoric and early historic adaptations on the Arctic Slope. In this area two Inupiaq groupings interacted, the tigiumiut and the nunamiut. These names, he reports, were native designations descriptive of groups representing two different ecological adaptations. The tigiumiut, or the "ocean/beach people," were orientated primarily towards marine hunting and, "especially toward whaling" (Spencer, 1959:14). The tigiumiut lived in permanent and quasi-permanent coastal villages, "well integrated around dance houses and the concept of the whaling crew and its leader." These communities had "fairly well-defined territories" within which its members moved. On the other hand, the nunamiut, or the "people of the land," were oriented primarily toward caribou hunting. Compared to those of the coast, territories of the nunamiut were larger and less well defined. Spencer writes that the nunamiut were organized into bands; they tended to move more widely, lack the fixed villages, and "lack the incipient formalization of the concept of chieftainship" found on the North Slope coast (Spencer, 1959:15).

In discussing this division of people of the land and those of the sea, Spencer stresses that these were two recognized ecological orientations; they were not social structures. He writes that the terms tigiumiut and nunamiut, "are descriptive of a way of life and cannot be regarded as

tribal designations. As is well known, aboriginal Eskimo society consisted of aggregations of individuals that formed bands or villages" (Spencer, 1959:14).

Following Larson and Rainey (1948), Spencer believes that the formalized trading system that existed between the tigiumiut and nunamiut was central to Eskimo habitation of the North Slope. Products of the sea were exchanged for products of the land. Prime caribou skins and other furs and pelts needed for sea ice hunting were traded for seal and whale oil, needed for heat and light. The diseases and social disorders associated with early white contact drastically reduced the original coastal populations. This, Spencer noted, led to the virtual depopulation of inland areas as the declining tigiumiut were replaced by immigrating nunamiut (Spencer, 1959:19). He argues that this movement to the coast was, in part, necessitated by the breakdown of the trading system that had previously operated.

Recent research suggests that the division between tigiumiut and nunamiut may be overdrawn (Burch, 1975). These designations may represent the extreme ends in a series of ecological orientations exhibited by Inupiaq groups on the North Slope. Moreover, except perhaps for areas east of Barrow, the population shifts which occurred after white contact may have been more complicated than the succession of tigiumiut by nunamiut implies.

Early North Slope History

The period of Inupiaq contact with whites dates back to

1778 when Captain James Cook explored the Arctic Coast as far as Icy Cape, midway between Point Lay and Wainwright (Schneider and Libbey, 1979:42). More than 40 years later, in 1820, the Russian explorer Mikhail Vasiliev became the second to reach Icy Cape. He, also, was able to proceed no further. In 1826, Capt. F.W. Beechey was sent to Icy Cape to rendezvous with Sir John Franklin's party which was traveling the Arctic coastline from the east in search of the Northwest Passage. Franklin's group was forced to turn back at Return Reef, less than two hundred miles from Barrow. That year, Beechey became the first Westerner to contact the Inupiaq in the Wainwright area.

After Beechey's voyage, contact with the outside began to increase rapidly. In 1837, Thomas Simpson traveled eastward along the Canadian coast and reached Barrow. The next year, in 1838, Aleksandr Kashevarov, of Russian-Eskimo descent, explored the coast from Kotzebue Sound to east of Point Barrow. In 1847, Sr. John Franklin disappeared along with all the members of his third arctic expedition. The search for Franklin escalated the pace of exploration. In July of 1849, the HMS Plover was dispatched. Two of its boats were used to explore the coast from Wainwright Inlet to the MacKenzie River. Another expedition was dispatched in 1852, again in the HMS Plover. In the winter of 1852-1853, it became the first ship to overwinter at Barrow (Nielson, 1977).

Once interest in the area was raised, important scien-

tific expeditions continued. These include the 1881 International Polar Expedition which spent two years in Barrow, Lt. George Stoney's explorations of the Kobuk, Noatak, and the headwaters of the Colville Rivers, and Ens. W.L. Howard's trip up the Noatak, down the Colville, and along the coast to Barrow (Nielson, 1977). While, compared to activities such as commercial whaling, these explorations had little influence on Inupiaq society, they did produce the only existing reports that describe the Alaskan North Slope before major cultural and economic changes occurred.

Although contact with the outside took place rather early, major effects on the local economy occurred later, with the intrusion of commercial whaling into the area. The inland nunamiut were drawn to the coast for employment and trade during this period and the inland population decreased (Schneider and Libbey, 1979:43). During this period, there was also a significant amount of miscegenation; today many Wainwright people trace their ancestry to whalers of this period.

The first right whale taken by an American ship in the Gulf of Alaska was in 1835. By 1842, the total number of United States and foreign whaling vessels in the area had risen to 882 (Scammon, 1968). The bowhead was the focus of their enterprise. In 1848, the Superior under Captain Thomas Roys, became the first whaling vessel to push through Bering Strait into the Arctic Ocean. This boat's success touched off a rush to the arctic the next year (Bockstoe, 1978). In the 1860's and 1870's, when oil prices were high, whaling was

supplemented with walrus hunting.

Whaling in the arctic was costly. In most years, one or two vessels were caught in the ice, crushed, and lost. In 1871, 32 ships were trapped between Point Belcher and Icy Cape; in 1876, 15 more were lost near Point Barrow (Bockstoce, 1978). Such disasters, along with a slow decline in whale oil prices due to the stirrings of the youthful petroleum industry, ended Yankee whaling. However, the life of commercial whaling was extended 30 or so years by three developments. Beginning in the late 1870's, the fashion industry used increasing amounts of baleen as a sort of natural plastic for corset stays and skirt hoops. Thus, a continued demand for whales existed. Also, in the 1880's, steam powered whaling vessels were introduced to the Arctic Ocean. Steam power made the area's ice conditions more manageable. Finally, in the mid-1880's, shore based commercial whaling stations were introduced. These made Arctic whaling a less costly enterprise.

These shore based stations were usually run by a small white staff and employed predominantly Eskimo boat crews. The first such whaling station was established in 1884 at Point Barrow by the San Francisco based, Pacific Steam Whaling Company. This was followed quickly by others. In 1886, the S.H. Frank Company established a station near Point Hope at a place that became known as Jabbertown. Within a few years, fifteen stations were operating between it and Point Barrow to the northeast (Gusey, 1983:73). One early

experiment with commercial "ice flaw" hunting occurred near Atanik, just north of Wainwright. In 1918, Arthur James Allen, working as an agent of the H.B. Liebs Corporation, set up a whaling station and trading post at Wainwright. Others had operated in the general area before. Allen's crew operated through the 1920s, 1930s and into the 1940's, long after commercial whaling was dead and trading interests had refocused onto fox furs.

Once commercial whaling focused on the arctic, bowhead whale stocks were quickly reduced. The bowhead summer feeding grounds were "discovered" in 1888 when Charles Brower, the manager of the Cape Smythe Whaling and Trading Company, sent one of his Eskimo whaling crews to winter in that area. In 1890, steam whalers began wintering at Herschel Island. By 1897, the remaining whale population had been damaged enough to affect the overall success of the hunt. However, only the collapse of the baleen market saved the bowhead. Gusey writes, "In 1907, the price of baleen dropped nearly 75%, and from 1908 onward the few ships that cleared port as whalers were primarily equipped for fur trading voyages" (Gusey, 1983:75).

According to Spencer, while the whaling industry began to lose ground, baleen continued to sell well until 1915-1916. "At this time," he writes, "the market fell off, baleen dropped to \$1 per pound, then to 50 and 25 cents" (Spencer, 1959:361). Communities across the North Slope were hard hit by this crash; around the turn-of-the-century, when whaling was at its peak, most of Barrow's men "were either

directly or indirectly associated with the whaling industry" (Spencer, 1959:360). The same must have been true for Wainwright, Icy Cape, and Point Hope.

However, this depression did not last long. Beginning at the end of World War I, the trapping and sale of fox pelts became a major economic enterprise in the Arctic. The price of furs began climbing swiftly around 1920 and remained high until about 1930. This was a period of relative prosperity on the North Slope. Household incomes could be high; Spencer reports that one successful trapper made \$8,000 in 1927 and that such incomes were not unusual (Spencer, 1959:361). In the Colville area east into Canada, trapping success was even greater than in the territories around Barrow, Wainwright, and Icy Cape (see Whittaker, 1937; Burch, 1975).

During this period, as well, subsistence pursuits along with village life in general became more heavily capitalized. For example, Spencer writes, "It was at this time that larger boats were introduced into the community, paid for by the residents themselves, and that the native stores had their beginnings" (Spencer, 1959:361). Native stores were opened to compete with trading posts already operating in the area. For a time, Wainwright had two such posts, plus the native store (Andrews, 1939). Apparently, it was common practice for trading posts to be cooperative ventures between whites and Inupiaq (Schneider and Libbey, 1979:44).

This period of prosperity melted away with the onset of the Great Depression. In the 1920s, Arctic fox went for \$50

a pelt; by 1931 they had slipped to \$5 or less (Spencer, 1959:361). A person who was beginning his hunting career during the height of the fur trapping era--say a young man of 15 working a trap line with his father in 1925--would have been around 20 when the fur market collapsed and about 70 years old in 1982. Today, when people speak of traditional society, they often are referring to the era when trapping was in its heyday and the period of social and economic retrenchment which followed its collapse. Indeed, memories often fuse aspects of both these periods. In one of the most compressed passages in Spencer's entire book, he captures the intensity and direction of the changes which occurred in the 1930s and beyond. He writes with some poignancy: (Spencer, 1959:361-362)

It was in this period, 1930-46, that one may note the carryover of the aboriginal patterns of cooperation and interpersonal dependence. More so than in a time of prosperity, the community sense of in-group consciousness appears to have developed. Those who did engage in hunting were obliged by custom to share their catch--seal, walrus, caribou, or any other game--with the less fortunate members of the community. But while this factor of sharing operated between nonkin, the economic circumstances of the period furthered the aboriginal family system as a cooperative institution. Families worked together and extended their joint efforts to the benefit of the community at large. The return to the aboriginal social patterns at a time of economic stress appears to have lent to the family system a force which it still possesses. As may be seen, however, the cooperative arrangement between nonkin in the community tends to break down with the addition of new wealth.

In the 30's and early 40's, however, a marked sense of community solidarity comes to the fore. The reduced economic circumstances of the period created a dependence on driftwood for fuel, and a return, in some instances, to the use of blubber as a heating and lighting agent. Unsuccessful hunters

or family heads less skilled at hunting would gather driftwood to exchange with the more successful for food. Little help appears to have come from outside during this period.

The Founding of Wainwright

Wainwright was founded in 1904, well after the first disruptions of white contact. The village began with the building of a school house. The plan was to erect it closer to Wainwright Inlet but, because of ice conditions, the captain of the ship off-loaded the building materials at Wainwright's present location (Milan, 1964). Also, in 1904, a reindeer herd was introduced at the inlet (Jackson, 1904).

Present-day Wainwright is situated in an area which has been conducive to settlement for centuries. Several other historic and pre-historic village sites exist on the peninsula between the Kuk Lagoon and the Chukchi Sea (Orth, 1967:1025). The kuugmiut (people of the Kuk River) was the group that traditionally lived in the vicinity of Wainwright. It and the utuqqaqmiut (people of the Utuqqaq River) are reported as the two principle Inupiat groups that originally made up this settlement (Ivie and Schneider, 1979:76; Schneider and Libbey, 1979; Brostad, 1975). These two riverine and coastal peoples are said to have been closely related geographically, historically, and socially (Ivie and Schneider, 1979:76. However, see Burch, 1980 for a contrary opinion). To the immediate east and north, along the coast, were the sideromiut. This group, also, appears to have been more closely allied with the kuugmiut than with the inhabi-

tants of the Point Barrow region (see Brower, 1942); fragments of the sideromiut may have also made up part of the original settlement at Wainwright.

Prior to white contact the kuugmiut inhabited the environs of the Kuk River and the coasts around Wainwright; the utuqqaqmiut occupied the area around Icy Cape and the Utukok River, to the east and south of Wainwright. Of the two groups, the kuugmiut had the more maritime focus: they engaged in a yearly cycle of movement up the coast and inland up the Kuk and its tributaries but they were never far from the ocean. The utuqqaqmiut cycle also focused on the seasonal migrations of sea mammals as well as the yearly caribou movements through the interior. They would move to the coast in the spring for whaling season and summer walrus hunting. In late summer they would make preparations for moving inland and, in early fall, travel up river to fall fishing and winter hunting locations. As late as 1881, at least five settlements were found in a 25-mile radius of the Kuk lagoon (Murdoch, 1892:44).

While members of the kuugmiut and utuqqaqmiut may have made up a core group of the village's original inhabitants, early reports as well as geneological data indicate that the settlement process at Wainwright had a more complex dynamic, one which emerged from the extreme social disruptions which occurred in the early commercial whaling era (see Burch, 1975). For example, Sheldon Jackson, describing the inhabitants at the Kuk Lagoon in 1890, writes: (quoted in Milan,

1978:224)

Their original homes were along the sea coast from Wainwright Inlet to Point Lay, but disease and mortality reduced their numbers. By the process of intermarriage they have become closely allied to and assimilated in language and culture with the inland people...From Point Lay south to Icy Cape north, and the riverine districts, Colville and Ikpikpun, to the eastwards, there is a nomadic tribe composed of a mixture of coast natives and inland people, styling themselves as Otookachahmutes.

Inroads into, and reformations of, the Inupiat societies in the area had begun before 1890. On his first trip to Barrow in 1884, Charles Brower did not stop at the Kuk but he did stay at Sinaagaq, located at Point Belcher just north of present day Wainwright. Brower reports: (quoted in Milan, 1978:224)

I counted twelve igloos that were occupied and quite a number of old unused ones. Kea-wak, the head man, was a fine old fellow. He told me that a few years before there had been many more people here, but that they had all died just after the large shipwreck several years before. Sometime along, as near as I could make out, during the seventies. Two other villages, one south and one north of Se-da-roo had been deserted. Almost the whole population having died at the time and the remainder going to other villages.

Successive waves of immigration continued to take place from other regions after 1904 as well. During the whaling era, settlers tended to come from the west, from Point Hope, Jabbertown, and the Noatak region. Later, particularly after the failure of the fur market, another wave of settlers came from the east, from Canada through Barrow.

POPULATION

Wainwright is a small community, but relatively large by rural Alaska standards. In May, 1982, the city government reported its population as 506 men, women, and children. Roughly 100 of these, or about 20 percent of Wainwright's population, were whites; the rest were Inupiat from the North Slope. These figures were based on a census conducted several months earlier. In April of the same year, we conducted a survey of the households in Wainwright headed by North Slope Inupiat; these included 392 people living in 97 households. For our purposes a household was defined as a person or the persons living as a family under one roof. These Inupiaq headed households provide the focus for the work that follows in later chapters. There, the details of their structure and composition will be assessed. Here we wish only to emphasize that Wainwright's population is in a state of flux. It is a mixture of Inupiat and a significant number of whites. The various reasons for the two groups living in Wainwright and the different characteristics of their involvement in the village are the basis for changing Native-white relations.

Population Growth

The best population figures available for Wainwright from the years 1890 through 1983 appear in Table II-1.

Table II-1
Population of Wainwright
1920-1983

Year	Population	Source
1890	72	US Census
1919	137	School Census/Milan, 1978
1920	99	US Census
1924	168 (incl. 3 Whites)	Andrews, 1939
1929	197	US Census
1939	341	US Census
1940	392	School Census/Milan, 1964
1941	343	School Census/Milan, 1964
1944	341 (incl. 3 Whites)	School Census
1949	295	School Census/Milan, 1964
1950	227	School Census
1954	227	School Census/Milan, 1964
1955	232	Milan, 1964
1960	253	US Census
1965	284 (incl. 4 Whites)	Bane, n.d.
1968	312 (incl. est. 4 Whites)	Milan, 1978
1970	315 (incl. 8 Whites)	US Census
1971	342 (incl. 8 Whites)	Brostad, 1975
1974	354	NSB Census
1975	341	NSB Census
1976	357	NSB Census
1977	398	NSB Census
1980	405 (incl. 33 Whites)	US Census
1982	465	NSB Census
1983	485	NSB Census

Population figures from the North Slope are notoriously inaccurate. Nonetheless, this table captures the general sweep of Wainwright's population shifts. The village grew steadily from 1920 into the mid-1940s despite several

epidemics. After World War II it lost population as people moved from the village in search of wage work. Wainwright grew again, only slowly, much below the rate of natural increase. In the mid-1970s the population hovered or declined. Then, beginning in 1976, Wainwright's population began to grow again, at first slowly and then, in 1980, very rapidly indeed. During this period whites became a significant portion of the population as well.

These fluctuations should be viewed against long term trends across the North Slope and throughout the State of Alaska. Until after 1970, North Slope trends conformed roughly to those found generally in Native rural Alaska (Alonso and Rust, 1977). As elsewhere in the state, by the 1950s smaller North Slope villages were losing people to their regional center, Barrow, as well as to urban Alaska. In spite of high rates of natural increase, Point Hope and Wainwright grew relatively slowly. The smaller settlements of Atqasuk, Nuiqsut, and Point Lay diminished to nothing by the 1970s. On the other hand, Barrow--after it emerged as the regional center in the 1940s--grew rapidly with infusions of people from other villages. Wainwright lost several large families to Barrow at this time (Milan, 1978). In 1939, Barrow's population comprised 57 percent of the North Slope total; by 1970 this figure climbed to 69 percent.

Between 1929 and 1960 the population of the North Slope grew 2.3 percent annually. Reflecting its role as a regional center, during these same years Barrow grew at a 4.6 percent rate. Fueled by improving economic prospects and health

care, the growth rate rose in the 1960's. In this decade the North Slope added 945 people--3.8 percent per annum. Increasingly, economic prospects centered in Barrow--it grew 4.8 percent per year.

Wainwright's 1980s population explosion may be unique in that village's history but the same phenomenon was occurring across the North Slope. This boom indirectly indicates the economic and social magnitude of the North Slope Borough's Capital Improvements Program (CIP). During these years, CIP economic infusions created jobs, housing, and infrastructure in all the North Slope villages. This led to higher levels of population retention, to the return of people who had previously sought employment elsewhere, and to immigration of individuals, particularly non-Natives, who had not resided in the area.

The newer villages of Atkasuk, Nuiqsut, and Point Lay grew much faster than Anaktuvuk Pass, Kaktovik, Point Hope, and Wainwright with an annual average growth of 7.1 percent and 2.6 percent respectively. This reflects higher per capita housing construction in the newer settlements. Outside Barrow, housing construction was the driving force in these CIP-fueled economies (Galgainitis et al., 1984). Barrow's growth boom in the 1980s--14 percent annually--indicates its role as the political and bureaucratic center for all these activities.

Figures for the preceding decade also show the importance of the CIP program. By the early 1970s the area's

growth rate was slowing. The Alaska Native Claims Settlement Act (ANCSA) settlement in 1971 and the incorporation of the North Slope Borough in 1972 opened the way to expand revenues, as well as to resettlement of Atkasuk, Nuiqsut, and Point Lay. This resettlement, financed primarily by the North Slope Borough, actually masked other early effects of the CIP program, particularly continuing centralization in Barrow. By creating construction jobs in the new settlements, other villages--particularly Barrow but also Wainwright--lost inhabitants during the initial stages of elevated population growth. For the first time since 1939, Barrow actually lost ground in its share of the total North Slope population.

The effects of the CIP program on the composition of North Slope villages can be seen from their non-Native populations. Between 1970 and 1980 this population grew by 150 percent. Non-Natives included teachers and technocrats, with or without young families, as well as skilled laborers needed on local CIP projects. Particularly, the number of laborers fluctuated rapidly along with construction demands. Nevertheless, in 1980 approximately 30 percent of all village inhabitants were non-Natives. The CIP job-related characteristic of this influx is evident in its distribution among age groups. Only peak working years are well represented--children are relatively few, the aged almost non-existent. The 30 to 34 age set represents over 40 percent of all non-Native village inhabitants.

Inupiaq Population

Neither our figures on the Inupiaq households nor the city's are perfectly accurate. This limitation of the data exists not for want of care in census taking either on the city government's part nor ours. Rather, flux, represented by in- and out-migration, characterizes the Native population of Wainwright. Families move into town for work or to retire. Individuals move to Wainwright to live with friends, to escape failing relationships, even to attend high school. Families, parts of families, and individuals leave the town for similar reasons. This relatively large circulation of people around the villages of the North Slope and these comings from and goings to the "outside" by local Inupiat are more than facts of ethnological interest. These movements help to define the quality of life in Wainwright. The town keeps filling with new faces and old friends. We do not mean to imply that the population of Wainwright is in total flux. A solid core of households and individuals reside in Wainwright, who say their good-byes and who greet friends and returnees with warm phrases like "welcome home."

In 1982, the mean size of Wainwright households was 4.01, the median size was 4 and the mode was 1 and 3. The small size of households is particularly striking when one considers the literature on Wainwright from an earlier day (see Bane, n.d.; Milan, 1964) or Eskimo kinship in general (see Burch, 1975; Chance, 1966; Oswalt, 1967; Spencer, 1959). Moreover, household composition has changed significantly in the past ten or twenty years in Wainwright. Presently, as

suggested by the bimodal distribution, many households are headed by relatively young people in their 20's and early 30's. Many of these are living as unmarried couples with or without children.

This demographic change reflects a separation of many adults from the households of their parents and grandparents. This separation will be a refrain which occurs in several places below; it does so because many of Wainwright's inhabitants consider it an issue. Here this separation of younger from the older households becomes a part of the physical description of the town. Many houses have been constructed in Wainwright over the past few years. In general, older established individuals have moved into the new housing while some of their younger offspring have remained behind to take over the old residence. There are many old buildings in Wainwright, the earliest dating from about 1904. A few of the old ones now stand empty; more are used only for storage. Yet many of the oldest buildings in town are still inhabited, often by the community's youngest families. There are no abandoned sections of the village. In 1982, two families maintain two homes, a "summer house" and a "winter house," resulting from the availability of housing.

The White Population of Wainwright

While the Inupiaq population of Wainwright might be characterized as in a continuing state of flux, the white population of the town should be characterized as unstable.

Very few of the 100 or so found in Wainwright in January, 1982, for example, would be found there six months later in July. This is significantly different from the whites who lived here in earlier years--traders and teachers who lived out their lives or major portions of their lives in the village. They became part of the village and adopted to its way of life. Naturally, there are exceptions to this characterization of present-day whites. In 1982, one of the teaching families had resided in Wainwright for six years and planned to remain longer; a man who worked for the village corporation had resided in Wainwright for almost as long. Nevertheless, the average white living there was more like a visitor or well-paid migrant laborer than a resident.

In 1982, the bulk of this population was composed of workers employed by two construction firms, Blackstock and Bryce Construction. Blackstock was associated with the village's Olgoonik Corporation. Together they had been awarded several contracts and sub-contracts in town. Blackstock also ran a labor camp in Wainwright which is located on North Slope Borough property next to the high school on the southeast edge of town. During its busy periods, this camp contributed most of the white population in Wainwright. Bryce operated out of two privately rented houses. Until it burned down in 1983, one was located in the old center of town and used to serve as the Presbyterian manse; the other is one of the older houses on the northern edge of town.

Even into the 1970s, teachers constituted most of the white population of Wainwright. In the 1980s, construction workers did. Still their presence was very volatile. In February, 1982, when work was at a low ebb, there were 3 or 4 men staying at Blackstock and none at the Bryce camp. In May and June, when work had increased, there were upwards of 40 people at both camps. Moreover, the residential turnover rate was high at both camps; the average stay of a construction worker could be counted in weeks. A few of these men mixed well with the local population and their friendliness was noted and appreciated. One worker, who went door to door proselytizing for a Christian sect in his spare time, was generally liked even though he made no converts. People remarked on his "friendliness". In the past--although not while we were there--a few of these men also became known as undesirables; mostly because of bootlegging activities. The managers of the camps stopped this quickly. Most construction workers in Wainwright stick to themselves, coming and going almost without notice.

There were eight white teaching couples in Wainwright in 1982. Several of these had children school aged or younger. A woman married to a local man, a live-in babysitter, a single male teacher and a maintenance contractor made up the rest of the white population that works for the North Slope Borough School District in town. The unmarried men resided in the "dorm," a small house near the high school. One of the families lived in an apartment in the grade school building; the rest live in new North Slope Borough housing

spread about the village.

Naturally, these people are in a position to mix more with the local population than do the more transient workers at the camps. The children, particularly, mix with their age mates and serve to connect teaching families with the rest of the village. Townspeople, for the most part, seem to enjoy visiting from the teachers; local people certainly see the teachers from the outside as under a moral obligation to do this visiting. Two teacher families met with special approval for their calls. For the most part, however, Wainwright educators tend to remain to themselves, socialize with each other, and occasionally visit the white people at the military base, a Distant Early Warning site (DEW line) outside of town.

There seem to be four basic reasons for this. One is that the turnover rate for teachers in Wainwright is high. Most of the teaching families were new to Wainwright and totally unfamiliar with education on the North Slope as well. At least four positions were to change hands in 1983-1984, the following school year. Since the early 1970s, the educational staff has been in a state of flux, creating a situation where staff members move away just at the time when they are settled, have classwork under control, and have knowledge of the student body and some of the parents. Secondly, even those that stay for several years leave for the summer months and are thus uninvolved with significant local events. Third, teachers perceive a certain amount of

resistance or hostility from many members of the community. Some of this is real, some imagined. This perception encourages the teachers to band together. Finally, the work itself serves as a common denominator for the teachers-- common problems and shared experiences tend to give them similar interests. For this reason they get together. Their group seems to be large enough to absorb its member's desires to socialize.

Much more than in the case of the construction workers, who everybody views as transients, the behavior of the teachers is scrutinized and commented upon by the local population. Teachers are expected to be exemplary. While all townspeople are in agreement that, before the creation of the North Slope School District, teachers used to mix more with the village, some of the staff still remain very involved in village life and have an impact on it.

Finally, there were a few other whites living in Wainwright serving in various capacities. One of the two ministers in town was from Georgia. He and his family had worked in Wainwright for two years, in Alaska for the past ten. This family consisted of the husband, wife, and two teen-aged children. This family has since left Wainwright. Several men, one with a very large family, were living in town and working for the Olgoonik Corporation. The corporation employs people on a short term basis, ranging from several days to more than four years. The man with the most longevity in 1982 as an Olgoonik employee planned to move his family to Fairbanks in the near future and continue to work

in Wainwright on a consulting basis. One of two public safety employees was a white male from the lower-forty-eight. He and his wife and child lived in the village. The city's acting secretary during the 1982 study period was an ex-public safety officer who had lived in the village for several years. For a few months the acting postmaster was a white from Fairbanks. He planned to work for the village corporation in the following year and to live in Wainwright with his wife and child.

The North Slope Borough brings many whites to town on a temporary basis--periods of a few hours to as much as half a year. These include health workers, doctors, lawyers, public safety experts, energy auditors, whale biologists, and the like. Finally, people come to town to conduct studies of various kinds for the federal government, the state, the borough, and for themselves.

Changes in Native-White Relations

It is difficult to come to grips with how the white population of Wainwright relates to the community as a whole. Most come and go without really being noticed even when they stay for several months. A mechanic who worked in Wainwright for four months was later joined by his wife. Very few people outside of his immediate neighbors or co-workers associated these two people as connected. His job made him visible but few people recognized his wife when they saw her in the store or even knew what she was doing in town. On the other hand, some whites have an obvious impact on the social

life of the community. The white preacher and his family were highly visible. Throughout the period of this study, people went to his home regularly for advice, help, and companionship. Several families obviously valued his presence and were saddened by his departure. During our time there in 1982, a white contractor in Wainwright advised the village corporation in their bidding for Capital Improvements Program contracts and organized the execution of the contracts won. His advice and opinions carried great weight in the realm of the local economy.

In the 1980s, some of the whites in town were influential personages. Yet when Wainwrighters talked of whites that have lived in and been important to their community they almost invariably referred to earlier eras and to people who stayed long enough to make an indelible impression; they spoke of teachers out of the 1950s, 1940s, 1930s, and 1920s. People are named after traders like Arthur James Allen who went to Wainwright in 1918, not after modern advisors to the Olgoonik Corporation. Partly this is due to the greater numbers of whites that are now in the area. They are viewed more as a mass, less as individuals. There are enough whites so they interact as a social network or subgroup and less with the rest of the village. Partly this change is due to the very changes in the money economy which brought more whites onto the North Slope. Unlike the traders and teachers of old, this new group of outsiders has money and is incredibly mobile—in and out of town all the time. People leave for Christmas and for short vacations. Most teachers leave

immediately after school ends and return only days before it begins again. Thus, institutions like the festivals surrounding religious holidays and whaling no longer serve as common points of interest for white and native.

This cash-funded mobility separates many of the whites from the local people in deeper ways. Most of the whites working in Wainwright today are operating with what one might call, for lack of a better term, an "outside agenda." People work in Wainwright, but they are saving for a house in Seattle, or a farm in Nebraska, or a business in Texas, or their retirement in Anchorage. Moreover, the level of income that these people receive is such that their plans are not far off; they are for two years hence, or one, or "after school ends." For this reason too many of the whites who have spent several years on the North Slope still seem to be living out of a suitcase.

None of this is lost on the townspeople and they tend to resent it. A mechanic for the Olgoonik Corporation was paid at a rate of almost \$100,000 per year, well over twice that made by the Corporation's president. In 1982, teachers on the North Slope were the best paid in the country and received free housing and utilities besides. Living in Wainwright, one frequently hears of such examples. In the context of such comments, local people tend to overlook the expertise for which they are paying. Rather, they tend to focus on the issues of jobs lost to outsiders who are uncommitted to life on the North Slope and on how this situ-

ation leads to a money drain on the local economy. These feelings, too, tend to create a distance between the growing professional and transitory white population of town and the rest of the Wainwrighters.

These comments are not intended to cause discredit on the motives of whites in Wainwright and on the North Slope. Rather they are intended to explicate the present situation. At the same time that the cultural impact of the greater United States has increased, the personal influence of its representatives on the North Slope appears to have decreased. Just as the oil developments and the establishment of the North Slope Borough have affected Inupiaq society and culture, they have made profound changes in the relationships resident whites have to the people around them.

For one thing, new relations on the job and greatly increased levels of disposable income seem to have "democratized" the sources of United States culture as well as to have increased its impact. In the past, teachers, traders, and government representatives served as important "culture brokers." They were the conduit through which passed information about the workings of outside society. This role gave some of them great influence; it made their personal attitudes and moral values important. Today this role has been reduced. Wainwrighters learn about the outside not from a handful of socially important white residents, but from contacts on the job, from increased travel, from their experiences in borough bureaucracy, and from watching television. Many have vacationed in Hawaii or California and

frequently visit Fairbanks, Anchorage, and Seattle.

Moreover, the founding of the North Slope Borough gave the local Inupiat a political hegemony which they lacked before. This, too, changed the relationships of resident whites to the local community by absorbing many of their political roles and making their personal opinions superfluous. In the past Wainwright school teachers often assumed the task of "explaining the Eskimo" to the outside world (see for example Van Valin, 1944; Richards, 1941), and traders and government officials often looked out for local interests. Now, rightly, the North Slope Borough has taken over such functions. The establishment of this Borough has had another parallel effect. By relying on white advisors to a high degree (see McBeath, 1981) new government policies encouraged the growth of the white population on the slope, at the same time that it narrowed their roles. These people became "outside experts" rather than "residents."

Finally, we should stress that the money allowing all of this to happen is oil money. In the past, outsiders made money first with whaling and then with fur trading. This meant they had an interest in coming to terms with Inupiat subsistence patterns and local life in general (see Brower, 1942; Allen, 1978). Even teachers were absorbed by issues about the hunt and herding (see Richards, 1941). In the 1980s, this earlier connection was broken. The common interest that outsiders shared with the Inupiat did not involve the subsistence economy nor is it related to local

culture and traditions. The common interest was economic development, jobs, and money. Thus, whites and natives met on the ground filled with the most contradictions and social tensions for Inupiat society. This, like the other factors, tended to isolate the whites.

CHAPTER III

SOCIAL INSTITUTIONS

GOVERNANCE

Many governmental organizations are represented in Wainwright. Wainwright has a city government with its associated committees. Institutional structures of the North Slope Borough government operate in the community. A village corporation is much in evidence along with its store and construction arm; so is a cooperative village store. Wainwright is represented on a regional Indian Reorganization Act government; this government also operates in town. Moreover, the City Council, occasionally, functions as an IRA government. Furthermore, the BIA upon occasion acts as a trustee in lieu of any IRA authority. Several Alaska State governmental bodies are also represented.

The charters, powers, and goals of these various governing bodies overlap; their status in law is unclear; their complex relationships to each other almost defy analysis. Looked at as a group, these institutions reflect the general changes, that have occurred, in United States policies toward Native Americans. Each new program, each reform, has left its mark. These organizations also reflect the stirrings of Wainwrighters and all North Slope Inupiaq for stability and control over their own lives, their drive for institutional reform. The various governmental bodies

and fragments thereof form historical strata; they make up a kind of social archeology of the past. Some of these strata will be discussed below.

Traditional Native Village Organization

No traditional village government has functioned in Wainwright for many years. Indeed, knowledge of its organization comes from youthful remembrances of the oldest inhabitants in the village. Milan collected the following information in the mid-1950's. One man reported, "Forty years ago in this village there was an informal sort of council. That was when I first came to this village with my parents. In this council was the heads of four families in the village. These families were the most influential and the richest. They would talk about other people and could tell them what to do. They did not care about sexual intercourse like the council is concerned with today." Another person remembered, "When I was young, about 40 years ago, this village had sort of a council made up of old men, all the leading men in the village. The power of this council was partly the fear they could cause in others. They could exile a man from the village. Today, we have many young people on the council and the reason is that they can understand English better than the old people. Sometimes that council worries too much about sex problems" (Milan, 1964:55).

A Wainwright elder reported that, in the old days if someone stole, the village council would first warn them, and

if they persisted, the council would put them to work under an overseer. He recalled that when he first came to Wainwright in the 1920's a man living there stole habitually and would not change. The village council finally ordered him to leave forever. "He could go anywhere else, just not come here." This elder discussed another such incident. Around 1915 or 1920, the people in Barrow marooned a habitual thief on a small island. The man stayed there alone all summer. In the fall when the ice was sufficiently thick, he walked back to Barrow. He had built himself a shelter and survived on bird's eggs. According to the story teller: "He never steal no more. He was a good man after that."

Apparently, after the village council, comprising the heads of the most powerful families, no longer functioned, group decisions continued to be influenced by informal, yet recognized, traditional leaders. Milan reports: (Milan, 1964:56)

The foremost man and the leader in village affairs was called atanik, or "boss", as it is translated today... The last atanik in Wainwright was named Kuutuk, and he died about 1940. He was a physically powerful individual, was an expert in the skills and crafts that were deemed of value..., and was capable, through his determination, of influencing decisions. It was he who decided when whaling would start in the Spring, or when the people would go inland to hunt caribou.

Here Milan refers to Mark Kootook, who put his mark on his last will and testament on November 13, 1941. Today, local accounts agree with Milan's assessment; Kootook was the last leader in Wainwright to monopolize so much personal power. One of his grandchildren--a son of one of Kootook's

step-sons--reports; "When Kootook put his flag out there on the ice, everybody got ready to break trail for whaling. Somebody might be going to get ice but they would see it and come back to go whaling. When he put his flag up there [on the hill inland northeast of the village about 50 yards], the men would get ready to open the entrance to the coal mine for the year."

Kootook's grandson is also a leader in the community, a mixture of older and newer roles. He is an important hunter, an influential whaling captain, and holds a strategic position locally in the North Slope Borough government. He feels that the importance of his grandfather's leadership has been underestimated.

We have been vague about dating Wainwright's traditional Native village organization. Dating it and considering its structure are part and parcel of the same problem. The disruptions of Western contact shattered the aboriginal social organization of the North Slope (see Burch, 1975). By 1890 in the area around Wainwright, new social groupings had formed from the fragments of earlier ones. In 1904 a school and reindeer station were established and a new community began to solidify around them. Later still, a village cooperative store began operation; then, in the late 1930s, whatever governing body functioned in Wainwright was reorganized into an Indian Reorganization Act village council.

Clearly, given this time frame, aboriginal forms of government differ from those which today are termed tradi-

tional ones. When Wainwright elders speak of traditional village organization they are discussing governing structures which emerged after the disruptions of contact and which, in part, grew as a product of Native struggles to overcome those disruptions. In this regard, one aspect of these recollections is particularly intriguing; often elders mention banishment as a traditional form of punishment yet banishment, by all accounts, was not a part of aboriginal justice.

Aboriginally, if a man wronged someone he might be assassinated by a member of the kinship group of the aggrieved party. This raised a specter of the possibility of a blood feud between the two kin groups. Also, if a man's actions made him seem dangerous to an entire community he might be assassinated. In such cases, a close relative did the killing to avoid the possibility of a blood feud (Burch, 1975; Hoebel, 1940-41). If a man feared assassination he might flee the community, yet the object of a plot was not to encourage him to flee. Normally, if an infraction did not warrant death, it went unpunished altogether (Whittaker, 1937).

The concept of banishment may, indeed, draw on the aboriginal idea of protecting the community from individuals whom, even relatives agree, are dangerous. Nevertheless, banishment as a legal institution obviously grew out of the post-contact situation. It may relate to early U.S. government enforcement policies in the arctic. Apparently, male-

factors were sometimes punished by holding them onboard U.S. revenue cutters as the ships plied the coasts during the summer. According to Wainwright elders, the village councils often designated who was to be removed from the community in this manner.

Some traditional form of Native village organization must have existed in the settlements around the Kuk River even before the founding of the Wainwright school in 1904. Probably it would be a mistake to think of traditional governments as a single form. The kinds of structures in place were, no doubt, heavily influenced by the founding of the school. Probably the traditional forms which existed in the 1910s and 1920s slowly blended into the more formal governmental structures that were institutionalized.

While no traditional Native village organization has functioned in Wainwright at least since the mid-1930s, we found one governmental procedure which may recall this earlier era. In political discussions people refer to "the people" or "our people" with great regularity. This concept seems much more pervasive and meaningful in Wainwright than among the United States population at large. More specifically, with certain issues there is a tendency to defer to, or at least refer to, the feelings of "the elders" or "the old people". Old people are viewed as repositories of important traditions, of knowledge about such economic issues as hunting techniques and use areas, and of insights into social issues such as child rearing. With regularity men say that they learned how to hunt a particular species

from their father or grandfather. "I just do it the way my dad told me," goes the refrain. With equal regularity women say their mother or grandmother taught them to make such and such.

The opinions and needs of the old people come up in political discussions and meetings in Wainwright more than they do for the society at large. Members of the local political leadership often remind interested outsiders of the expertise of particular "old people." In part, this harkens back to an earlier era when elders made decisions for the village. It also serves an important modern day function. In the political struggles with the outside, local claims to rights are based, in part, on traditional usages that the knowledge of the elders now serves as a charter, emphasizing village rights. This tendency to refer to "the old people" and to use their expertise in dealings with the outside occurs not only on the local level but also in the governance of the North Slope Borough. Events like the Elders Conference and organizations like the Historical Society attest to this.

IRA Government and BIA Authority

The Wainwright village council used to operate under Section 16 of the Indian Reorganization Act of June 18, 1934 and made applicable to Alaska in 1936. Milan writes of this government: (Milan, 19649:53-54)

By this act Native communities could be incorporated under a charter from the Department of the Interior and function as a corporate unit in

the transaction of business of cooperative stores, and in the preparation and enforcement of local law codes. A village constitution and by-laws were submitted to the Secretary of the Interior and were later ratified by a majority vote in the village. (Union Calendar No. 790). These constitutions and by-laws seem similar for each village and they were written with the assistance of the village school teachers. The village council in Wainwright is presided over by an elective council president and vice-president.

In the 1940s, 1950s, and into the 1960s Wainwright's village government operated as an IRA. However, Wainwright is presently incorporated as a second class city within the political boundaries of the State of Alaska and the North Slope Borough. When the Wainwright village government operated as an IRA, the Bureau of Indian Affairs ran the grade school. The BIA continued to operate this school until the 1970s. Under the BIA, students were sent out of the village, usually to Mt. Edgecumbe, for their high school education. This also is no longer the case; educational functions in Wainwright have been assumed by the North Slope Borough School District and the town has a modern high school.

Village IRAs are chartered by the United States Congress. They are federally recognized "Indian" governments; their constitutions and by-laws must be approved by the Bureau of Indian Affairs. With the creation of a Wainwright as a second class city with a city council form of government under Alaska State law, and with the subsequent establishment of the nation's only regional IRA, the Inupiat Community of the Arctic Slope (ICAS), most of the functions of Wainwright's village IRA were assumed by other govern-

mental institutions. However, some legal basis for Wainwright's village IRA must still exist. One interpretation is that since such governments can only be chartered by U.S. Congress, they also can only be abolished by act of Congress. No such act has been passed affecting IRA governments on the North Slope.

Moreover, within a limited sphere, the present Wainwright City Council seems to operate as a local IRA government for it assumes some IRA functions and benefits. First, it appears to accept moneys from the federal government which are earmarked for village IRA governments. Furthermore, occasionally the City Council acts to enforce IRA village rights to limit access to the community. These latter actions appear to be given at least implicit sanction from law enforcement arms of the State of Alaska.

The "Blue Ticket"

The institution of the "blue ticket" may be viewed as such an act. Occasionally, chronic troublemakers are banished from Wainwright by its city council. An individual can be given a plane ticket and formally notified by the city council to leave the village, never to return without the council's written permission. One such case occurred in 1980. A public safety officer--that is, a representative of the state legal system--was present at, and took active part in, council proceedings to banish a malefactor from the village.

Although "blue tickets" are not common, their use and

the threat of their use is an element of village governance. A man, earlier blue-ticketed from Wainwright, was one of the victims of a triple murder at Point Lay in 1981. A white woman who, by everybody's account, "stirred up a lot of trouble in town" left the village in 1981 under the threat of a blue ticket. The blue ticket is part of the government's repertoire in all the Native towns on the North Slope. A man blue-ticketed from Barrow years ago is now a leading citizen in Wainwright. This institution is used at the discretion of the city council, not public safety. While banishment occurred under the rule of traditional village governments, this right was institutionalized under the Indian Reorganization Act, which gives Wainwright this legal sanction today. However, community members justify banishment as a traditional practice, as a right modern day city councils inherit from traditional village councils.

When blue ticketed, an individual is given a letter to that effect. Parts of such a letter are reproduced below. Two points are made. First, the City Council is engaged in the traditional political process of banishment and is acting as an IRA village council. Nevertheless, while it acts as a sovereign, it invokes Alaska State legal institutions, the Magistrate's office, the District Attorney's office, and the NSB Public Safety Office. Relevant passages, quoted exactly, read:

The Village of Wainwright, The Village Council on their regular meeting...has unanimously decided to bar you from coming into the Village of Wainwright indefinitely.

By barring you they mean they have the power to confiscate any packages, belongings that you bring in to the village of Wainwright and sending you back on the same plane that you came in...

In this matter, we have asked the Public Safety's Cooperation and help either from Barrow or Wainwright...

Please be aware that you have been warned and this is the first and last warning. These copies of our intentions will be filed with our local PSO's, Barrow PSO, Magistrate's office and District Attorney's office in Fairbanks...

The second point is more important to an appreciation of daily life on the North Slope: the council acts to protect the community. In many ways Wainwright is like any small town, only one with an unusually tolerant attitude towards its members. As in any small town, gossip tends to keep people in check. In Wainwright, a form of "moral lecturing" exists. Elders think nothing of publicly chastising an individual for being too lazy, for failing to honor family obligations, or for drinking. This too must help keep people in check. However, talk is only talk. In general, Wainwrighters are unusually forgiving of their neighbors. Even if the PSO is called in the night, normally by the next day a "live and let live" attitude has reasserted itself.

However, Wainwrighters are also very protective of their community. Occasionally, an individual's habitual actions will appear so destructive to all around that he becomes seen as a threat to the community. At such times, leaders will move against that person in the name of the community. Today, this action takes the form of banishment. In the letter which accompanies a blue ticket, the village council's

concern for the health of the community as a whole is clearly evident. Relevant passages, quoted exactly, follow:

Anytime or everytime you arrive here at the Village of Wainwright, you have been seen selling liquor or narcartics to people and causing uphavel. In some cases, you have been seen selling same to minors here at the Village of Wainwright.

We cannot, anylonger, be taken for granted by people for the likes of you, we are concerned and in alot of cases hurt by the alcohol abuse and most of all drug abuse and people like you that profits from dealings with them.

If you feel you have been denied of rights, you should consult your own conscience and because of likes of you that hurt some of our local families you should turn youself in...

ICAS and the BIA

The Inupiat Community of the Arctic Slope (ICAS) emerged in the early 1970's as the regional IRA government on the North Slope. Like the North Slope Borough, the ICAS is centered in Barrow. Member communities such as Wainwright have an elected representative and an alternate delegate on its council. In 1982, the ICAS council member for Wainwright was also on the city council although this was elective happenstance, not a part of organizational design. Previously, she had been the alternate. She resigned from the ICAS council so, for a time, Wainwright was not represented.

ICAS presence on the North Slope, at least in Wainwright, is quite limited but legally it might operate like any tribal government in the lower 48 states. Thus, its possible powers may be substantial even though they are, for the most part, untested. The North Slope could be designated

as Indian country under the law. In theory, ICAS might be able to take over the regulation of alcohol, the functions of public safety, or even institute tribal courts although PL253 preempts many IRA functions. In any event, the ICAS does not do any of these because it lacks the economic base needed to finance such activities. Such functions are carried out by the North Slope Borough which has the legal ability to tax oil production and properties and the right to share in other state revenues provided to boroughs. The ICAS also does not do these things because its legal authority in such matters is tenuous, especially when compared to that of the Borough.

While the ICAS is the IRA government in Wainwright, it owns no building there. Its presence is limited to the following:

1. One elected representative to the ICAS council in Barrow. This member has no physical office in Wainwright and is expected to commute to Barrow for the meetings.

2. Contracted functions of the federal government. This is the most important source of funds for the ICAS. As part of the program to "democratize" the BIA, the federal government contracts certain trust obligations to IRA's. Two contracts are important here. The first are Indian Child Welfare Act contracts which cover social services for children but have been broadened to include such things as general assistance and advocacy services (paralegals are funded under this). On the North Slope, this contract is held by ICAS. The second are what the government terms "Number 93-638" contracts which include: (1) HIP housing; (2)

certain social services; (3) tribal operations, and (4) educational and vocational assistance.

Of these, we were able to determine that ICAS has contracted for HIP housing, some social services, vocational education, and tribal operations. At least in the past, they also contracted for the job training programs. To meet these obligations in Wainwright the ICAS has hired a local resident to serve as their agent. This person helps to fill out forms, files various applications, does associated paperwork, and serves as a go-between for the ICAS program operation in Barrow and their clients in Wainwright. In 1982, the agent worked out of filing cabinets in her home. When particular problems arise specialists based in Barrow are sent out. In April of 1982, for example, a child welfare case worker employed by ICAS was in town for three days. He was there to deal with several adoption proceedings. He stayed with friends, talked to the local agent, and visited the families in question. He was to go from Wainwright to Point Lay and then to Point Hope. He had been sent out because there were eight new adoption cases in these three villages.

The ICAS administers HIP housing projects which includes 7 units in Wainwright. To be eligible for HIP funds, a house owner must have clear title to the land. The small scale of this project exemplifies the effect the lack of an economic base has on ICAS' ability to assume the possible functions of a tribal government. The organization is simply unable to compete with the resources of the NSB which has assumed

housing functions as a branch of the state government rather than tribal one. In its housing program the NSB matched HUD's \$200,000 with \$100,000 of their own, gained from tax revenues.

In 1982, the ICAS also did not hold the realty contract. This situation demonstrates the inherent limits of IRA legal powers as well as the relationship the ICAS has to the BIA. The BIA refused to accept the bid made by ICAS; thus, government functions concerning the administration of trust lands were retained by the BIA. Trust lands include lots held by Natives in Wainwright under the Restricted Townsite Act of 1926 and those held along the coast and upriver under the Native Allotment Act of 1906 (D-2 section 905). In April of 1982, a BIA representative was in Wainwright for two days to clear up a problem in the ownership of a restricted townsite lot. This problem had been caused by a clerical error in Fairbanks. The representative visited the parties involved as well as the mayor to find out if there were other outstanding problems involving restricted lots. He stayed at the school's itinerant house.

According to one BIA official who worked in Wainwright, with federal cutbacks and a currently planned phase-out of specific, long-term obligations to Native peoples in 1989, some of the ICAS presence in Wainwright under federal contracts is likely to decrease.

As a tribal government ICAS has created the Alaskan Eskimo Whaling Commission (AEWC). Wainwright whalers are represented in this organization. The AEWC was formed on the

claim of the ICAS, acting as an IRA tribal government, to the right to regulate such Native subsistence activity. As such, it is the only whaling commission recognized both by Native whalers and the federal government and it has made quota agreements with the International Whaling Commission in the name of the Eskimo people. In 1982, the low quotas and the failure of the Barrow whalers to land any of the five struck whales of their quota revealed tensions within the AEWC. Nevertheless, AEWC's legal support for whaling serves to increase the influence and support the ICAS finds among its constituency.

Wainwright City Government

Milan reports that, in 1955, Wainwright was operating under a formal, federally recognized Indian Reorganization Act government with an elected president and vice-president (Milan, 1964:53-54). In 1962, Wainwright was incorporated as a fourth class city under Alaska State law. The village became a second class city in 1972 when state law was amended to upgrade all fourth class cities into second class ones. The village limits are still defined as they were on April 29, 1963. They read: (City of Wainwright, n.d.:13)

The boundaries of the City of Wainwright, Alaska, shall be, and are as follows: Northward along the coast to Akulakitchuk, thence Southeasterly to the rise of Kanigak River; and thence South to Kavviksium and thence across the Wainwright Inlet West to Point Collie; thence from Point Collie Northward along the coast to Wainwright and three miles radius off the shore, using the school house for a central point.

The precise language of this legal document captures the

rapid, if not confusing, changes which have been taking place in the last ten years. The school house which was used as the central point for the town burned down. In 1982, two schools were operating, a grade school near Wainwright's old center and a large, modern high school on its new southeastern limits. Plans existed to attach a grade school and swimming pool to the new high school. By 1984 this project was complete and the older grade school was to be converted into teacher housing. The city codes would need careful amending simply to define Wainwright's boundaries. Yet, events in the 1970's and 1980's have moved so quickly that such definition may never be necessary. In practice, land dispersals under the Alaska Native Settlement Act and the NPR-A boundaries have effectively set the village limits; agreements with the North Slope Borough have defined village powers. In 1984 a vote was pending to eliminate all city governments within the North Slope Borough although the measure failed.

Presently, the City of Wainwright is governed by an elected city council, a mayor, and vice-mayor. The council is made up of seven members including the mayor and vice-mayor. There are also provisions for a city clerk and city attorney. In 1982, a white ex-Public Safety officer was serving as acting city clerk. He later returned to California and was replaced by a young local woman. The city was also negotiating with an Anchorage legal firm to serve as the city's lawyer. Generally, public city council meetings

take place on the first Tuesday of every month although sometimes they are cancelled. The council goes into executive session when privacy is called for. Few people attend regular meetings. Special meetings on particular issues are also called upon occasion. Once a year, a general meeting is called to discuss village problems. About 150 people attended the 1982 general meeting.

In 1982, the city government was operating out of two rooms in the city building, a building which it maintained. On June 13, 1982, a fire caused by a faulty furnace heavily damaged this building. The city offices moved across the street to a house owned by the Alaska State Housing Authority (ASHA) where they have remained since.

Other than the positions mentioned, the city also hires occasional workers to clean the city building after meetings, to remove trash from it, pump oil, and the like. Along with normal governmental functions the city, in 1982, was showing movies at a slight profit. This function ended with the introduction of cable TV in 1983. On rare occasions, the city buys fuel for a family in an emergency.

The City of Wainwright has, by law, the same authority as any second class city that operates within the boundaries of the State of Alaska: the right to regulate public safety and morals; the right to regulate vehicular traffic; issue business licences and permits; and to own and manage public property. The city's ordinance states (Section 6):

"Violations of state law shall be a violation of this Code, except where the State has exclusive jurisdiction over the

offence."

The city's actual exercise of its lawful authority is severely constricted, however. The fire station has been built as part of the North Slope Borough Capital Improvement Program and it is still a Borough responsibility. Most health functions are controlled by the North Slope Borough, others by the Inupiat Community of the Arctic Slope. Like ICAS, the Borough also contracts from IHS under 93-638. The City of Wainwright has local ordinances which cover dog control, a curfew, offenses against public decency (prostitution, lewdness, obscenity, gambling, public intoxication, disturbance of the peace, riot, and the like), firearms, alcoholic beverages, motor vehicles, and business licenses and permits. These ordinances are local but they are enforced by North Slope Borough Department of Public Safety which hires and pays the public safety officers in Wainwright and other North Slope villages. Public safety functions too, were ceded by the town to the Borough because of budgetary constraints.

SOCIAL INSTITUTIONS

Religion

Wainwright was founded in 1904 as a school house and reindeer station. This particular combination was part of Sheldon Jackson's dream of building a better life in the North by bringing Eskimos education, a stable economic base,

and Christianity. Under his plan, school teachers often assumed many roles; they worked as educators, doctors, magistrates, book keepers for the village cooperative, and comptrollers of the reindeer herd. They were also ministers and religious leaders. Wainwright's teachers served as the community's primary instructor in the Christian religion from 1904 until the 1920s. The teachers were not the only instructors, however. For example, whaling captains and traders such as Charles Brower in Barrow and Arthur James Allen in Wainwright were religious men as were many government functionaries (see Brower, 1942; Allen, 1978). Many of the Inupiaq who moved to Wainwright from other areas had probably been proselytized as well.

In 1921, Rev. Henry William Geist was transferred from the village of Wales to Barrow in order to run the Presbyterian Church and hospital. In January, 1922, Geist and his family traveled to Wainwright to "initiate evangelism." The village's school teacher opposed Geist's sectarianism so the evangelistic meetings were held each night for a week in Allen's trading post. From that year on, Geist undertook three winter trips a year to Wainwright and beyond to Icy Cape. His itineraries also took him east of Barrow (Geist, n.d.:XI-9-XI-11).

The school teacher who opposed Geist was recalled the following year and relations between school and church improved. Until a small church and missionary residence was established in 1938, church services were held in the schoolhouse every Sunday (Geist, n.d.:XI-12; Milan, 1964;23).

Often the teacher presided. Eva Richards, Wainwright's school teacher in 1924, writes of this era: (Richards, 1941;191)

The wise teacher will keep in mind the needs of the people. Hunting for their food must take precedence over every schoolhouse activity or programme. A few years ago a zealous missionary insisted on the natives keeping the Sabbath in his orthodox way and forbade them to hunt on Sunday. They came in obediently but sadly from the whaling camps, leaving one man to watch the camp gear. The second Sunday three whales were sighted, swimming leisurely up the open lead, and not a hunter there to harpoon them. There was great suffering in the village the following winter, for a late season coupled with adverse winds closed the leads and no more whales showed up that spring. Present rules have made it optional with us government teachers whether we take up this Sunday church work or not. It affords an excellent opportunity to teach the older natives who never fail to attend these services.

Rev. Roy Ahmaogak was chosen to staff the Wainwright church. Roy Ahmaogak, an Inupiaq born east of Barrow, helped translate the Bible into Inupiaq. He was a hard working minister with a powerful presence, and became influential not only in Wainwright but across the North Slope. Greist records these accomplishments with obvious pleasure; his comments also hint at some of the mix of church, state, and Native culture that had become a part of the Christianity of the North. He writes: (Greist, n.d.:XI-11)

We now (in 1950) have an educated and ordained minister there [in Wainwright], an Eskimo, the Rev. Roy Ahmaogak, a former member of my young men's class in systematic Bible and Doctrinal study, the so-called "Seminary of the Arctic," as per Dr. S. Hall Young. Roy has done very splendid work in Wainwright, wherein there are a number of very fine young men and women, Eskimo of sterling character, devoted unalterably to church and state, and woe to that enemy who would assail the liberties of their

country. Organized there, is a military company of sharp shooters, any one of whom would feel disgraced should he shoot a walrus other than in the eye.

Apparently, even by the 1920s Christianity had become more than merely the dominant religion across the North Slope and into Canada. Along with the expanding furtrapping economy, Christianity helped feed the strong cultural revitalization which flowered in the region. Whittaker witnessed this change in Canada's Mackenzie region. He describes the death and disruptions that occurred with the "exotic influences" of the commercial whalers and the intellectual and material progressiveness, the decreasing violence, and high standards of morality that developed along side the fur trade and work of Christian missionaries. He writes of this latter period, "No man or woman among them is servant to any other, each being, when of age, master or mistress of his trail and boat, or of her house and family" (Whittaker, 1937:243).

Knud Rasmussen traveled across Alaska's North Slope in 1924. Never a great lover of Christianity, he ascribes the area's revitalization to Sheldon Jackson's program of education. However, we must stress, Jackson's plan combined education with Christianity as well as such programs for economic improvement as reindeer herding and the development of village cooperative stores. Of his experiences in Barrow, Rasmussen writes: (Ostermann (ed.), 1952:14)

As the result of well-organized instruction, chiefly with American teachers, we now see after thirty-five years that a dying, degenerate and ill-treated folk has been turned into industrious, ambitious and independent people, admirable in their zeal to live according to precepts dictated

to them by their teachers, and worthy of all praise in their peaceable and friendly intercourse between settlements, where a crowd of small houses have sprung up, homes which are shaming examples of what popular education can lead to.

Rasmussen only notes "the well-known trading and mission post of Wainwright" as he continued his travels westward from Barrow although, in the 1980s, several of the town's elders still remember his passing. It was June. Wainwright was so deeply buried in snow that houses were difficult to enter; spring hunting had been extremely poor. Rasmussen writes, "Here the whaler-veteran Jim Allen together with the entire settlement population had unsuccessfully hunted ever since April, without catching as much as a walrus" (Ostermann (ed.), 1952:27). However, Rasmussen writes more about the settlements at Icy Cape, Point Lay, Point Hope, and those to the south.

Rasmussen reports strong Christian sentiments all along the coast. In the Nome area, the Quaker influence struck him as oppressive and prejudiced against Natives (Ostermann (ed.), 1952:53-54). However, north of there Christianity appeared more spontaneous, better integrated into daily life, and more synchronic. At the church at Point Hope Rasmussen delivered a Sunday lecture. He reports on "a curious procession" which occurred afterwards. There, the aboriginal mortuary practice of surface burial had left human bones lying everywhere. Rasmussen writes: (Ostermann (ed.), 1952:49)

After the lecture the entire congregation proceeded to a heap of collected human skulls. All took one -- men, women and children -- and walked

to the cemetery, where the skulls were buried, to a declaration that they would be "christianized" in the grave.

In the preceeding two years, more than four thousand souls had been saved in this manner.

Several passages indicate the strength of Christianity in the thinking of the local inhabitants during this period of the resolidification of North Slope society. Two such passages will be quoted in full; both involve people then living in Icy Cape who presently have descendents living in Wainwright. The first is a passage from Rasmussen's diary about Upicksoun, who had traveled with him from Icy Cape to Point Lay. At Point Lay Rasumssen writes: (Ostermann (ed.), 1952:44-45)

...I was asked to deliver a bible lecture -- and I did so. Afterwards Ugpersaun thanked me on behalf of the congregation, and expressed the hope that we should be helped through. Among the things he said to me was the following: "When we meet people from far away, we simply look at their clothing, which is of another style to ours, and we merely consider them nice or ugly -- here come people from far away. You have come from far away. Three years you have been in getting here, and as far as you are concerned we don't need merely to look at the outside. You have merely come here from far away -- but no farther than you have brought us a message from the same God that we believe in. When has it happened that people, traveling folks from distant lands, have had the time or the inclination to bring us such a message as you have brought us today -- and I can truly say that never will anybody from our land here be able to do likewise -- by going over to your country to testify to your people about God. -- Therefore I can only say that with all my heart I hope wherever you go you will find people who are willing to help you along the trail you still have to pass -- so verily as true Christianity first and foremost ought to manifest itself in the will to help others -- whether these others, your neighbours, be chief or orphan." --

While we shall not explicate this rather complex passage,

several points should be noted. First, this lecture was presented at church; from Rasmussen's account, such lecturing must have been a popular activity at the time and the pulpit must have served as a center for a broad spectrum of new ideas. Second, a major thrust of the passage is the importance of sharing the Christian message. Third, the passage exudes a strong universalism, common among Christian sects, which played no part in aboriginal thought or society. In fact, the statement about styles of clothing implicitly contrasts this new universalism with Native provincialism. One might note that some form of universalism was necessary to put North Slope society back together from the fragments of previously hostile groups (see Burch, 1975); also, that such a belief would facilitate the types of travel, dispersion, and intermixing that occurred at the height of furtrading. Fourth, the worth of the individual's soul and the importance of good works is implicit in the passage. Such concepts, too, would help strengthen and stabilize newly emerging communities as well as raise new defenses against destructive outside influences. Finally, a religious synchronism is apparent in this passage, one in which Christian concepts provide the organizing principles. For example, the last line alludes to Native orphan myths but reinterprets them in terms of Christian neighborliness.

The second passage is taken from a discussion of aboriginal shamanism that occurred at Icy Cape. In it, Rasmussen quotes a Native elder who explicates shamanistic

concepts of the soul by contrasting them with Christian ideas. At Icy Cape Rasmussen writes: (Ostermann (ed.), 1952:131)

"Man's knowledge ended with death", said Sagdluaq, "after life was extinguished. Life went away into a darkness that could not be seen through, even by a shaman. But now we know that the soul of the dead goes to God if he has been a good man. But the Christian, unlike the ignorant shaman who did not know God, does not inquire about a person's inusia, i.e. his "life spring", the force that made him a human being and gave him his appearance; the Christian speaks only of "iletqusia", a new word to us, for the heathen knew nothing of iletqusia as a man's "qualities and actions", the things which some day will take him up to God."

The shamanistic concept of the soul--as opposed to the Christian one--is clearly evident in a beautiful rendition of a traditional story collected by Rasmussen. This myth was related by Peter Panik, another early settler at Wainwright. It is produced in full: (Ostermann (ed.), 1952:172)

The Raven in the Belly of a Whale.
A stupid and cocky Raven.

Once upon a time there was a raven who flew into the belly of a whale through its nose.

It found itself inside a poor house, built of whale ribs, and inside it was a young woman busy with a burning lamp.

"You must never touch this lamp", she said to the raven.

The lamp was her heart. For it was her heart that gave warmth and light -- a burning heart.

She was restless.

Often she went outside, and each time she said to the raven: "You must not touch my lamp".

She went outside to breathe, every time she went out the whale blew. She was a woman, for this was a female whale.

But the raven was curious to touch the lamp -- just because the woman was so anxious that he should not do it. And so, once when she went out the raven leaped to the lamp and began to pluck at it -- the lamp went out at once.

The woman rushed in, but at the moment the lamp

went out she fell over and died.

The whale was dead -- and the raven stumbled about in the dark.

It was choking, became full of blubber and blood, and its feathers fell out owing to the heat in the belly of the dead whale.

After a long time the raven managed to get out through the same way as it had come in, and now it lived on top of the whale, which drifted about the sea as a silo (carcass).

Some people found it, and as they approached the raven turned itself into a human being. In this manner it was found and saved, and it told the people that it had killed the whale.

He said nothing about having destroyed something beautiful; he simply croaked: "I killed the whale", and thuswise he became a great man among the human beings in the houses of the inland dwellers.

The point of this history is that, early during the contact period, Christianity supplanted earlier religious beliefs as the popular and dominant religion on the North Slope. Presently, the traditional religion in the area is Christianity and the most traditional and conservative elders, as a group, are very devout. This does not mean that synchronistic elements are not apparent or that illusions to earlier shamanistic practices do not exist. However, they are illusions--fragments--beliefs firmly embedded in a Christian context.

In 1982, two Christian churches existed in Wainwright, the Presbyterian Church and the Assembly of God Church. The Presbyterian Church is not only the oldest, it is by far the largest. All adult Natives born in Wainwright and presently living there have been baptized as Presbyterians. Baptism usually occurs in early childhood but may take place as late as the early teens. Several white families living in Wainwright belonged to other denominations. For example, in

1982 a Catholic and a Mormon family had been living in town for several years. Neither of these families proselytized. In the summer of that year, an itinerant worker posted signs announcing that he was offering Bible study at his place on Sunday. With rare exceptions such as this, it can be said that visitors in town go to one of the two available churches or do not attend at all. These two churches may be seen as the only effective religious movements which exist there today.

Every Inupiaq considers himself or herself a Christian. Religious pictures and icons grace virtually every home. However, actual church attendance is very low and regular attendance at services or contact with clergy for counseling and guidance seem to be characteristic of only a few families. Still, the churches are the focus of community-wide Thanksgiving and Christmas Feasts and attendant ceremonies which do involve the whole village.

A Social Movement

Both churches in Wainwright stand totally against all use of alcohol. Most village elders see any drinking as an unmitigated evil and all drinkers as alcoholics. Among younger people, attitudes are more varied but everyone views inebriated individuals as potentially dangerous; as out of control and not responsible for their actions. Hence, people tend to excuse violent acts perpetrated under such conditions.

Two basic and deeply held beliefs are seen to conflict

when it comes to drink. On one hand, Wainwrighters believe individuals are free to make their own choices. People strongly resist interfering even in the lives of their closest and dearest relatives. Thus, one may find parents-- individuals with a deep seated moral abhorrence of alcohol-- sharing their abode with an offspring with a drinking problem. The parents may ignore family members who have obviously imbibed too much. Parents may scold, but only in the most dire of cases would they drive the offender from the house. However hurt and worried they may be, they see their child as having a right to live there and a right to his or her own life.

On the other hand, particularly in the arctic, over indulgence in alcohol is dangerous. Wainwrighters seem to agree that the problem increased during the 1970s and this perception is supported by the scant statistical evidence that exists (Klausner and Foulks, 1982). Since that time drinking bouts have hurt many of the townspeople; they have left several young people maimed, and several dead.

When we arrived in Wainwright in 1982, the sale or distribution of alcohol had been illegal for a number of years. However, the possession of such beverages for personal use was legal. One constantly heard rumblings about the amount of alcohol in the village, the bootlegging, the personal and social damage it caused. For many, excessive drinking had become an obvious threat to community well-being and something needed to be done about it. A strong movement sprang up to ban all possession of alcohol in the village.

These sentiments surfaced at the annual public meeting on April 30, 1982. At this time there was much public outcry about alcohol in the village as well as support for a ban on its use. A vote was taken and passed by a large majority to instruct the city council to circulate a petition for local option 4, the total ban on its possession and distribution. Here one sees the goal of bringing a forced, partial change to individuals using empirical means.

While this social movement found some organized support within Wainwright's two churches and among some of the members of the city council, no organization existed with the specific goal of banning alcohol. Moreover, there seemed to be no shared set of beliefs that unified the supporters of the ban. Some people wanted it for religious reasons, others because it is an evil perpetrated by whites, some because of the social disorganization and individual hurt it causes, still others because a total ban would facilitate the prosecution of bootleggers. A total ban seemed to provide a psychological compromise between desires to not interfere with individuals and needs to protect the community as a whole. The ban was a general principle, to be enforced by Public Safety Officers, and it stressed bootlegging as an outside threat.

A vote in favor of this ban occurred in July, 1982. Although public support for this measure before the election seemed overwhelming, many doubted that the measure would pass in the privacy of the voting booth. Support existed for

"choice" in the use of alcohol, particularly among the younger people. As one of these younger men joked, "Just wait till the alcoholics vote." This humor illustrates the bind in which he and other supporters of "choice" found themselves. The elders and many others view drinking as an unmitigated evil; they believe that there is no such thing as a "social drink," that anyone seen with a drink in their hand is a proven alcoholic. Some of the people who oppose the ban half share this belief. Respect for their relatives and the elders, fear of being labeled an alcoholic, and embarrassment caused supporters of "choice" to avoid speaking out publicly.

Regardless of this vote, many expect the tensions surrounding the issue of alcohol consumption to increase if and when oil developments come to the Wainwright area. Everyone ties the bootlegging, drinking, and drug use of the 1970s and 1980s to the increase of monies indirectly coming into town, and to the increase of itinerant construction workers. Our observations about the sources, cost, and distribution of alcohol suggest these perceptions are essentially correct. In 1982 and 1983, a case of beer or a quart of liquor usually cost \$100. Certainly the current level of supply and demand would not be likely without the high wages and high levels of air traffic associated with oil revenues.

Property

Many of the stresses and strains that Wainwrighters are experiencing are reflected in the way they act toward property. Many of their personal and cultural strengths are

reflected in these actions as well. Our goals here are two. First, to describe some of the developments, and second, to demonstrate the difficulties in making detailed predictions of the directions that social institutions--such as the ownership of property--will take. The complexities of peoples' reactions to change are too great.

The description of land ownership may be divided into two parts: lands outside of town along the coast or upriver which will be called "upriver" lands, and lands within the town itself. Most lands upriver are not owned by individuals--they are held by the village or regional corporation or are part of the National Petroleum Reserve (NPR-A). These lands are not considered "owned;" people camp where they pursue game. They camp in places where they--and sometimes their grandparents and great-grandparents--have always camped.

Individuals from Wainwright hold allotments upriver which were made before the Native Land Claims settlement. Essentially, people have staked out claims to some of their traditional camping sites, often to parental birthplaces. Other reasons are given as well. One man said, "All my lands are good for some kind of animals. There I go for caribou and fish. Over there I go for ducks. All the places have fresh water and a good view."

People have claimed upriver lands in an attempt to protect traditional rights to them. Many claims overlap, but in 1982, overlap seemed to have created little friction. Other people may camp on these lands but, if someone is

there, they are expected to ask permission. People also build cabins on their claims, on those of close relatives, and on lands claimed by nobody at all. These cabins are owned by the person who built them. In at least one case, a cabin on unclaimed land was sold by one Wainwrighter to another.

It is said that in the old days, travelers could use empty cabins. If needed, a traveler could even use the supplies in them. One was to inform the owner of the cabin later. Today, this is still the ideal. Yet, this ideal is not always followed. The tensions which exist can be seen in this sign attached to the door of one upriver cabin:

To Whom It May Concern

Please clean up this house after every use. Put your garbage or trash out and throw them inside the drum. Don't leave any trash inside. Please keep the outside area within 50 feet clean. The better it is to live in if you keep this house clean. Think of others that will shelter in this house after you. Your cooperation is needed.

Signed

-----.

Owners of upriver cabins still see themselves as stewards for the community, but also are troubled by the stealing and vandalism taking place. The problem is usually blamed on young people who do not follow the rules. Some owners respond like the person above; some keep their places locked; others lock up in the summer, but open them in the winter "when someone really needs shelter" and when only hunters will be out.

Here we have an example of the growing tensions between old ideas about stewardship and new ideas about ownership. The direction this will take in the future is not clear. Moreover, one modern institution in Wainwright embraces the older ideal of stewardship. The Search and Rescue organization maintains several upriver cabins for travelers in need. These are kept stocked with food and fuel paid for by the organization. If somebody uses the cabin, they are expected to inform the Search and Rescue organization afterwards.

In the town of Wainwright itself, one finds land held in five ways: (1), it is owned through patent in fee by individuals (this is rare); (2) it is held in trust by the BIA for individuals; (3) it is held by the city; (4) it is held by the village corporation; and (5), it is held by the North Slope Borough. Here, too, we find the mixture of old and new, of solidarity and tension. Compounding the issue of tenure, all village corporation, city, and individual land conveyed by the regional corporation through its ANCSA award, is for surface rights only. Subsurface rights are owned by the regional corporations.

Individuals seem to prefer their land in trust status. For example, in 1982 the BIA, through clerical error, issued a trust deed to the wrong person. The new owner recognized the traditional rights of her neighbor and gladly returned the deed to him. The difficulty arose because, under the law, trust status lands which change hands normally do not remain in trust. The recognized owner of the land insisted

that the title be reissued to him in trust status.

Here we see a preference for a form of ownership other than simple patent in fee private property, as well as a recognition of traditional rights. The ownership of ice cellars is another example of this. These are scattered about town. Unless they have been sold, they are owned by the family that constructed them, regardless of whose land they now rest on. This ownership is seen as an important traditional use right; when the North Slope Borough considered building a health clinic on a plot containing five ice cellars, the village council insisted the site be moved.

In an interesting case, a church in Wainwright mistakenly built their ice cellar on a neighbor's land. The white minister decided that, legally, the cellar should be sold to the neighbor and this was done for a nominal amount. The neighbor--on whose land other peoples' cellars are located as well--describes the minister's action as being motivated by generosity, not as one constrained by property law.

Here, we see the recognition of traditional rights, of solidarity, of the idea that land is not a simple commodity. In Wainwright, as upriver, modern day stresses show up in land relations as well. People look at what happened in Barrow and feel that land in town is going to be worth money. We provide several examples where this aspect comes into play.

In one, several years ago a man built his house on the

property of a widow next door. Since hers is trust land, his actions in no way compromise her legal rights. Some of the people in town saw the man as "land hungry" and encouraged the widow to simply demand ownership of the house, that is, not to seek an equitable compromise.

Another case involves the North Slope Borough. New housing is built on lands conveyed by the city to the Borough. In the past, people making payments on the houses would receive the title to the land in 30 years. Recently the U.S. Congress cut the program under which people received title to the property. Under the new law people would pay rent; the title to the land would remain with the Borough. Many people in Wainwright saw this change as yet another attempt by the Barrow government to get power at the city's expense. They also saw the Borough as not behaving properly as a steward; they said it was "trying to go into business." In response, the Wainwright village council investigated ways of becoming the owners of this land.

The last example involves the village corporation. In order to build a new airport in Wainwright, land had to be conveyed to the State of Alaska by the village corporation. Later, the State would convey the airport to the Borough. Despite heavy pressures from the city council and the Borough, the village corporation refused to act. The corporation reasoned that, since they are a profit-making institution, they could not afford to give away their only resource—land—without getting something in return. What they wanted was the contract to build the airport as well as

the lands immediately surrounding it. They felt that whatever money was to be made by airport developments should go to them.

All these cases add up to a series of confused signals. We see the stresses that come with development—stresses between generations, between neighbors trying to get ahead, between various governmental institutions. But we also see strong ties to the past, solidarity, and innovative ways of dealing with new problems. We do not have the impression that things will remain the same. Rather, we sense that people can work out the problems of change if they are allowed to do it in their own way; if they are allowed to express their own genius.

Voluntary Associations

Many voluntary associations are evident in Wainwright. Each of the two churches has various groups to run the Sunday school programs, make decisions about church governance, and organize such events as trips, revival meetings, and "singspirations." In the past, the Mother's Club was prominent. Several elders mentioned that in the 1930s and 1940s, members of this organization would, each Sunday, inspect every household in Wainwright to make sure it was kept clean. The Mother's Club may have been defunct in the village when we were there in 1982. Later that year, interest grew in establishing a new Mother's Club, under NSB auspices, after a woman attended a meeting on this subject.

The Motor Musers is a social service club organized

around snowmobiling. In a sense, the club substitutes for earlier associations which organized sled races, a popular sport at Wainwright in the 1950s and 1960s before dogs were replaced by machine. Motor Musers organizes races, raises funds through bingo games, and provides food to churches at Thanksgiving and Christmas sharing ceremonies.

The Wainwright Dancers is a particularly popular voluntary organization, perhaps the only one which brings together elders, the middle-aged, and the young on a regular basis. Once a week people join to practice traditional songs and dances. In 1982, these meetings were usually held at the armory to avoid conflict with bingo. Often, counting the babies, as many as 30 or 40 people would be present at one time. Since people tended to circulate through during the evening, the actual number that attended was higher. Regular members of the Wainwright Dancers--those that made up the chorus, the drummers, and dance teams--perform at meetings and ceremonies throughout the State of Alaska. Their travels are sometimes subsidized by the North Slope Borough. The Wainwright Dancers have won many awards throughout the state and, in 1984, were invited to perform at the World Olympics at Los Angeles.

Many voluntary associations evident in Wainwright are tied directly to one body of government or another. The Recreation Committee, for example, is most visible through its regular sponsorship of bingo games several nights a week. These events, which in 1982 were held in the Community

Building until it burned and then in the local armory, were popular among many Wainwright households. The Recreation Committee was organized originally by one of the village's mayors as a way of dealing with Wainwright's extremely limited tax base. The idea was to raise money through bingo that could be used as matching funds for various state and federal projects. In 1982, the Committee's members included a former mayor and the president of the village corporation.

Search and Rescue was organized under the auspices of the North Slope Borough. In 1982 Borough plans included a program to train this membership as volunteer firefighters. Search and Rescue will be discussed at length below. Teams from the Wainwright City basketball league, comprising men ranging in ages from about 18 to the mid-30s, played regularly against each other at the high school gymnasium. A parent's group, organized by the school superintendent around 1980, also functioned as did a statewide organization composed of families which served as foster parents.

The National Guard was an important voluntary association. While few of the town's younger males were involved in this organization, most of the male village leaders in their 40s and 50s were very active. Among this group, "National Guard partners" extended social and political ties, as well as sharing networks, across wide areas of the state.

Search and Rescue

Search and Rescue is probably the most prestigious male association in Wainwright today. In 1982, four City Councilmen were active members, one was its president. Search and

Rescue's membership includes most of the younger males who serve in some representative capacity for the North Slope Borough or the City of Wainwright and most, if not all, of the whaling captains.

The duties of this organization involve precisely what its name implies—to search for and rescue lost travelers and hunters. During such rescue undertakings, the club's membership volunteer their time as well as their personal snow machines and motorboats. When possible, the organization reimburses its members for the costs of the search—money spent on gas and the like. The organization also maintains several search and rescue houses both upriver and up and down the coast. These are small shelters for lost and stranded travelers. Search and Rescue attempts to keep these stocked with matches, fuel oil and coal, small amounts of tea, coffee, sugar, crackers, and canned food. People are expected to let the organization know if they had to use the supplies so the building can be restocked. Search and Rescue runs bingo games to help defray its expenses.

People in every North Slope village are very aware of this organization's activities. Especially during the winter months, but also during the summer, Barrow's radio station regularly advises people to give Search and Rescue their travel plans before they take a trip so that if they get lost, Search and Rescue will know where to look. Many people do this. Calls for Search and Rescue's help are quite frequent, especially during the winter, although luckily,

most of these prove to be false alarms. When people are lost during severe weather or on the ice, search operations can involve some danger for members of the organization.

The goals of the Search and Rescue organization exemplify the Inupiaq ideal of the male's relationship to his society--hard work and self-sacrifice for the community. Accepting the costs and dangers with equanimity is a part of this ideal. Over and over, people of Wainwright as well as members of the organization, mention that these men "use their own snow machines" and that "they put themselves in danger for others." It should be noted as well that this organization's stewardship of its out-of-town cabins also exemplifies a traditional pattern. In theory, the houses are kept clean and stocked with food and fuel. This is private property in the sense that people cannot simply avail themselves of it whenever they wish. Yet, anyone "in need" can use the house and the supplies. They get permission for this use after the fact by informing the organization of their need and use. With few exceptions, this system seems to work well.

Most adults in Wainwright have stories to tell of Search and Rescue. What follows is a verbatim report by the Wainwright organization of a search in 1979. This one ended tragically. The report gives an idea of the size and complexity of some of these undertakings, the help rendered by organizations all over the North Slope, and the tenacity of the searchers.

On 28 April, 1979, there were seven whaling crews

out on the open lead off the coast of Wainwright, Alaska. The following day on 29 April, some of the whaling crews reported that they saw a person on the other side of the open lead, not on the main ice. The whaling crews reported this to the Wainwright Search and Rescue Unit at about 11:30 a.m. via their citizens' band radio. Search and Rescue then alerted the village people.

Search and Rescue called for an aircraft from Barrow Air Service to search for the person sighted by the whalers. However, there was no aircraft available at that time. At approximately 2:30 p.m., Search and Rescue chartered an airplane from Jen-Air, piloted by Joe Felder. The search flight was approximately one hour in duration (the pilot couldn't fly any longer due to a fuel shortage).

Search and Rescue requested more aircraft from the Department of Public Safety in Barrow in order to continue the search; this was about 11:35 p.m. However, the wind had picked up out of the southwest gusting to about 40 miles per hour; this prevented the arrival of any aircraft till about 1:00 a.m. on the 30th of April. At this time, an airplane and a helicopter arrived at Wainwright. Both aircraft were loaded with local Search and Rescue men, then took off toward the sea ice to continue the search. Within a short time, an abandoned snow machine was spotted on the main ice. Although the aircraft searched an area of many miles surrounding the machine, no one was spotted.

After returning to the village, Search and Rescue learned that a local resident, _____, had been reported missing; they were also informed that when last seen, _____ was very intoxicated.

Later this same morning, about 9:00 a.m. (April 30), Jen-Air joined the search once again along with an airplane from "NARL." Local Search and Rescue men were aboard both planes.

While the air search was in progress, Search and Rescue had also been conducting a ground search by snow machine. The ground search covered an extensive area both north and south of the abandoned snow machine; this search was exhaustive and went from early in the morning till late at night.

The next day, 1 May, NARL and Jen-Air conducted another air search. Search and Rescue called the A.R.N.G. at Kotzebue and requested a helicopter to assist in the search. Although they had a heli-

copter, there was no pilot available to fly it so they were unable to help out. Therefore, Search and Rescue contacted Elmendorf Air Force Base in Anchorage and requested additional aircraft from them. Elmendorf informed Search and Rescue that aircraft would be sent the next day.

The next day, 2 May, two planes arrived from Anchorage; they were "Mohawks" and were equipped with special instruments. The Mohawks searched for two days; during this time, the Barrow Air Service had continued searching also.

The ground search had continued as well. Every day, local Search and Rescue men had been using their own snow machines to look for _____; some had carried on the search by walking on the moving ice.

On the evening of 4 May, an A.R.N.G. helicopter arrived at Wainwright. The next day, the search continued with the helicopter and local Search and Rescue men. The helicopter searched for four days, then had to return to Kotzebue due to mechanical difficulties.

In the course of the search, the NARL plane experienced mechanical problems and crash landed on the main ice; no one was hurt.

On 10 May, the search was called off by the relatives of _____. However, some of the men continued to search by snow machine. Search and Rescue also requested one final air search from Barrow Air Service, which was conducted on 14 May, 1979. The search officially ended with the conclusion of this flight. Albeit the search had officially ended, Wainwright and Barrow whaling crews continued to keep a lookout for _____.

This document demonstrates the amounts of men and material that Wainwrighters will put into a search for a lost hunter. Whaling crews reported a lost man by citizens' band radio on April 29 at 11:30 a.m. Even before these sightings were confirmed, planes and a helicopter were employed in the search. After the snow machine was found and relatives confirmed a lost man, the search became even more earnest. Resources were drawn first from Barrow, then Kotzebue, then

Anchorage. The local Search and Rescue people rode the aircraft, but concentrated on a ground search by snow machine. This search lasted 16 days--4 days beyond when relatives of the man called it off. From the way this document is written, one might wonder if the search could have been called off gracefully without the tacit consent of the relatives.

This document also demonstrates that members of the search party did, indeed, put their lives in danger for the good of the community. The plane crash and other aircraft "mechanical failures" are examples of this. The report also notes that some men searched "by walking on the moving ice." Here, too, is an example of accepting a great risk. According to Nelson, modern Wainwright hunters almost never venture onto moving ice or even onto ice that has this potential. Such an act is considered hazardous and the hunter confronts this danger only when absolutely necessary (Nelson, 1969).

Sergel Bogojavlensky discusses the attitude of the Bering Strait Inupiaq to so-called "drifters"--men who have floated away on the ice (Bogojavlensky, 1969:201-205). According to him, in the straits, drifters are "considered evil and treacherous." He writes, "On no account must a drifter be rescued and brought back to the village, for men who have been roaming on the moving ice are no longer suitable for human society" (Bogojavlensky, 1969:201-202). This author relates this attitude to a dichotomy of the village:

safety, sociability, warmth and security on one side, and moving sea ice, danger, anti-sociability, cold and fear on the other (Bogojavlensky, 1969:204).

We wondered if a similar attitude toward drifters and a similar dichotomy might be found in Wainwright. Burch has reported that, aboriginally, drifters were in great danger on the North Slope unless they happened to come ashore where they had relatives (Burch, 1975). We questioned people directly about the attitude reported by Bogojavlensky and everybody we asked denied such an attitude in Wainwright, nor could they recall that there had ever been such. When pressed about Bogojavlensky's reports for the Bering Strait Inupiat, people said that he must be mistaken. This was true even from people who knew of, and could give reasons for, other differences between the Straits and Wainwright; for example, the fact that in the Straits, people cover their umiak with walrus skins while at Wainwright they use bearded seal.

The report above of the Search and Rescue operation exhibits one small way in which Wainwrighters' attitudes about people lost to the ocean may reflect those reported by Bogojavlensky for drifters. In the report, the man lost was reputed to have been highly intoxicated before disappearing. We have heard five reports of men lost to the ocean, three from Wainwright, one from Barrow, and one from St. Lawrence Island. In all of these, the people lost were reputed to have been drunk. In at least three, the deaths were viewed as akin to suicide. Since alcohol is seen as literally an

evil, often as the work of the devil, to say that these people were drunk is to hint that there was something anti-social about their deaths. Perhaps the alcohol is only coincidental. However, people who have been saved in ice accidents, or have saved themselves, were not reported as having consumed alcohol. In the three stories of saved people we collected, it was stated that Jesus Christ intervened directly to keep the people alive.

CHAPTER IV

THE CASH ECONOMY

Introduction

It has become a truism that present-day subsistence systems need money to function. (See Van Stone, 1958; 1960; and Sonnenfeld, 1957 for early discussions of the relationship of subsistence to wage work on the North Slope; see NSB Contract Staff, 1979 for a summary; also see Ellanna, 1980; Langdon, 1980; and Wolf, 1981 for comparisons with other areas.) Sizable amounts of cash are necessary to purchase rifles, shotguns, ammunition, nets, fishing tackle, boats, outboard motors, three-wheelers, snow-machines, gasoline, oil, spare parts, clothes, boots, coats, tents, Coleman lanterns and stoves, sleeping bags, knives, compasses, binoculars, C.B. radios, and the other paraphernalia needed to hunt, fish, and trap in an environment hard on both men and equipment. The list of necessities is long and expensive, even at Anchorage prices. Organizing a whaling crew may add thousands of dollars more to a household's subsistence related expenditures. On the North Slope, the tie between cash and the ability to hunt is so strong that Kruse et al. (1981) demonstrates a positive correlation between household income and the number of times in a year that members of a household participate in subsistence activities.

On the Alaskan North Slope, village subsistence systems

have been linked to external world markets for a long time. About 100 years ago, Inupiat began working in earnest for whaling companies based outside. Spencer notes that, by the turn of the 20th Century, most of Barrow's able bodied men were employed in the commercial whaling industry. Inupiat worked as suppliers of meat, as laborers, and as whalers; they also worked for themselves and sold baleen to traders and passing ships. Before Western contact, the "whale cult" lay at the heart of the religious, social, and economic lives of the coastal Inupiaq in northern Alaska (Lantis, 1939; 1940; Spencer, 1959). Whaling was also the door through which Western economic and social institutions were introduced.

By the time of the crash of the baleen market, reindeer herds were being developed at Barrow, Wainwright, Icy Cape, as well as points south. Soon thereafter, the fur trade flowered. While reindeer herding was never completely successful as an economic enterprise, for a time fur trapping was very much so (see Chap. II. See also Whittaker, 1937; and Spencer, 1959). The fur trade provided an economic foundation on which a traditional, subsistence-based Inupiaq society could flourish.

The nature of the present-day relationship between the cash economy and subsistence may be debated. However, one thing is clear, on the North Slope, subsistence is less intimately tied to the wage work/welfare economy that emerged after World War II than it had been to the market system that ended with the Great Depression. While earlier, production

for the market and subsistence pursuits were often integrated acts, after World War II subsistence was segregated in time and space from wage work.

The new cash economy which emerged in Wainwright, as in all villages on the North Slope, was characterized by a total dependence upon the public sector with a heavy emphasis on seasonal, or "part-time," wage work. Many individuals would leave the North Slope for seasonal jobs. While some of these positions, such as gandy dancing for railroads, were in the private sector, most were in the public sector. For example, many men worked as firefighters (see Van Stone, 1960 for a discussion of such wage work).

Seasonal wage work significantly expanded on the North Slope with the development of the NPR-A in the 1940s and 1950s. Spencer writes of this work, which centered in Barrow: (Spencer, 1959:363)

From 1946 to 1952, the number of Eskimo employed at the PET IV base [a Naval Petroleum Base at Barrow] has averaged between 75 and 80, the work being in large measure seasonal and with seasonal layoffs...The fact that the Eskimo, not only those from Barrow, but those who have come from other settlements, such as Wainwright, Point Lay, etc., to take advantage of the employment opportunities, are paid at Alaska wage indicates that a new source of money has been found.

Almost all seasonal work on the North Slope was in the public sector; this included work on such projects as the DEW line as well as oil exploration for PET IV. A few full time jobs also existed on the North Slope, again concentrated in the public sector. These included janitorial and maintenance work at BIA schools, at NARL, and the DEW line. Also

included were such jobs as clerking and managing village stores. Many village stores were Native cooperatives, also part of the public sector. On the North Slope, the majority of full- and part-time jobs were concentrated in Barrow which, as a consequence, tended to grow at the expense of the outlying villages (see Chap. II).

In writing about Kaktovik, Chance (1966) argues that the existence of stable full-time employment was significant in the solidification of present day North Slope communities. Schools and trading posts were magnets of settlement not only because they offered the advantages of education and commerce, they also promised wage work. While permanent, full time jobs were few, these locations also provided part-time work and were the centers where government transfer payments were made.

Until the mid- to late-1970s, the size of North Slope village economies was small. In Wainwright in 1965, Bane (n.d.) reports only four full-time jobs. The village then had an Eskimo population of 280. Two of these jobs, like today, were at the DEW line; one was the manager of the Native store and one was the custodian at the school (Bane, n.d.:II-6). Thus, only one percent of Wainwright's population had full time employment. Although Bane does not report on part time work, some existed at the school, at the Native store, and, no doubt, in other sectors of society. For example, when the North Star supply ship arrived, all able bodied men would be hired to move the goods ashore and into

storage sheds. Bane notes that other people found employment in Barrow on various government construction projects but that few tolerated living in Barrow for more than a few months (Bane, n.d.:II-6). It is interesting to note that the two men employed at the DEW line site today are the same men who held those jobs in Bane's time.

As will become evident in the discussion which follows, in many ways Wainwright's labor picture in the early 1980s may be viewed as similar to that of the 1940s and 1950s only occurring on a much grander scale. By 1982, long term employment had expanded. There were more school custodial positions, teacher aides, cafeteria workers, and secretaries; there were Borough heavy equipment operators, water plant operators, power plant operators; there were village corporation hotel staff, mechanics, and more store clerks. Besides these there were the managers of the hotel, the two stores, and the machine shop, heads of the utilities, North Slope Borough representatives, the president, vice-president, and secretary of the Olgoonik Corporation.

By 1982, part-time, seasonal employment had expanded even more massively; it had grown until it almost overpowered the other economic changes. In Wainwright, people labored constructing houses, a school, a health clinic, a huge warm-storage building, an airport, roads, snow fences, and much more. Individuals no longer needed to journey to Barrow to get work.

Economic Seasonality

Construction work had expanded to such a degree that,

even with huge increases in year-round employment, Wainwright's money economy remained conspicuously seasonal. Such extreme seasonality is not new; it characterized the earlier whaling and fur industries. From its inception, wage labor on the North Slope could be divided into two types: first, the more or less stable, year round jobs such as school janitor, store manager, and postmaster, and, second, the extremely seasonal laboring positions.

From the point of view of the cash needs of households, the latter kind of labor substituted for an earlier form of seasonal money-making, fur trapping, which, in turn, had substituted for the still earlier periodic market economies based on commercial whaling. Time not spent on the job could be spent on subsistence pursuits; money earned on the job could be invested in equipment used in subsistence pursuits. Thus, as in the fur trapping era, a household could develop a "strategy" which balanced money making and food gathering activities, which weighed desires for cash against desires for subsistence foods (see NSB Contract Staff, 1979 for an example of such an analysis).

However, from the point of view of the economic system, the present-day discontinuities in money-making activities of Wainwright households are vastly different from the discontinuous aspects of the fur trapping economy. The difference derives from the present day separation of subsistence work from cash producing labor. Under the earlier system, the seasonality of cash-production reflected, first, natural

cycles of species availability and usefulness and, second, the sum total of individual households' productivity and productive decisions.

For example, arctic foxes were harvested for cash in the winter, when their pelts were "prime," not in the summer when their pelts were useless. Shedding in the summer and growing rich, thick fur in the winter is part of this species' yearly adaptive cycle. Obviously, human factors also affected production. Men who were better skilled, harder working, or luckier, harvested more than men who were not. More to the point, households had to balance trapping against other activities: food production, participation in village activities, involvement in home and family life. If a household needed more cash, trapping activities had to be increased. If its cash needs were met, more time might be spent elsewhere.

Thus, while some factors which determine seasonality and labor discontinuity in such an economic system occurred as natural constraints, others were cultural. Household decisions concerning productivity rested in ideas about how hard a man should hunt, the importance of various group and ritual activities, the proper duties of husband and wife, the importance of village life versus time "upriver," the importance of sharing harvests with relatives and friends, and the like. Household decisions about productivity were based on subjective understandings of a wide spectrum of "needs" as well as on natural constraints such as the need to eat or the availability of fur. Finally, market forces extraneous to

village life were factors in the seasonality and discontinuity of labor. What furs were worth at the trading post helped determine how much one had to harvest.

The point, however, is that in large measure the productivity of the fur trapping economy was determined, first, by the constraints of natural subsistence cycles and, second, by decisions of the producing households. If, to conclude our example, a greater demand for arctic fox pelts existed in the "lower 48" than the North Slope Inupiaq were willing or capable of harvesting, the effect would be that the demand would go unsatisfied.

Under the present day wage work system, however, the effect is exactly the opposite. Today when Wainwrighters are unable or unwilling to meet the demand for wage labor, workers are imported from elsewhere. The reasons for this change is obvious. The seasonality and discontinuity of money making activities is no longer related to nor limited by natural cycles; it is no longer even related to the productive decisions of local households. Rather, today such seasonality and discontinuity are products of decisions concerning public spending on federal, state, and borough levels.

WAGE LABOR, 1982

In 1982, most employment in Wainwright occurred in the public sector. A high percentage of this employment was in

North Slope Borough funded CIP construction projects. Many different contractors and sub-contractors were involved in various CIP projects; hence, the names of local employers often changed. Below are discussed three of the larger employers in Wainwright. These three, controlled by North Slope Inupiaq, were major forces in the village economy throughout the period of our work. They were the only organizations which provided significant amounts of permanent, full-time employment.

Local Employers

Olgoonik Corporation

Wainwright's village corporation, formed under ANCSA, is named the Olgoonik Corporation. Locally, it is called "OC." OC operates a store which competes with the village cooperative. It sells groceries, clothing, and imports virtually all of the fuel oil and gasoline used by the village households. While the store's grocery is smaller than the Co-op's, it did a good business because it was considered to have a better variety of fresh foods and meats. The store employs about seven or eight people full time.

In the early 1980s, OC took over the management of several CIP construction contracts from Blackstock Corporation, a private contracting firm. Since this takeover, OC has continued to serve as the manager on CIP projects in joint ventures with other private construction companies. When OC bought out the construction wing of Blackstock (including equipment, materials, etc.), it also hired the

person who had been in charge of Blackstock construction as OC's construction manager.

As the managing corporation in many CIP projects, OC is a major employer of construction workers in the village eventhough the work is totally dependent on Borough financing. In 1982, approximately 60 Inupiat were identified as OC construction employees. There were perhaps 4 to 16 whites working for OC construction at any particular time. The major projects under construction during our study included a fire station, a second fire station at Point Lay, a new elementary school with swimming pool, a snow fence, several new houses, and a hotel with restaurant. The hotel was not a CIP project; rather, it was an OC investment. In 1982, Blackstock was no longer involved in construction in the village; it still ran a construction camp for transitory workers and acted as a facilitator for the projects.

North Slope Borough

We estimate that, in the summer of 1982, about 120 of the 140 jobs found in Wainwright were Borough related or Borough created. This is approximately 80 percent of all jobs. However, most of this was indirect employment, jobs created by the Borough's CIP program but actually contracted out to other employers. In 1982, the Borough is only the third largest direct employer in the village. It provides thirteen or more permanent jobs. The jobs include health aides at the clinic, public works jobs (road maintenance), the NSB Coordinator for the village, and the operators of the water and electrical generator plants. However, the fact

that the Borough provides so many full-time jobs, indicates that in the long run it is likely to become the largest single employer in Wainwright.

School District

The North Slope Borough School District is part of the North Slope Borough but, since as an employer it operates almost independently of other branches of Borough government, we discuss it separately. It employs local people in a number of capacities; altogether, 16 Inupiat were working for the school district at the time of our survey. Only one was a school teacher. Most worked for the district as teacher aides, cooks, cook's helpers, clerks, secretaries, and janitors. The number is high although several cook's helpers were teenagers who served, part time, during lunch hours. Several other jobs were part-time jobs as well.

The School District employed more whites, full time, than did any other organization in Wainwright. All teachers at Wainwright but one were white as was the head of school maintenance. One of the teachers was married to a local Inupiaq. Altogether, the NSB provided approximately 30 full-time jobs in Wainwright to local Inupiaq.

These three organizations constitute the major employers in terms of relatively permanent, full-time jobs. Almost all of these jobs are dependent upon some form of transfer payment, either through the Borough or other government funding.

Employment

In 1982, Wainwright had a sizeable wage economy. Most

of the employment was in the public sector, particularly in publically funded construction projects. Essentially, Borough revenues were funneled into North Slope villages such as Wainwright in the form of employment income from Capital Improvements Projects (CIP). This program created high levels of cash employment and household income that were substantially different from the rates of the recent past. It also created a situation on the North Slope that was significantly different from that found in Native coastal villages in other regions of Alaska.

We surveyed the jobs, employers, and wage rates of the Inupiaq population of Wainwright. Table IV-1, below, presents a reasonable picture of the village's employment in the summer of 1982. The wage rates for particular jobs are fairly standardized and are commonly known throughout the village. We were able to produce a list of just about everyone in the village, where they were employed, status of that employment (currently working, laid off, recent job change, second jobs), and approximate wage rates.

This table does not present employment in terms of "annual full-time equivalents." Some jobs in Wainwright were only part-time while others were 80 hours per week or more. All jobs that existed in the village at the time of our survey and that were held by Inupiat were counted as "1" in Table IV-1.

Table IV-1

Summary of Inupiaq Employment
Wainwright, 1982

Employer	Number of Employees	Number Considered Second Jobs	Wage Rate
A. Village Corp.			
1. Administration	3	1	---
2. Corp. Store	7		\$8 hr.
3. Construction	60 (a)		\$23.50-26 hr.
4. Night Watchman	2		---
B. School District (NSB) Cooks, Cooks' helpers, Teacher aid, Maintenance	16	2	\$14 hr.
C. Co-Op Store Clerks, etc.	6		\$6 hr.
D. Dredge; Gravel Operation (NSB)	2 (b)	2	\$20-30 hr.
E. Pingo Corp. People who commute to Prudhoe on "2 weeks on, 2 weeks off" basis	2 (c)		union rates
F. Taxi Companies	3 (d)	1	---
G. North Slope Borough			
1. Health Aids	2		---
2. Public Works	2		\$25 hr.
3. Administration	1		---
4. Water Plant	5		\$18 hr.
5. Light and Power	3		---
H. Road Construction, Private contractor	4		\$25 hr.
I. Airlines	1	1	---
J. Private Stores	3	1	---
K. DEW Line	2		\$22 hr.
L. Phone Company	1		---
M. State of Alaska	1		---

N. U.S. Government	2	---
O. Energy Audit (NSB) temporary work	6 (e)	\$22.50 hr.

TOTAL	134	8	NA
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(a) This figure may include several men who worked for a contractor joint-venturing with OC but who had been recruited through OC. The number of men employed on CIP projects fluctuated daily.

(b) The dredge site was just beginning operations as we concluded our survey. Gravel, a necessary ingredient in much arctic construction, is in short supply in the Wainwright area. Stockpiling it in sufficient quantities during the few months of summer was a major CIP concern. Normally, while operating, the dredge employed two crews on 12 hour shifts, 7 days a week. About 12 Inupiat were so employed.

(c) Pingo Corporation, an oil service company owned by the North Slope village corporations of Nuiqsut, Kaktovik, Wainwright, Anaktuvuk Pass, Point Hope, and Atkasook, was engaged in a recruitment drive in Wainwright as our survey ended. One of Pingo's major goals is to bring Natives into the Prudhoe work force.

(d) No taxi service existed when we arrived in Wainwright. By the time we left, two independent taxis were in more or less continuous operation.

(e) The number of energy auditors varied so much from day to day that it was difficult to determine an exact number. We believe that the daily average number working during the life of the project was higher than 6 and possibly as high as 12.

We sought employment information for every Inupiaq in the village. We missed, at most, fifteen jobs. For instance, the Co-op Store may have employed more than six persons, the dredging operation more than two, and the Energy Audit may have employed more than double our figure. Our estimate may be as much as ten percent too low. Therefore, in the following discussions we will increase our estimate by

five percent to 140 employed Inupiat. We found 392 Inupiat living in Wainwright in 1982. Therefore, approximately 35 percent of the Inupiaq population were currently employed in the wage economy. At the time of our survey, Wainwright's household employment rate was 1.44—an average of almost 1-1/2 employed persons in each household.

With these figures we attempt to present Wainwright's employment picture only at one moment in time: early June, 1982. This is not the entire picture. Wainwright's employment rates were high at that moment because 1982 was a year of extensive CIP construction activity. June was a time when many projects were underway but in July and August even more jobs existed. For example, our figures include only two dredge site operators because the program to stockpile gravel for that year was just starting up. However, since the dredge site employed about a dozen men for several months on 12 hour shifts, the program was a substantial fixture in the economic landscape. Also, in August, 1982, work began on the village's new grade school swimming pool complex. For a time, employment opportunities substantially outran available employees and workers were imported from outside.

Our figures emphasize the expansiveness of the village's economy at one moment in time, a moment when Native employment was high but not at its height. In 1982, Alaska Consultants, Inc., working for the North Slope Borough, also collected employment figures in Wainwright. Their results (ACI, 1983:12) were tabulated according to normal state and federal department of labor procedures. Jobs were divided

by census categories and were counted as "annual averages." That is, if two men each worked six months a year as carpenters, their total employment would equal one annual average construction job.

The Alaska Consultants (1983:12) figures, which follow in Table IV-2, imply that Wainwright Native employment in 1982 may have crept higher than our count would indicate. According to their figures, annual full-time employment in Wainwright in 1982 averaged 138.5 jobs. Their average includes several whites while our figures do not. On the other hand, their table averages employment highs and lows.

Table IV-2
Average Annual Full-Time Employment
Wainwright, 1982

Industry Classification	Number	Percent of Total
Contract Construction	40.5	29.2
Transportation, Communications and Public Utilites	3.0	2.2
Trade	15.0	10.8
Finance, Insurance and Real Estate	4.0	2.9
Services	5.0	3.6
Government	71.0	51.3
Federal	(1.5)	(1.1)
State	(0.0)	(0.0)
local	(69.5)	(50.2)
<u>TOTAL</u>	<u>138.5</u>	<u>100.0</u>

(a) This table includes tve local residents employed at the LIZ-3 DEW Line station but not personnel stationed on base. These figures also include some non-Native workers who were residing in Wainwright.

(b) The industry classifications of "Agriculture, Forestry and Fishing," "Mining," and "Manufacturing" are not included in the table because nobody in Wainwright works in these occupations.

The employment picture in the first half of 1983 was similar to that in 1982, although, for a time, job levels may have climbed even higher. That was the first year in which Wainwright women, hitherto employed in such low-paying, year round jobs as clerking at the stores, moved in noticeable numbers into high-paying, temporary construction positions.

They tended to perform more "traditional" tasks like bull cook or site cleanup although at least one woman drove a roller.

Considering the numbers of individuals too young to be employed, Wainwright's employment rate was remarkably high. However, 1982 and 1983 were particularly intense years of CIP construction projects. Moreover, our figures were for May and June; summer is a time when construction projects are in full swing. Most of the work is seasonal, temporary, or otherwise unstable. For example, dredging operations provide work only during the summer months. Road construction lasts only two months each year. Construction slows down or stops during the coldest months. Once a construction project is completed people must wait for the next one to begin. Also, some jobs depend on direct funding by various government agencies (teacher's aids, public safety, etc.) and cut-backs in funding eliminate jobs temporarily or permanently.

The Capital Improvements Program brings the majority of construction work to Wainwright. It also affects the wage structure of the town. The North Slope Borough has the policy of paying workers on the Capital Improvements Program at the wage rate of union workers at Prudhoe Bay. Thus, wages in Wainwright are high, something that managers of local businesses sometimes complain about since they have a hard time competing in the local labor market.

In 1982, a beginning common laborer working on the Capital Improvements Program made \$23.50 an hour; a carpenter

or electrification made several dollars more. Real wage rates could be substantially higher since people would often get overtime at time and a half and work weekends at double time. People working for the energy audit, caulking and insulating homes, made \$22.35 per hour. The village cooperative paid slightly higher. The city paid its clerks about \$12 per hour. In the summer, it hired children for a city clean-up project at \$5 per hour.

These figures are presented to give some idea of the wage rates. They do not include salaried workers or other benefits. Some salaries in the village were quite large. The highest paid white made nearly \$200,000 per year; the highest salaried Native made approximately \$60,000.

Two comments about the nature of these jobs are warranted. First, there is a wide range in wage rates, from \$6 per hour at the Co-op Store to perhaps as much as \$30 per hour. We estimate that about 70 percent of the jobs, however, paid \$20 or more per hour. Thus, if employment were year-round and full-time, these salaries would generate an average income of \$42,240 per year for one fourth of the village's population. Household earned income would average much more than \$60,000 per year.

In 1982, household incomes in Wainwright were high. Including earned income and such disparate financial benefits as federal HUD housing subsidies, IHS health and welfare benefits, and Borough per diem payments for attendance at various meetings, the average household income may have approximated \$40,000 for that year. However, 1982 was

probably the highwater mark of a short period of unheard of prosperity on the North Slope. Like the economies of all Arctic Slope villages, Wainwright's cash economy fluctuates markedly from season to season and--more importantly--from year to year. Historically, this has been the case even after the founding of the North Slope Borough. For example, Kruse found in 1977 that the average number of weeks worked in Borough jobs was only 17.1 for men and 22.6 for women (Kruse et al., 1977:36-37).

The early 1980s village economy was driven by CIP expenditures and, by 1983, the financing of that program had declined. In October of that year, nobody was employed in construction. By then, work on CIP projects had been stopped completely by delays in Borough funding. Pilings for 12 new Borough houses had been laid but no one in Wainwright knew when to expect construction work to resume. Since these constituted almost half of the jobs previously found in the community, the local economy was rather depressed. Several people mentioned that paying for utilities and other household expenses, generally \$1200 to \$1500 per month, was already becoming a concern. By November, several people had borrowed money from friends and relatives to meet some of their expenses.

The second comment relates to the fact that while many of the jobs in the village in 1982 were temporary, we observed and were informed by many people that anyone in the village who wanted a job could get one. This, along with

Borough vacation policy, encouraged a work pattern where people did not go to work every day of the week. Consequently, they made less on an annual basis than their hourly wage would indicate. Thus far, it seems that the wage sector has accommodated to the other demands upon the people of Wainwright. Subsistence activities require that one goes hunting or fishing when the weather is right or when migratory species appear as well as "when you want to." It was not uncommon for someone to ask us or others on the street to give a message to a particular foreman that "my dad wants me to go hunting," meaning he would not be back to work today.

Often people quit their jobs to go hunting for a couple of months, or to visit some other village, Fairbanks, or Anchorage. There they would visit relatives or friends, shop, or work odd jobs. Usually, these individuals would be reemployed at their former job when they decided to return. If that job was filled or ended, they could easily find other work.

We have made observations about the accommodations of employment to other activities. But the situation in Wainwright was more complex; subsistence activities have been accommodated to wage jobs as well. This will be discussed more fully in sections on subsistence and it will suffice to say that more hunting today takes place on the weekend, faster snow machines and faster boats are required to allow quick hunting trips after work, and vacation times are planned to coincide with preferred hunting activities. For example, one person this year planned his vacation for duck

hunting but because the duck migration was earlier than expected his duck hunting for the year was unsuccessful.

CAPITAL IMPROVEMENT PROJECTS

McBeath (1981) discusses the role of the Capital Improvements Program in solidifying the political power of the North Slope Borough as well as in centralizing that power in the mayor's office in Barrow. As noted above, in the early 1980s this program provided the driving force behind Wainwright's cash economy. Since it began it has generated most of the wage-work jobs that are available. Since around 1980, when the village corporation was able to involve itself in construction, these projects have also provided the Olgoonik Corporation with its major for-profit business.

The Capital Improvements Program is not only central to the local economy, it has changed the face of Wainwright and affected the quality of life of its inhabitants. Most people today live in modern, centrally heated homes with running water, showers, and electricity. Sporting and social events can take place in a large gym in the dead of winter. An Olympic size swimming pool is in the same building. New buildings crowd the center of town; upgraded roads have encouraged more people to own vehicles. Between July 1982 and October 1983 the number of pickup trucks and automobiles more than tripled.

Since the Capital Improvements Program is so important

to Wainwright, we shall list below, in Table IV-3, the projects designated for the town. Because the Borough must occasionally modify this program, the list can only be nearly complete. The status of the projects and, in some cases, their approximate cost will be noted. Since the decision-making process and the records for the Capital Improvements Program are centralized in Barrow (McBeath, 1981), we were unable to track all the details for every project. It is hoped that Table IV-3 will give some indication of the tremendous scope of the program, particularly for a town of 500 people.

Table IV-3
CIP PROJECTS

-
- 06-11 Wainwright Educational Facilities.
Secondary School and Vocational Industrial Technical Building. Completed 1979. Approximately \$8,000,000.
 - 06-14 Wainwright School Emergency Facilities.
Completed.
 - 06-15 Temporary Portable Classrooms, Areawide.
Completed; now used for school storage.
 - 06-20 Teacher Housing, Villages - 2 units.
Completed.
 - 06-23 Wainwright Elementary with pool facilities.
Provided for construction of a new elementary school and utilities building attached to Alak High School. The 9,248 square feet includes five classrooms, a library, a special education room, a swimming pool, and other associated educational facilities. The 2,160 square foot utility building includes an emergency generator, water storage tanks, and a water treatment system. Underway in summer of 1982; completed fall of 1983. Approximately \$12,630,000.
 - 06-33 Teacher Housing - 3 bedroom - 1 unit
Completed.

- 06-60 Wainwright Maintenance and Storage Building.
This facility will provide maintenance work space and warehousing for supplies and equipment for all departments. Underway in March, 1983. Closed by December, 1983. \$1,565,000.
- 06-61 Wainwright Teacher Housing - 1 unit.
Completed. Cost, \$313,000.
- 06-67 Wainwright Vocational Education Building Modification.
Scheduled to start in 1982; underway in 1983. Now completed. Estimated cost, \$6,000.
- 06-72 Wainwright Elementary School Conversion.
This project will provide for the conversion of the existing elementary school into teacher housing after completion of the new facility. The housing now used by the teachers will be turned over to the North Slope Borough. Closed by December, 1983. \$300,000.
- 06-85 Utilities, School District, and NSB Warehouse Combined Facilities, Phase I (areawide).
This project is associated with administrative, land acquisition, design, materials, and shipping costs for a Wainwright warehouse (see projects 06-97, 07-70, 13-80, and 13-108). Scheduled start, 1983. Estimated cost for the year is \$14,026,000.
- 06-97 Wainwright Utilities, School District and NSB Warehouse Combined Facility, Phase II.
Along with associated projects (06-85, 07-70, 13-80, and 13-108), this provides warehouse facilities for several NSB departments. The 2 story, 16,450 square feet building will include warehousing and storage space, vehicle maintenance and repair areas, shops, a lunchroom, and mechanical room. Scheduled start in February, 1985. \$2,419,000.
- 07-21 Wainwright Community Roads, Phase I.
Roads will be upgraded and new roads will be built to the new housing. Completed, 1981.
- 07-22 Wainwright Community Roads, Phase II.
This project provides for the construction of new roads to the new housing, a new road to the school site, a new road to the fuel storage areas, the upgrading of existing roads and the repairing of erosion. Started and completed, winter or 1982. This project was financed by both the State of Alaska and the NSB. The NSB contributed \$2,695,000, or about 92 percent, of the total cost; the state budgeted \$225,000 for a total of \$2,920,000.
- 07-30 Mobile Equipment Storage, Village.
This provides for a corrugated metal building to be

used for heavy equipment. Completed.

- 07-40 Wainwright Snow Control, Phase I.
A wooden snow fence will be constructed on the north edge of town to provide snow drift protection. Completed, 1982. \$1,027,000.
- 07-70 Utilities, School District and NSB Warehouse Combined Facility, Phase I (areawide).
This is part of a project to provide a central village warehouse for cold storage (see, 06-97). This was scheduled to start in fiscal year 1983 and was completed by December of that year. Total budget was \$1,594,000; the share for Wainwright was approximately \$500,000.
- 07-76 Wainwright Equipment Storage Upgrade.
This project will provide for a reinforced concrete slab floor in the heavy equipment building. \$100,000.
- 07-87 Wainwright Vehicle Maintenance and Storage Building, Combined Facility.
This provides for the construction of a new heavy equipment storage building. Pillings were driven in the winter of 1983; construction was underway in the spring of 1984. The State of Alaska provided \$200,000; the total is \$8,965,000.
- 07-88 Wainwright Snow Control, Phase II.
Snow fences will be constructed along the eastern side of town. Scheduled to start in July, 1986. Budgeted for \$40,000 from the State of Alaska and \$1,160,000 from the NSB for a total of \$1,200,000.
- 07-89 Transit Facilities, all Villages.
This project provides for a five-year study of transportation needs. Completed by the end of 1983. \$50,000 for all villages.
- 07-90 Gravel Acquisition, Dredging, Crushing and Stockpiling, Areawide.
In Wainwright, this project involves establishing a large dredging sight near the DEW line and building a road to it. The gravel will be used in all construction in town. Dredging in process in 1982. \$15,228,000 for all villages.
- 07-95 Wainwright Erosion Control, Phase I.
A temporary sea wall will be constructed to protect houses along the beach on the southern end of town. Underway in 1982; completed by December 1983. Cost, \$237,000.
- 07-106 Road to Sanitary Landfill, Wainwright.
This provides for a road, approximately 2.4 miles

long, from the edge of town to the Wainwright dump site. Scheduled to start in May, 1985. Estimated cost, \$3,600,000.

- 07-112 Wainwright Bridge and Harbor Feasibility Analysis. Scheduled to start in June, 1984. Funding will come from the State of Alaska. Estimated cost, \$55,000.
- 07-124 Transit Equipment, Villages. This project is based on State of Alaska monies. Scheduled for fiscal year 1984. Total amount is \$228,000 including a bus for Wainwright at \$40,000.
- 07-130 Wainwright Drainage Control. Provides for culverts, where necessary, to promote adequate drainage within the village. Provides for erosion control at the beach end of the snow fence. Scheduled, fiscal year 1986. State of Alaska funding amounts to \$60,000. Estimated total is \$452,000.
- 07-135 Wainwright Gravel Acquisition, Dredging, and Stockpiling, Phase I. This project continues dredging and stockpiling the gravel required for new construction projects. An estimated 160,000 cubic yards will be mined during the 1984 season. Scheduled for 1984. Estimated cost, \$1,455,000.
- 07-142 Wainwright community Roads, Phase III. This provides for 3,950 feet of new roads in Wainwright required by the planned expansion of the village. Scheduled for 1985. Estimated at \$1,115,000.
- 07-143 Wainwright Recreational Road. This is for the construction of a road from the runway to the Kuk Inlet. It is entirely State funded. Scheduled for 1985; budgeted for \$300,000.
- 08-19 Wainwright Housing, Phase I, Federal Aid (12 Units). This project provides for the construction of 12 single family houses. Completed.
- 08-20 Wainwright Housing, Phase II, Federal Aid (18 Units). Federal Aid Housing. Eighteen housing units will be constructed consisting of two four-plexes. Completed.
- 08-21 Wainwright Housing, Phase III, Federal Aid (7 Units). Federal Aid Housing. This project provides for the construction of seven single family housing units. Completed.
- 08-28 General Non-Federal Aid Housing (2 Units). Completed.

- 08-36 General Non-Federal Aid Housing (2 Units).
Completed.
- 08-49 Wainwright Housing, Phase IV. Three-bedroom housing (9 Units).
This project provides for the construction of nine single-family housing units. Completed. Cost, \$2,631,000 (\$292,333.33 per house).
- 08-67 Wainwright 4-Bedroom Housing (8 Units).
This project provides for the construction of eight single-family housing units. Completed. Cost, \$1,793,000 (\$224,125.00 per house).
- 08-68 Wainwright 4-Bedroom, 2-Story Housing (1 Unit).
One single-family unit will be constructed. Completed. \$351,000.
- 08-84 Wainwright Housing.
This project provides for the construction of 14 single-family housing units. Planned for 1982. Construction underway in spring of 1984. \$4,839,000 (\$345,643 each).
- 08-88 Repair Housing Glycol Systems, Areawide.
Problems have developed in many of the heating systems in new North Slope Borough housing. This project provides for the upgrading of glycol heating systems where necessary. Underway in 1984. \$7,838,000 for all villages on the North Slope.
- 09-11 Water Tank.
This project provides for the design and construction of a new 500,000-gallon water tank and a supply line system. The existing 1,000,000-gallon tank will be rehabilitated, a utilidor to the larger buildings--the two school buildings--will be designed and constructed and water source protection will be planned. Completed in 1982. \$1,594,000.
- 09-12 Wainwright Water System, Non-Federal Portion.
This is the non-federal portion of water tank project (09-11). Completed in 1982. The NSB provided \$72,000 and the State of Alaska \$38,000 for a total of \$110,000.
- 09-24 Wainwright Water Distribution Equipment, Phase II.
This project is for the purchase and shipping of a heavy duty, 6 wheel front-wheel-drive International truck with a 2,000 gallon storage capacity. Completed. \$158,000.
- 09-41 Water Supply Line, Wainwright.
This project provides a permanent pipeline from the freshwater lake to the treatment plant. It is

scheduled to begin in July 1985 and is budgeted for \$1,060,000.

- 09-43 Wainwright Treatment Facility Addition.
This enlarges the water treatment plant, installs new treatment equipment, and improves the washeteria. Scheduled for July, 1984. Estimated cost, \$2,330,000.
- 09-45 Wainwright Water Tank, Phase II.
This provides for a new 3,000,000 gallon water storage tank and repairs to existing tanks. Scheduled September, 1986; budgeted for \$7,083,000.
- 10-12 Wainwright Sewage Disposal Utilidor, Non-Federal Portion.
Completed in 1982. The State of Alaska budgeted \$37,000 and the NSB, \$30,000 for a total of \$67,000.
- 10-15 Wainwright Sewage Lagoon and Outfall.
This project provides for the design and construction of an outfall line and the development of a sewage lagoon. Scheduled for June, 1985. The State of Alaska provides \$37,000 and the NSB, \$700,000 for a total of \$737,000.
- 10-22 Wainwright Sewage Vehicle, Phase II.
This project is for the purchase of a sewage vehicle similar to the new distribution truck. Completed. \$192,000.
- 11-14 Wainwright Airport Upgrade.
The airport runway will be reoriented 12 degrees to face the prevailing winds and it will be lengthened enough that 737 jets and Hercules transports can land on it. \$4,500,000 from the State Legislature. This project was begun in 1983 and completed in 1984. The State of Alaska budgeted \$4,450,000 and the NSB \$8,880,000, for a total of \$13,330,000.
- 11-21 Wainwright Airport Terminal Building.
A terminal will be constructed for the new airport. Construction scheduled to begin in August, 1988. \$1,000,000.
- 12-09 Community Building Expansion.
- 13-03 Wainwright Integrated Total Energy System.
Completed.
- 13-10 Wainwright Generator and Electric Distribution.
This provided for the initial construction of the Wainwright power plant in 1977 and the installation of two 160KW generators. Completed.

- 13-31 Wainwright Expansion.
This project brought electricity to the expanded area of town and provided for a new 250 KW generator. Underway in 1982; complete in 1983. \$550,000.
- 13-42 Wainwright Equipment Storage.
This project provides for the construction of a warm storage unit for the new water and sewage trucks. \$1,110,000.
- 13-55 Wainwright Fuel Storage.
Completed.
- 13-61 Energy Conservation Projects, Areawide.
Energy conservation planning and demonstration projects areawide. Underway in 1982 and completed by the end of 1983. \$545,000.
- 13-69 Wainwright Generator Expansion, Phase II.
This project provides a new generator set to meet Wainwright's growing power demands. Underway in 1983. \$850,000.
- 13-82 Wainwright Generation, Phase III.
This provides for the construction of a new generator building, two 440 KW generators, one 835 KW generator, the refurbishing of one 440 KW unit, and all necessary switch gear. Scheduled for September, 1986; estimated cost, \$4,700,000.
- 13-90 Wainwright Distribution and Street Lighting, Phase II.
This project upgrades and extends the electrical distribution system. Scheduled start in March, 1987. Total cost, \$1,344,000.
- 13-108 Wainwright Utilities, School District and NSB Warehouse Combined Facility, Phase II.
This project partially funds the construction of a warehouse in Wainwright. (see CIP projects 06-85, 06-97, 07-70, and 13-80.) Scheduled start, February 1985; estimated cost, \$2,420,000.
- 14-03 Public Safety Building.
This project provides for the construction of a building to house the public safety offices and jail. This project was originally designated as 14-29 and was planned as part of a combined health, fire and public safety building. Completed as a separate unit. The original plan called for \$1,183,000 for the Public Safety building. Completed in 1978 with funds from the United States Law Enforcement Assistance Administration.
- 14-28 Fire Station and Equipment, All Villages.
This provided for a 4,680 square feet firehouse in

- Wainwright. This was completed in 1982. Fire fighting equipment was delivered in 1983. Total cost, \$28,442,000.
- 14-29 Public Safety Facilities, All Villages, Phase I. This provides for the construction of new public safety buildings in Point Lay and Atkasuk as well as for the remodeling and expansion of existing public safety facilities in all villages except Barrow. Scheduled to begin in 1982; underway in 1983. The State of Alaska contributed \$40,000; total budget, \$1,517,000.
- 14-30 Fire Fighting Equipment, All Villages. This provides funding for the purchase of tankers and ambulances for all villages and pumpers for all but Barrow. It also includes \$15,000 from the State of Alaska for the purchase of air to ground radio systems, at \$3,000 each, for the villages of Wainwright, Anaktuvuk Pass, Nuiqsut, and Point Hope. Scheduled expenditures for the fiscal year of 1982; total budget, \$2,880,000.
- 14-40 Land Acquisition, Wainwright. This provides funds for the purchase of land needed for CIP projects. Expenditures scheduled for fiscal year 1985. Total, \$70,000.
- 15-16 Wainwright Sanitary Landfill, Phase I. This project provides for the development of a new sanitary landfill. Completed. \$51,000.
- 15-55 Wainwright Liquid Waste Disposal. This provides for the permanent disposal of toxic waste generated by various CIP projects in Wainwright plus the upgrading of heating systems. Scheduled for January, 1985; total cost, \$150,000.
- 15-57 Wainwright Landfill, Phase II. This project expands and upgrades the sanitary landfill (see related CIP project 07-106). Scheduled for July, 1986; estimated cost, \$1,500,000.
- 18-02 Community HEW Facility. Completed. No NSB funds involved in this project.
- 19-20 Computerized Diagnostic System, Phase I. This project will provide for a video telehealth system to assist in the diagnosis of illness. It will serve as a prototype for systems funded areawide under CIP project 19-25. Underway in 1983. The funding for this phase is \$250,000.
- 19-23 Health Facilities, All Villages. This is for the construction of a new health center to

replace the old one. Originally this project was to be part of a combined health/fire/and public safety facility. The original health clinic part was to cost \$1,544,000. Underway in Wainwright in 1983; completed by 1984. The State of Alaska provided \$7,000 and the NSB, \$21,203,000, for a total of \$21,210,000.

19-25 Narrow Band Video Telehealth System, Areawide. This provides for the installation of a telehealth system in the health clinics in Anaktuvuk Pass, Atqasuk, Kaktovik, Nuiqsut, Point Hope, Point Lay, and Wainwright. Scheduled for 1985; total cost, \$1,655,000.

19-29 Land Acquisition, Atqasuk and Wainwright. This provides funds to purchase land for the new clinic in Wainwright. Scheduled expenditure, fiscal year 1985; amount, \$55,000.

Even this partial list gives an idea of the nature and scope of the program. A few of the projects, like the transportation study (07-89) and the computerized diagnostic system (19-20), provide few jobs for Wainwrighters. However, most of the projects are construction projects which, because of the Borough's policy of local hire, provide a great number of jobs for the local community. In fact, one could say that these public programs sponsored by public funds are the flesh as well as the backbone of the local construction economy. Except for the hotel which is a project of the village corporation, a few houses built by their owners, and a few buildings built by the corporation store, all the present construction in town is from the Capital Improvements Program.

Financing the Capital Improvements Program

Because of Prudhoe Bay and related oil-industry developments, the North Slope Borough has an enormous tax base. In

1981, it was \$6,705 million, almost equal to that of the Municipality of Anchorage (\$8,003 million) and more than twice that of Fairbanks (\$2,607 million). However, Alaska State law reduces the local usefulness of this base by limiting the amount a borough can tax for operating revenues to the higher of two figures: (1) \$1,500 per capita or, (2) 6.75 percent of the average per capita assessed value of property in Alaska. The second way of determining the tax limit is used by the North Slope Borough. In 1982, this formula allowed a per capita limit of \$3,915; in 1983 this figure climbed to \$4,761 (Knapp and Nebesky, 1983:18).

The limitation on municipal taxing authority as well as a ceiling on property tax rates were imposed as a direct response to the formation of the North Slope Borough by the Alaska State legislature meeting in special session in 1973. However, since these new regulations failed to address the issue of municipal debt, the CIP program allowed the Borough to escape some of the constraints. The Borough could sell bonds for capital projects and then tax Prudhoe Bay property to retire the new bonded indebtedness. In 1978, the Alaska State Supreme Court upheld this interpretation of the law and the CIP program began in full swing. In 1979, Borough capital expenditures were \$69,143,000, in 1980 they were \$90,524,000, and in 1981 they climbed to \$128,921,000.

However, the CIP program offered only temporary relief from state imposed spending constraints since two factors limited the program's future. First, the Borough cannot build more than it is able to operate, and taxes for

operating revenues are constrained by law. Second, to build CIP projects the Borough must sell bonds. By 1983, the North Slope Borough's indebtedness had reached approximately 1 billion dollars, about equal to all the municipal debt for the rest of the State of Alaska (Knapp and Nebesky, 1983:24). While in the State legislature there were rumblings about legislation to limit municipal debt; nothing was done. However, such massive debt was worrisome to Wall Street investors and the Borough's credit rating began to slip.

PRICES AND EXPENDITURES

The following is a price list of several articles in Wainwright stores:

Smoked salmon strips (1 lb.)	\$18.00
Cigarettes	1.00
Bacon (1 lb.)	8.10
Candy bars	.50
6-pack of pop	4.80
Can of beans (12 oz.)	2.50
Sardines	2.50
1 watermelon	16.10
Peaches (per lb.)	.89
Eggs (1 doz.)	2.50
Butter (1 lb.)	4.75
Frozen apple pie	7.50
Cup-A-Noodle Soup	2.25
Spaghetios (16 oz.)	2.50
Fuel oil (55 gal bbl.)	168.00
Guns	\$450-550

Without the benefit of a household survey it was not possible to get accurate estimates of household expenditures. One can see from the price list that some prices are several times higher than the national average or even the Anchorage average. Other prices, such as cigarettes, are similar to

those in cities in the lower 48.

The amount of food purchased and the amount obtained through hunting and fishing is not an easy topic to assess. Using a household survey, Kruse et al. (1981:70) estimated that in 1977 only twenty-four percent of Inupiaq households in Wainwright obtained no food through hunting and fishing. On the opposite side, forty-two percent of these households obtained half or more of their annual food supply from subsistence pursuits (Kruse et al., 1980:73). Another thirty-four percent received some (but less than half) of their food this way. In Wainwright, this same study found that thirty-two percent of the households received at least half of their Native foods as gifts from others.

On the other hand, earlier studies indicate that the percentage of subsistence foods in the total diet may have been less. In a comparative study of several villages in the late 1950s and early 1960s, Heller and Scott (1967) found that Wainwright's households consumed a higher proportion of subsistence foods than did the other villages that were examined. Nevertheless, subsistence foods still contributed slightly less than 50 percent of the average Wainwrighter's caloric intake. Also, this study apparently underestimates the amount of sugar in the form of pop and candy bars that was consumed outside of the household (see Bell and Heller, 1978). Moreover, since this study was completed, Wainwright's nutritional picture—like that in most of village Alaska—has been altered significantly by a school

hot lunch program. During the school year, this program presently provides at least one large hot meal a day of non-Native foods to approximately one third of Wainwright's population.

Our observations indicate that Native foods must make up less than 50 percent of the overall caloric intake of the village. However, Native foods do comprise most of the meats consumed within the village's households. Thus, they remain the key to a healthy village diet. Moreover, Native foods are valued as are none other. They comprise most foods shared between households. We often heard people discuss the Native foods they had consumed the day before; we never heard similar discussions of non-Native ones.

Because of subsistence contributions to the diet, a substantial proportion of all food is not purchased. Items available in stores are mostly incidental foods, vegetables and the like, used as side dishes or as additions to a meal. Still, food prices are high and it appears a great deal of pocket money is spent on soda pop and candy bars, especially by the young. Whites who do not hunt and have all their food shipped into the village give an indication of what food costs would be without subsistence. One white couple with a grade-school aged child estimated they spent \$500 per month (\$6,000 per year) for food alone. This was purchased in bulk at discount rates and shipped on the barge.

Other expenditures, such as rent, are quite low. Rents and house payments on new HUD and NSB financed housing depended on family income and varied between \$50 and \$250 per

month. Fuel oil, on the other hand, was expensive. Heating oil costs \$168 per barrel and some new houses require three to four barrels of oil per month during the long winters. During the cool summers, the same house might use two barrels per month for an average of between 35 and 40 barrels per year. Thus, a modern Wainwright house could easily spend \$7,000 per year for heat at 1982 prices. We can estimate that food and fuel alone for a small, non-hunting family would cost \$10,000 to \$13,000 a year if food were bought wisely at outside prices.

A great amount of money is spent on snowmobiles which wear out quickly in the Arctic environment. Also, automobiles and pickup trucks are becoming popular. Because of the extreme cold and the need to let these vehicles idle for long periods, engines wear out quickly. For example, we know of one vehicle which needed a new engine after only 400 miles. Usually, when an engine or transmission develops serious problems, rebuilt replacements are flown in from Fairbanks or Anchorage, making such repairs expensive.

SUMMARY

Wainwright's present cash economy is built on public sector employment and legislatively sustained human services. The fragility of such a system became evident even in the short time we were in the village. Today, the great majority of public sector employment is financed by the North Slope

Borough through its ability to tax Prudhoe Bay oil developments. Included is direct Borough employment in such areas as the school, the water and power utilities, the the Borough bureaucracy itself. Also included is indirect Borough employment on CIP projects such as those managed by OC, the village Native corporation. In Wainwright, the village Native corporation and the cooperative store are also relatively large providers of permanent jobs.

In the near future, the total number of permanent positions in the village corporation, cooperative store, and the Borough should remain stable or decrease slightly. However, the number of Borough funded construction jobs is already declining dramatically and should remain low for the next two decades. McBeath (1981:87) indicates that public employment opportunities on the Arctic Slope rest on the Borough's ability to mount another large CIP program after the completion of the current one in 1985. A later study, (Knapp and Nebesky, 1983) confirming this finding, only projects an even bleaker picture for future CIP funding. Moreover, McBeath (1981:99) has pointed out that one of the long-term costs of these projects will be to increase the dependence upon an unstable, non-renewable resource economy. This increased dependence, we would emphasize, occurs both on a governmental and household level. Households will need more cash and credit at a time when their incomes are shrinking dramatically.

The potential for private sector employment is actually limited. Opportunities on the North Slope are limited to oil

related jobs in or near Prudhoe Bay or off-shore. In the future, development of the Arctic Slope's vast coal reserves could also provide work. At present, several major constraints exist on the employment of North Slope Inupiaq in energy related work. First, the skills of the local residents are not well matched to the needs of the oil companies. McBeath's respondents, as well as ours, commented that even the job training and skill development in CIP projects probably have not been adequate to make local Native workers generally competitive in this labor market (McBeath, 1981:87).

Second, for many reasons oil companies are ill adapted to hiring local people. Formal constraints, such as union shop requirements, often exist as do informal ones, such as institutionalized nepotism in hiring practices. All these militate against local hire. Moreover, the oil industry on the North Slope needs a flexible yet reliable labor pool to meet its fluctuating labor demands. At present, this industry has such a pool and has a generally good working relationship with it. Companies are naturally resistant to changes that could introduce uncertainties into their labor supply (Knapp and Nebesky, 1983:92). Such resistance is not new; large scale power developments on reservations in the "lower 48" have brought little Native employment except where it has been required in contracts with tribal governments (see Chap. XVI).

Third, up until now interest in those opportunities has

been low among the North Slope Inupiaq. Living away from home and away from relatives and friends as required by the cycle of work at Prudhoe continues to be socially unattractive for the Inupiaq. It also interferes with economically important and highly valued subsistence activities. The post World War II growth of Barrow, off-Slope seasonal migrations, and the history of PET-IV and the DEW line, all indicate that, if necessary, individuals and families will leave their villages to find work. The Borough CIP program simply made such uprooting unnecessary.

However, the cash needs of Wainwright households have increased of late and the CIP program is declining. Presumably, the desires and demands of Wainwrighters for work on oil-related projects on the North Slope will grow. The question remains as to whether or not the oil industry will be willing and able to meet any of these rising expectations.

19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CHAPTER V

KINSHIP

The overwhelming importance of kin relations in traditional, pre-contact North Alaskan Eskimo society is widely accepted. According to Spencer, traditional settlements "tended toward endogamy" (Spencer, 1959:75). According to Burch, "most traditional 'settlements' were in fact kinship units, and no one was ever voluntarily in a situation where no relatives were present" (Burch, 1975:22). Kin ties provided the nexus for community life; in the form of the "collective responsibility" of kin and the "blood feud," these ties provided the basis for law and order (Spencer, 1959:65-71). Burch writes of this period, "Actually, if not ideally, kinship was relevant in all social contexts in traditional Northwest Alaska" (Burch, 1975:24. Emphasis his). Traditional North Alaskan Eskimo kinship was reckoned bilaterally and was widely extended.

However, while kinship was relevant to all social contexts, other principles organized these contexts as well. Many commentators find extreme "flexibility" in the traditional north Alaskan Eskimo social system and, especially, in its kinship system (see Willmott, 1960, for a summary of this literature). Adoptions, wife exchanges, and partnerships expanded the circle of kin and accomodated kinship to a variety of social situations (see Spencer, 1959; Burch, 1975). However, formal, pseudo-kin ties were not the only

source of this flexibility. Charles Brower, for example, mentions an institution which existed before the turn-of-the-century. Upon arriving at a village, Brower's interpreter--a Point Hope Inupiaq with no relatives in the area--charged into town, ran into the first abode he came to, and grabbed up some food. According to Brower, if a person managed to eat he would have to be treated as a guest in the house (Brower, 1942).

In an influential analysis of Inupiaq kinship, Heinrich describes the nature of its flexibility. He starts by discussing the relationship between flexibility and the "permanence" of kin ties: (Heinrich, 1963:74)

The connections of Inupiaq kinship are permanent, but they are not necessarily permanently operative. They may lie dormant. Where relatives are separated by distance, the dormancy is, of course, a function of cultural interpretation of the effects of geography. But the same thing may (in the sense of being perfectly permissible) happen where relatives are in the same community. In cases where two people who have kinship connections have no mutual need to interact as kinsmen, they need not do so, and very often they do not do so. At any later date, though, the dormant connection may be reactivated.

Thus, while kinship considerations were important, they were not sufficient for determining relationships between individuals or groups. "Mutual interest" was needed to bring these ties into play. People with whom an individual lived, worked, or interacted were the people with whom kin ties and pseudo-kin ties became most salient. Naturally, the groups among whom such interactions were most intense were the family, gargi (ceremonial house) organizations, and long standing subsistence task groups. In the past, families were

large, extended households. Today they may be extended, or groups of closely interacting households, or smaller nuclear households. In his description of the traditional system, Heinrich uses the term "nuclear family;" according to his data, these relationships may have been the most intense. He notes that, "Aside from attachments formed within the nuclear family, there is not evident among Inupiaq Eskimos any great amount of overt reluctance to separate from specific localities, groups, or individuals" (Heinrich, 1963:74).

Since the nuclear family is the locus of most social interactions, subsistence activities, and sharing, and since the kinship system is activated through such interactions, one would assume that kin ties would be most intense within this family. Heinrich's statement confirms this possibility but, at the same time, it may underestimate the importance of kin ties which exist generally throughout the community. Historically, Inupiaq settlements tended to be kin-based units (Burch, 1975; Spencer, 1959); still today these settlements tend to be intermarried, deme-like communities (see Jorgensen, 1984). Even Heinrich paints a picture of this more generalized web of kinship that weaves Inupiaq communities together, ideologically and emotionally. He writes: (Heinrich, 1963:75. Emphasis the author's)

The individual, in the process of becoming enculturated, internalizes (probably to a deep subconscious level) the fact that most members of his social world are kin of some sort or another, potentially always at hand. The average Inupiaq is not conditioned to interaction with a definite number of kinsmen of closely and permanently defined sorts. He is not permanently attached to a

kinship structure, but rather, he is conditioned to going through life interacting with most members of his society in a variety of culturally defined ways, pragmatically as contingencies demand.

Knowledge of the importance of kin and of the role social interactions play in defining kin is necessary for an understanding of Wainwright households, of sharing within and between households, and of task group formation. Knowledge of the Inupiaq tendency to generalize kin relations within a village is central to an understanding of sharing within the community, of cooperation and conflict resolution, and activities such as giving to "old people." All these points must be kept in mind in the consideration of kinship, task group formation, subsistence economics, and sharing which appear below. Heinrich makes another observation useful in a consideration of sharing with relatives and friends in more distant communities. He writes: (Heinrich, 1963;74fn)

If the opportunity affords, it is considered commendable to send a present to a near and emotionally close relative who lives at a distance, but no censure attaches to not doing so. The person who is out of reach need not be interacted with, and it is not considered necessary to expend any effort to do so.

HOUSEHOLD SIZE

In March and April, 1982, we developed a census of the native households in Wainwright. Information about geneological relationships within and between households was collected. A single census was constructed by first compiling earlier censuses (Milan, 1964; Worl, 1977; NSB

housing census, 1980; NSB census, 1981), then comparing this compilation to the knowledge of local experts. Finally, it was spot-checked by collecting strategic genealogies. This information was corrected and revised throughout our stay in the village.

On April 1, 1982, there were 97 native households in Wainwright. These households included 392 people and ranged in size from 1 to 12 members (see Table V-1: Household Size, 1982). The mean household size was 4.26, well above the United States average of 2.7 persons. The median size at Wainwright was 4; the mode was 1 and 3.

Many writers have commented on the changes taking place among the North Alaskan Eskimo (see Burch, 1975; Chance, 1966; Smith, 1966; Van Stone, 1962). Like the other villages on the North Slope, Wainwright has not been immune. We shall discuss some of these changes in other sections; here let us emphasize that modifications in the kinship system of Wainwright have been profound. The gross statistics of household size presented in Table V-1 provides an inkling as to the changes that have occurred.

Bureau of the Census, 1982). Wainwright's distribution resembles more the profile of Indian reservations in the "lower 48" than that of the national profile (see Robbins, 1968; Jorgensen, 1964; 1971; Aberle, 1968; Knack, 1980). On Indian reservations, dependencies on transfer payments and transitory public sector employment generate such household distributions (see Jorgensen, 1971). In Wainwright, the causes are more recent and more complex (see section on historical changes to household size, below).

Obviously, the percentage of people who live in the smaller households in Wainwright is lower than the actual percentage of small households. For example, about 4 percent of the inhabitants of Wainwright live in the village's 16 one-person households while about 3 percent live in the sole 12 person household. Moreover, the households with three members or less are not independent from larger ones. Single persons and young couples are drawn into domestic activities of their relatives' households, sharing food, services, skills, and the like. Furthermore, the largest households, too, do not constitute self-sufficient islands. They are elastic and respond easily to the loss and gain of members.

Yet, the size of households indicates, in part, the sorts of family experiences an individual might expect. Today, most individuals experience small households. The sizes of specific households, however, tend to fluctuate from week to week and month to month as people enter and leave the village. Between April and August, 1982, several households

gained membership. One household gained four when the household head's brother, daughter, and the daughter's two children came to stay a while; three households gained one member through childbirth; one household gained and then lost a member when a man came to visit, decided to stay, and then decided to rent his own place; two households lost and two gained one member as people moved from one abode to another; finally, one household gained two members when another dissolved and joined it.

During this same period, other households lost members. Two lost members when people moved away from town. Six lost members when individuals moved out and set up their own households in the village.

In some households the membership fluctuates almost from week to week. In others it changes hardly at all from year to year. The important point is that the tendency is toward smaller families and smaller households, but not necessary toward less elasticity, or more formal rules of membership and behavior, or less sharing of resources and skills among households. This tendency has been noted by others who have written about Eskimo kinship in towns (see Burch, 1975; Smith, 1966). In Wainwright this observation is underlined by the fact that, between August 1, 1981, and July 31, 1982, seven new households were formed by the simple process of people leaving one home to find another.

In Wainwright, this process of the splitting of larger households into smaller ones has been encouraged by oil monies flowing from Prudhoe Bay into the coffers of the North

Slope Borough. As described in Chapter IV, much of these monies has gone into the Borough's Capital Improvements Plan (CIP). In Wainwright, much of the CIP money has gone into new housing. This trend to new housing reflects not only a Borough policy, it expresses a hitherto unattainable desire on the part of many individuals in the town for more privacy, more room, more "modern" conveniences (see Worl, 1977; NSB housing census, 1980). Such desires have as yet not been fully played out in Wainwright. One should expect this process of the multiplication of households through fission to continue for some time to come as long as new housing and money for fuel oil remains available. If, in the near future, more monies become available due to new oil developments, the demands for housing by Wainwright's present population should be expected to increase even more rapidly.

Household Size and Resource Extraction

Household size appears to correlate positively with hunting activity. We compared several lists of households which were headed by active and good hunters. Eight households were noted regularly; another five were mentioned frequently. The eight regularly cited households have a mean size of 6.13, a median of 6, and a mode of 5. When we add the households mentioned less often, the mean drops to 6, the median to 5, and the mode remains 5. These figures indicate a significant difference between the average size of Wainwright households generally and those viewed as headed by notable hunters.

It is possible that peculiarities of household size and composition may tend to run in families. Three households are headed by brothers who are renowned hunters. Yet even if two of the brothers are dropped from the count, the average size of the hunters' households is larger than that for Wainwright as a whole.

A second consideration is whether the size and composition of the household relates to the developmental history of household heads. Young men who have recently moved from their parents' home live alone or with their wife or girlfriend or with their small family. Moreover, even though some of these young men show promise of becoming the important hunters of the future, the tendency in the community is not to recognize them as such now. To the older people in the village, and especially to older active and semi-active hunters, the youth do not hunt. A 21 year old male who lives alone is not the sole example of a younger unrecognized hunter; several unmarried sons living in their parents' household are also unrecognized as hunters, even though they hunt. This lack of recognized merit, by the way, provides one source of tension between Wainwright's young adults and the older generation.

Conversely, households headed by senior citizens in Wainwright--the elders--also tend to be smaller than average. Many of their active children have moved out. These households lack active hunters. They are headed either by widows or by males who have retired from most hunting activities.

Often such men have reputations of being the expert hunters of the past and interested outsiders, such as researchers, are referred to them.

The distribution of the size of households with youthful and aged heads differs substantially from Wainwright's as a whole. Youthful has been defined as 30 or under, aged as 65 or above. If we subtract these households from the total, 68 households remain with a membership of 324. They have a mean size of 4.76 and a median and mode of 5. As previously noted, the mean size of households regularly mentioned is 6.13, while the mean of the expanded list is 6. Therefore, even after making allowances for household dynamics, it appears that the size of the households of recognized hunters differs considerably from the Wainwright average (circa 25 percent).

Several writers have observed that hunting activity appears to be positively related to working activity (Kruse, et al., 1981; Van Stone, 1960). These writers reason that, since hunting now costs money, men with jobs are best able to afford it. One might also ask why there is a positive relationship between hunting activity and household size. However, the answers in this case, are less straightforward.

We can offer three possible answers, none of which are mutually exclusive. First, many of Wainwright's large hunting households also have access to relatively large and stable sources of income. This relationship between work and family size is complicated and seems to be changing rapidly with the building of more North Slope Borough houses. Many

of the young wage workers live in the town's smaller households. Nevertheless, many larger, older, extant households center around a core of reliable money earners.

Second, many of Wainwright's larger established households are not only headed by a well recognized hunter, they also include one or more of the hunter's sons. These younger men also are often accomplished hunters but they are less well recognized as such by the community. To a certain extent, the father's reputation gains from the achievements of his offspring or--from another point of view--from the father's abilities as a hunting teacher and as an organizer of subsistence activities.

Finally, just as in the past, today a hunter's reputation depends in large measure on his generosity. Obviously, a family which includes several good hunters can afford to give away more meat. Yet there is another aspect to this. In Wainwright, giving is a conscious act which appeals to highly praised, traditional values. People often make statements like generosity "comes from our traditions" or that it is based "on our cultural heritage." The recognized hunters in Wainwright are men who consciously affirm such values. Perhaps they also tend to be people who prefer to surround themselves with more traditional families. Certainly, their largess is one type of cement which holds these families together.

Historical Changes in Household Size

Since around the turn-of-the-century, the inhabitants of the North Slope have concentrated more and more in a few

settlements. Burch summarizes this process as follows:

(Burch, 1975:31-32)

By 1905, or thereabouts, the permanently established schools and other new institutions in Northwest Alaska had created a strong impetus for the sedentarization of the Eskimo population...

By 1920 the typical villages had a core of permanent native inhabitants, plus another group who spent at least the winters "on the land."

By 1940, virtually all of the native population of Northwest Alaska was concentrated permanently in school-mission-store communities.

From the published literature, the few old records we could unearth, and from conversations with some of the village's older inhabitants, Burch's summary roughly describes the development of Wainwright. Wainwright began with the founding of a school in 1904. Wainwright's population was decimated several times by epidemics and decreased again after 1947, when several of its families moved to Barrow to seek wage work. In general, however, the village has grown slowly but steadily since the founding of the school (Milan, 1964:25)

A handwritten 1907 or 1908 school census shows 81 people in Wainwright inhabiting 9 iglu. The term iglu is used here to refer to sod covered and, probably, traditionally shaped dwellings. A good half of these men, women, and children were not present in the village year round. Warner Asogeok reports only 10 or 11 iglu in Wainwright in 1925 when he moved there from Point Lay. The school census shows 227 people living in Wainwright in 1950 and again in 1964. Milan describes the village in 1955 as consisting "of some 56

weathered frame houses and four sod-covered igloos." This means that two native families must have had neither a frame house nor a sod igloo of their own. Our 1982 census includes 392 Eskimos living in 97 different households each under a separate roof. Many of the abodes of Milan's day stand empty now or are used for storage.

These developments indicate more than population growth alone; the distribution and average of the size of Wainwright's households has changed as well. Although not all the people were present at one time, in 1907 or 1908, an average of nine people shared each iglu. When we compare Milan's census to our own, we find that even since 1955 this demographic shift has been profound. The 1955 distribution of household size is presented in Table V-2, "Wainwright's Households in 1955."

yet by 1982, 4 percent so resided. In 1955, 8 percent lived in households of three members or fewer; in 1982, the percent was 23. Moreover, houses today are, by and large, much larger than those of Milan's day. Presently, people in Wainwright have more room and share this space with fewer relatives.

This turn to newer housing represents government programs, of course, but it also expresses all sorts of motivations; the desire for modern comforts and conveniences, for more space, for more privacy. Younger people desire to have their own place, to start their own families. Older people seek a certain amount of privacy as well, although most seem to prefer having a grandchild or two in the house. While this trend toward smaller and simpler households has been going on for a long time on the North Slope (see Burch, 1975), in Wainwright it was doubtlessly accelerated since 1955 and particularly since the founding of the North Slope Borough. Whether the trend toward single family households, larger houses, and petroleum-based fuel will continue shall be dependent, we suspect, on the price of fuel, the number of jobs, and the amount of transfer payments available to local residents.

In this section we discussed only the general demographic changes in Wainwright households over time, particularly those changes occurring between 1955 and 1982. Two impressive trends appear. First, Wainwright has grown tremendously. Between these years, the native population has

increased by about 57 percent, the white population by about 150 percent. While Wainwright is evolving under native rather than white direction, still these population trends indicate that Wainwright is, in some respects, becoming more a town than a village. Second, household size has decreased significantly--by about 22 percent. This decrease represents a real change in the social composition of households and is qualified by that fact that sharing and cooperation, among people under different roofs, persist.

In many respects--and particularly if one ignores child adoption, temporary guests, and sharing among networks of related households--households in Wainwright are becoming more like the white households in Alaska. This decrease also represents a real change in the individual's life experiences. A grandmother who before would have had many grandchildren under foot, now has only one or none; three brothers who before would have lived under the same roof, now head separate households; a young couple and their child who before would have lived temporarily as in-laws in one of their parent's homes now start their own household immediately.

We shall discuss the kinship structure of Wainwright households below. Here we emphasize that the discussion of almost any social phenomenon occurring in Wainwright--such as task group composition or recruitment, hiring practices, visiting patterns, village politics, or North Slope Borough politics--must be mindful of the demographic shifts that have occurred and are occurring. These are large scale and

profound changes; and these changes have been rapid and have accelerated in the last few years due to the infusion of oil monies into the economy. Mentally and physically, people respond to such changes. When Wainwrighter's discuss social events, they refer to and make use of both old ways and new concepts. When they act, their actions too draw on both. This mix of old and new is particularly apparent with regards to subsistence--to hunting activities, sharing and reciprocity, task group composition and the like--and with regards to the explanations Wainwrighters give to these activities.

KINSHIP COMPOSITION OF HOUSEHOLDS

Between 1960 and 1975, much was published about Eskimo kinship, its formal and structural aspects, its "flexibility", its functions in organizing Eskimo society as a whole (Befu, 1964; Burch, 1975; Guemple ed., 1972; Heinrich, 1960; Willmott, 1960). Ernest Burch endeavored to synthesize much of this material into an account of the historical changes of the kinship system of the northwest Alaskan Eskimo from the turn-of-the-century until about 1971 when the Alaska Native Claims Settlement Act (ANCSA) was passed.

Burch convincingly demonstrates that the North Alaskan Eskimo household structure of about 1971 was much simpler than it was in the 1890s. He also shows that it remained more complex than that of the United States population as a

whole. Two of the qualities which continue this structural complexity into the 1980s are, first, the variation or "flexibility" of the membership of the individual households and, second, the fact that individual households often act as producing and consuming units in consort with other, related households. These Burch calls "local families" (Burch, 1975).

The "flexibility" of household membership--traditional and legal adoptions, visitors, and the like--will be discussed as a separate aspect of household composition. The extent to which households function as "local families" will be addressed in the sections on task group composition and sharing. Here let us discuss the kinship composition of the 97 native households in Wainwright as of April 1, 1982. A comparison of Milan's 1955 household census (1964:83-95) and ours confirms many of Burch's observations. In the past 27 years the household composition in Wainwright has, on the average, become simpler. Yet even a cursory analysis of the 1982 census shows this composition to be more complex than that for the United States as a whole.

Few households in Wainwright contain collateral kin or affines, many households include adoptees. Since adoptions greatly complicate Eskimo kinship, we shall put this issue aside for the moment and begin by categorizing the households according to the number of lineal generations they include. Present day Wainwright households contain between one and four generations of kinspeople. Typical forms of families are diagrammed below. (□ is used to mean either male or

female instead of a Δ for male and a \circ for female when sex is not important. In category 5, it is used to disguise the identity of particular households, as well.)

One-generational households

A one-generational household may include either one person (1a) or a cross-sex couple (1b). This couple may be married or unmarried. In theory, a one-generational household could include one made up of two or more siblings or two or more friends of approximately the same age. Such situations are not unheard of in Wainwright; both configurations of household structure have existed in the village in the early 1980s as well as before. Moreover, both recurred in 1982 after our census was taken. Two female friends lived together for a few months before one moved back to her parents' household. Two brothers lived under one roof after their parents and other siblings moved to a new house. The combination of friends or siblings comprising a household appears to be very common in Wainwright and also very unstable. During the 1982 field period, the two women left the household, and one of the brothers began searching for a house to rent so as to take up residence with his girlfriend. Neither such configuration existed in Wainwright on April 1, 1982.

One generational household memberships are:

1a. One person = \square

1b. Couple = Δ = \circ

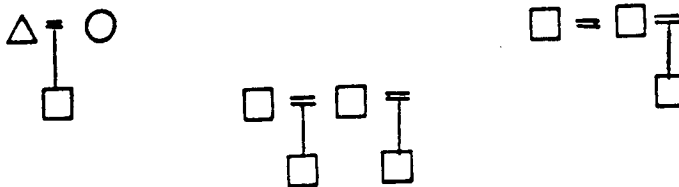
1c. Siblings/Partners = $\begin{array}{c} \text{---} \\ | \quad | \\ \square \quad \square \end{array}$ or $\square \longleftrightarrow \square$

Two-generational households

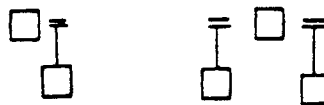
The most common type of household in Wainwright today is a couple and their offspring (2a). This couple may be married or unmarried and may, in theory, have any number of children living with them. In Wainwright, the number ranges from 1 to 9. This configuration may include adopted children and/or step-children (children from a previous marriage or relationship). Two generational households may also comprise a single parent and their offspring (2b). The offspring may be a product of one or more relationships.

Two generational households are:

2a. Couple and offspring =



2b. Single parent and offspring =



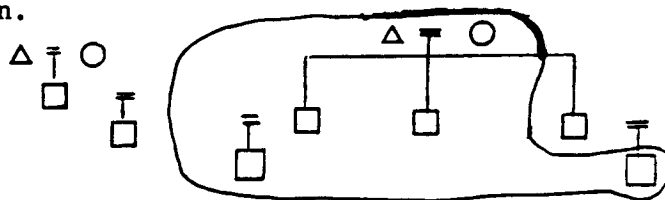
Three-generational households

The most frequently occurring three-generational household consists of a couple, their children, and one or more grandchildren (3a). In all such cases, the grandparents are married. One family composed of both grandparents and one grandchild is included in (3c). In 1955, several three-

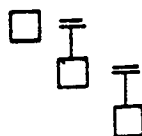
generational households in Wainwright consisted of a couple, their children, a son- or daughter-in-law, and children of their child and in-law. There were no such households in Wainwright in 1982. However, in 1983 an analogous household configuration did exist, one made up of parents, their son-in-law, and their children and grandchildren. Their married daughter was working in another village. Other household configurations in Wainwright today are composed of a single parent, their child, and their child's child (3b), and households of a single grandparent and grandchild (3c).

Three-generational households are:

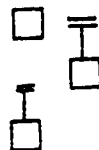
3a. Couple, their children and their children's children.



3b. Single grandparent, their children and their children's children.



3c. Grandparent and grandchild.



Some three-generational households headed by both grandparents (3a) are the largest households in Wainwright. One contains 12 members, three 9, and two 8. Yet, several of these households are quite small, three comprise four people or less. The mean size of such households (3a) is 6.7. All

the three-generational households with but one grandparent (3b and 3c) are small, comprising either two or three members. The mean size of all three-generational households (3a, 3b, 3c) is 5.9 people. The distribution is bimodal.

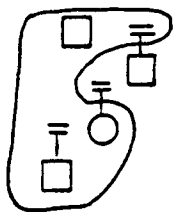
The two modes indicate two different points in the historical trends of three-generational households. The larger households are usually headed by the more active hunters, wage workers, and politicians in Wainwright. In this sense, they are similar to the active two-generational households. The smaller three-generational households, on the other hand, tend to be headed by people who have retired from sustained hunting and wage activities. These households are further along in a developmental cycle toward old age and retirement than are the larger ones. All the three-generational households with but one grandparent are of this "retired" type.

Four-generational households

Two households in Wainwright comprise a grandparent, a grandchild, and a great-grandchild. In both cases, the grandchild is a female who has borne a child. Also, in both cases the grandparent has reached an age where they have essentially retired from village life. These two households might be seen as structurally equivalent to the three-generational households which contain a single grandparent retired from much of village life and a grandchild (3c).

Four generational households are:

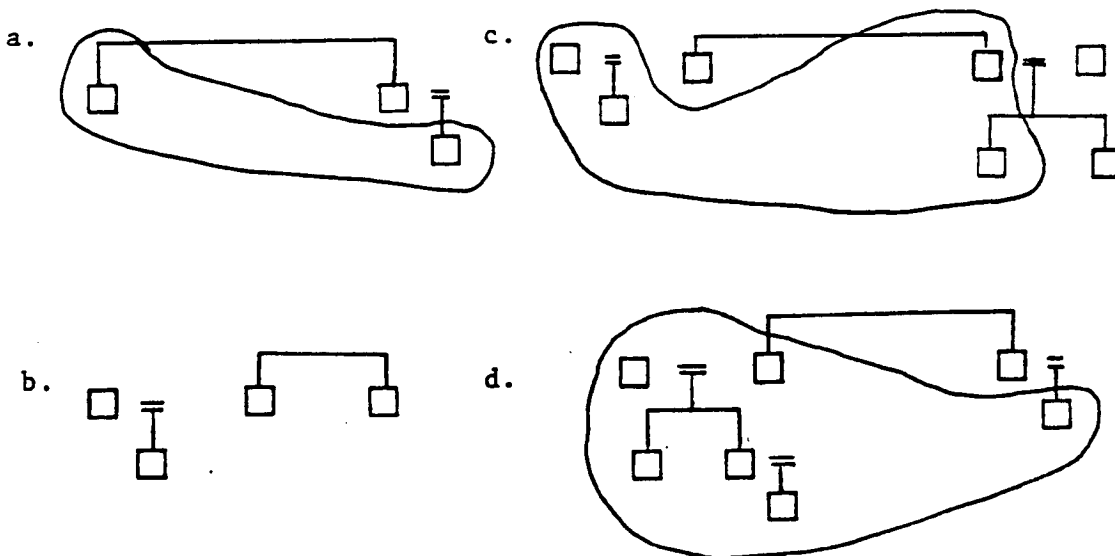
- 4a. Grandparent, grandchild (female) and great-grandchild.



Other households

Nine composite households are classified as "other." They variously are composed of collateral relatives, affines, nephews and nieces, sisters, and brothers. Six of these households are two generational (a-c). Two households are three generational (d).

The simplified diagrams follow:



Actually, only two of these households contain affines. In all other cases, the households include adopted children who are also blood relatives. Adoptees are usually nieces or

nephews. Sometimes they are children of a niece, nephew, or aunt of the household head. Often such adoptions occur because the adoptee is a relative and needs a home. Sometimes relatives serve more as adoption agencies; a couple wants to adopt a child and "hears" of some relative who wants to give one up.

Table V-3, "Household Structure, 1982," provides a tabular presentation of the one-, two-, three- and four-generational households in Wainwright. This table is simplified in another important respect; information about parenthood occurring outside of the conjugal pair is omitted. Such things occur here as in any town, yet information on this subject is not systematic enough to be useful.

Households made up simply of parents and their unmarried children form, by far, the largest category of household type in Table V-3 (IIa). In Wainwright, 43 households, or 44 percent of all households, are of this type. On the other hand, households containing collateral kin and affines--a phenomenon once common on the North Slope according to Burch (1975) and one appearing frequently in Milan's 1955 census--form only 9 percent of all Wainwright households. If households which contain collateral kin and affines only through adoption of children are removed from this category, this number drops to 2 percent. That is, only two households in Wainwright contain collateral kin or affines who do not stand in son or daughter relationships to the family heads.

In Wainwright, 24 households contain only one generation, either a single person or a married or unmarried couple (Ia, Ib). This is 25 percent of all households. Two-generational families make up 56 percent of the total. These 54 households include parents or single parents and their children (IIa, IIb) including seven households with collateral kin or affines (V). Thus, one- and two-generational households make up 81 percent of all Wainwright households. Three generational households include parents, their children and grandchildren (IIIa), single parents, their children and grandchildren (IIIb), grandparents and grandchildren (IIIc), and collateral kin or affines (V). Finally, two households are four-generational, including a grandparent, granddaughter, and great-grandchild (IVa). Three and four-generational households total 19 and make up

20 percent of Wainwright's total.

These findings confirm Burch's (1975) statements that North Alaskan Eskimo households are becoming simpler in structure, but do not confirm a claim that they approximate white families in Alaska. The flexibility of households, and the types of composite, three-generational, and four-generational households suggest a different trend. While nuclear households predominate in Wainwright as elsewhere in the United States, much as on Indian reservations they predominate to a lesser degree. Moreover, Wainwright lacks the large percentages of United States households made up of single persons and same sex and cross-sex pairs. Indeed, Eskimo values for adoption and sharing continue to yield some large, composite households in Wainwright as well as a high percentage of three and four-generational ones. Thus, while the social composition has simplified over the past forty years, it remains noticeably different from these United States average. Wainwright household composition is more comparable with that in other Alaskan Native villages or, even, with that found on Indian reservations in the "lower 48." Furthermore, sharing and cooperation among related households on a regular, often daily basis, also distinguishes Wainwright households from white households in Alaska and, as ethical principles, undoubtedly influences household organization. That is, Native ethics and customs reinforce the organization of households and "local families" and, thereby, maintains the differences between Wainwright

households and those of white Alaskans.

ADOPTION

Excluding adoptions, 98 percent of all Wainwright households either contain no children or only children in a direct line of descent from the household heads. However, considering them adds greatly to the complexity of composite and multiple generation households. Clearly, adoption has been an important aspect of Eskimo kinship as far back as memory penetrates (Dunning, 1964; Spencer, 1959). Burch has argued that adoption served to extend kin relations during the traditional and contact periods (Burch, 1975). During these times, kinship functioned in judicial and political realms of life on the North Slope.

While kinship no longer fulfills these same functions, adoption remains an important institution in Wainwright, and particularly so with regards to the internal and external workings of the various households. It joins families in that village to families in others, particularly Barrow and Point Lay. It joins families in Wainwright itself. Many of the adoptions involve relatives, either in Wainwright or from other communities as far away as Anchorage. Grandparents adopt grandchildren, aunts adopt nephews and nieces or nephews and nieces once removed. In Milan's genealogies, an older sister adopted her younger brother.

Because of this tendency to adopt kin, the picture of simple lineal descent in two- and three-generational

Wainwright households changes profoundly when one considers adoptions. Table V-4, "Adoptive Households by Size" and Table V-5, "Adoptive Households by Type" describe Wainwright households which contain adoptive kin and the percentage of the adoptive households to the total.

Table V-4

Adoptive Housholds by Size, 1982

Household size	2	3	4	5	6	7	8	9
number of households	x x x x	x x x x x	x x	x x x	x x x	x x	x	x x
				total households = 97				
				total adoptive hh = 25				
				percent adoptive hh = 25.8%				
no. of total	4	6	2	4	5	1	1	2
% of total	33.3	35.5	14.3	26.7	50.0	25.0	33.3	50

Table V-5

Adoptive Households by Type, 1982

Household type	Ia	Ib	IIa	IIb	IIIa	IIIb	IIIc	IV
number of households	--	--	x	x	x	--	x	x
			x	x	x		x	x
			x	x	x			
			x	x	x			
			x		x			
			x		x			
					x			
					x			
					x			
no. of total	--	--	7	5	9	--	2	2
% of total			16.6	45.5	64.3		100	100

In Wainwright, 34 percent of all households with children contain at least one that is adopted. Moreover, adoption was probably even more common in the preceding generations (see Burch, 1975); many adoptees are now heads of their own families. A large difference exists between two- and three-generational households in terms of frequency of adoptions. In the first group (IIa, IIb), 22 percent contain adoptees; in the second (IIIa, IIIb and IIIc), 77 percent contain them. In the three generational households, we have defined adoption as a grandchild living in and considered a member when its mother and/or father is not. If we eliminate such instances from the count of adoptions, only 24 percent of three-generational households contain adoptees which are not lineal grandchildren of the household heads.

We have made no distinction between legal and

traditional adoptions. Step-children have not been included with adopted ones.

CHAPTER VI

SUBSISTENCE TASK GROUPS

Two related questions emerge from a consideration of the functions of kinship in traditional North Alaskan Eskimo society. First, how have kinship functions changed in Wainwright since contact? Second, what is the role of kin ties in structuring present-day hunting task groups in Wainwright? The first question is addressed only generally, as a way of underlining the continuing importance of kinship and kinship considerations in present day subsistence activities in the village.

In the realm of government, law and order, and education, to say that kinship functions have become truncated or constricted most probably underestimates the scope and character of the changes which have taken place in North Slope society since contact. Today, one can look at almost any formal social institution in Wainwright--the stores, the churches, the schools, the bodies of government--and find some way in which its operations are affected by kinship considerations of its employees or members. Nevertheless, kinship no longer provides their organizational basis. The stores, for example, are not structured by kin relations. These institutions find their order in United States law, a law often complicated because of the special relations between the federal government and native Americans. One might point to a "kinship component" in a business' hiring

practices, but this component remains an aspect of a phenomenon organized along different principles.

Moreover, the people of Wainwright understand that such organizations are not kinship-based institutions. People are aware of price differences among the stores, often item by item. Comparative prices, store hours, and credit needs--not kinship--are what shoppers in Wainwright consider. Often one hears complaints about nepotism in one social institution or another. These complaints are always phrased in terms of the universalistic ideal of American society at large, never in terms of some conflicting kin obligation.

From one point of view, the realm of kinship has not simply narrowed, the place of kinship in society has changed radically. However, this brings us to our second question, "What is the role of kin ties in structuring present-day hunting task groups in Wainwright?"

In the thoughts of Wainwright's people, one place where kinship based principles remains relevant--even primary--is in regards to subsistence hunting. Kin principles remain relevant on at least three levels. First, many, but not all, task groups concerned with subsistence activities are conceived as kin based. Second, most, but not all, sharing of subsistence foods is conceived as occurring between kinsmen. Third, many Wainwrighters claim the right to subsistence hunting not only because of economic necessity and cultural heritage, but because of inheritance--their parents and parents' parents hunted for subsistence.

To repeat, in Wainwright today, as in the past, kinship

ties remain central to subsistence pursuits. These ties operate both on conscious and unconscious levels to help to organize such pursuits. This continuing role of kinship serves to underline the importance that subsistence pursuits have for the people of Wainwright to the maintenance of traditional social forms and values in a community pressed on all sides by change. The erosion of the role of kinship in other realms of life--in government, education, religion--serves to underline, as well, the importance of subsistence to the maintenance of normal personal relationships within the village. In what follows next, we shall examine the first of these levels, the relationship between kinship and the composition of hunting task groups.

GENERAL FACTORS AFFECTING TASK GROUP ORGANIZATION

Kinship relations are not the only facts which influence the organization of subsistence task groups. The structure and size of subsistence oriented task groups are related to such issues as the kind and character of the resource to be exploited, the distance that resource lies from Wainwright, the amount of time one might expect the activity will take, the technical apparatus needed to accomplish the task, and the time of the year it is to be undertaken. Here we shall discuss some of the effects these issues have on the constitution of task groups. We hope that by doing this, a clearer picture will be formed of the role kinship plays in the

constitution of these groups.

Almost every citizen of Wainwright is capable of walking the three miles or so to the good spot on the Kuk Lagoon, jigging a batch of smelt if they are biting, and bringing them back. One need only wait for a relatively calm day, take a stick, a short line, a weighted hook, a sack, and something to cut a hole in the ice, and remember to dress very warmly. If the fish don't bite, one can come in early. Logically, everyone but the very young or infirm is free to go ice fishing alone. However, individuals usually choose to go in groups. Who goes together involves culturally conditioned individual tastes.

Hunting walrus is another matter. A walrus is a large and dangerous animal; killing it is a problem, butchering it a task. One needs rifles and tools to cut and haul. One also needs a calm day, favorable sea and ice conditions. A CB radio is useful in case of unforeseen trouble. Planning requires food for the day, a shotgun in the event ducks are encountered, a .22 for seals, warm clothes, time and money. One needs a crew--two or three is appropriate; five might overload the boat if the hunt succeeds. Here, individual choice is more constrained than in the case of ice fishing. Yet the individual's taste is no less culturally conditioned. All crew members are either lenders or borrowers of equipment--at least of the boat and the motor. Who one lends to or borrows from is, in part, a culturally-determined event.

Sometimes dead walrus are washed up on shore. After

strong summer storms, people drive along the coast on three-wheelers looking for them to recover the ivory and usik. One does not need a crew for this, only an axe, a half-gallon of gas and maybe a rifle should the scavenger happen upon bears. One might go with a friend, but it is best to leave quickly to be the first one there.

Caribou hunting after freeze-up is done by snow machine, often quite close to the village. A single man can kill and butcher several with ease, although more often than not groups of men like to go together. Before freeze-up, caribou hunting is done by boat, often at fair distances from the town. This demands more planning and entails some of the more important group undertakings of the year.

Arctic fox can be trapped near the village while red fox, wolves, and wolverines are more often encountered farther away (they are usually shot). The latter activity tends to be more often a group effort than the former.

Examples of this interplay between the changing habits and habitats of the quarry and the make up of subsistence task groups can be found for every species in every season it is taken except for the all important bowhead whale. Issues such as the character of the resource exploited, its distance from town, or the time taken for a particular activity may sound almost like variables rooted in nature, but they are only partially such. The type of resource exploited has a lot to do with food tastes; the character of the game has a cultural component. Walrus are not a "preferred" food;

moreover, they are viewed as dangerous animals who will attack people who sport with them. Yet, walrus are hunted. Outboard motors have allowed small groups of men to take this mammal at considerable distances from Wainwright, and in minimal amounts of time when compared to the pre-outboard motor era.

Issues, obviously social and cultural, fuse with these more "natural" ones to determine the size and composition of task groups. People must juggle their jobs with subsistence time; they must pay for the equipment, supplies, and gasoline necessary for the hunt. To continue with the walrus example, most hunting occurs after working hours and on weekends. People will leave town around 6:00 p.m., run their boats at high speed down the coast 25 miles and out into the ocean 15 or 20 miles, shoot and butcher their animals, return to Wainwright at high speed, sleep an hour or so and go to work, on time or late. People whose work situation disallows such behavior can only go on weekends or not at all. Today wage work provides the financing necessary for modern subsistence hunting. It is just as true, however, that wage work profoundly limits the choices that go into subsistence pursuits and restricts, as well, the interplay of social ties which surround them.

Ideas about the good life and proper behavior also play a part in the make-up of task groups. Men accept danger when necessary; they do not put their women in danger. Until very recently, women did not accompany men in the boats during walrus hunting. Modern technology makes hunting walrus safer

than before, yet still such behavior is uncommon. It is said, "A woman has to be brave to go walrus hunting." Men say the walrus will attack the boat if it contains anyone who went "just for the show."

The natural and social qualities of men and animals all play a part in the constitution of subsistence oriented task groups. So do the psyches and tastes of the individuals who hunt, fish and gather. Several Wainwright men express their preference for hunting alone. They say they enjoy the solitude of the tundra, the temporary escape from the social tribulations of the village. Other men rarely hunt alone. They appreciate the companionship of camping with friends and relatives. After freeze-up, some couples will go as far as Atqasuk on the Mead River to jig for fish. They enjoy the change of the social scenery. Others will form little enclaves of Wainwrighters at various points along the Kuk River.

These are but a few indications about where people hunt, how often, when, with whom, and where families build cabins. All represent choices made by individuals. Such choices contain cultural and historical ingredients. Nevertheless, these still are individual choices. Some men prefer to go on long hunts with friends, not wives. Some Wainwrighters still like to hunt walrus with plenty of other boats nearby.

Our point here is that a description of such task groups in no way includes all or even most of the thinking and decision-making that goes into their construction. Kin ties

provide one common point for joining hunters from Wainwright together in a common task and the constraints of jobs, shared ideas about animals, and similar attitudes towards village life provide others. Nevertheless, kin ties remain the single most important bond, particularly if one considers quasi-kinship relations such as adoption and partnerships. This importance is shown both in the actual empirical composition of task groups and in people's understandings and descriptions of them.

One final note concerning the general make-up of subsistence oriented task groups. Again with the important exception of bowhead whaling crews, the exact composition of task groups is often to a large degree a matter of chance or opportunity. With certain species, this fact is apparent. A man or woman may go to the Kuk Lagoon to jig smelt. There they might meet a friend or relative and fish with them. The make-up of camping sites for spring duck and geese hunting and for summer netting and seal hunting often follows a similar process. The snowmobilers or boaters will see a group of campers and--knowing who is in the area and recognizing who is on shore--will decide to camp there. People come and go in this fashion and the social make-up of the camp changes.

But the composition of many task groups is ad hoc in another important way. When we asked the question, for example, "Who do you hunt walrus with," people would often answer, "With my relatives" or "With my brothers." Almost as often people would give answers like, "Whoever is going out"

or "Whoever is around." Usually the person who "happens" to be going also "happens" to be a relative, but this is not always the case. A man will bump into a friend at the store, mention that he must check his net by boat and invite the friend along. We must stress that, even with boat crews, this "happenstantial" quality is often an important factor in task group composition.

In 1982, we witnessed one large-scale version of this process. Men working at one of the schools heard on the CB radio that beluga whales were in the area and that boats were preparing to depart after them. Beluga maktak is considered a delicacy; its flesh makes excellent "dry meat." While bagging them is seldom possible for Wainwrighters, when possible, belugas are taken in large numbers. Men dropped their work and ran to the beach, hoping to catch a ride on the boats going out.

The smallest possible task groups consist of two people. The largest subsistence oriented task groups which occur at Wainwright revolve around bowhead whaling. Whaling crews can be large, often consisting of more than ten members. Moreover, several crews often work together when stalking and killing the animal as well as when landing it. Whenever one of these giant mammals is brought to the edge of the ice the greater part of the community descends to this spot to help land, butcher and store it. This temporary community can include 250 people and more. Next to this event, the largest task group we were told of occurred in the late 1970s during

summer upriver netting. Then, "about 30 or 40 people got together" for the construction of a cabin.

At this point we will summarize some of our findings about the social composition of subsistence oriented task groups as well as individual subsistence pursuits. These summaries shall be brief overviews since detailed information concerning individual pursuits and task groups appears in our discussion of species-specific resource collection and distribution.

COMMON TASK GROUPS

Couples and Nuclear Family Task Groups

Couples, sometimes with small children along, are a common form of task group. This, like the lone hunter, seems to have become more common with the adoption of the snow machine and the growth of the money economy. The snow machine gives a small family a high degree of mobility while the money economy means that jobs must be juggled with hunting activities and time with the family. The adoption of high-powered outboard engines has meant that a couple or a couple with small children can get 50 miles or so upriver to fish, camp, hunt and net, then return, all on a weekend.

Couples hunt caribou and small furbearing animals in the winter, hunt birds in the spring and fall, fish and hunt caribou in the summer and fall. In these arrangements, women, on occasion, do some of the shooting. In the past few years, some men have been taking their wives or girlfriends

walrus hunting. This represents a break from the past. Still, the nuclear family as a hunting task group is nothing new. Women have always played a role although early anthropologists seldom acknowledged it. One is reminded of the re-release of Robert Flaherty's classic film "Nanook of the North." In the re-released version the narrator makes modest mockery of Flaherty's lens as he speaks of "the brave, lone hunter retrieving his seal" while the screen displays the hunter's wife dragging the animal.

Partners

The partner relationship is traditional among Inupiat. Spencer (1959:167-177) describes several kinds of partnerships. Traditionally a man and his partner were known as nuuvereyik, a term referring primarily to the relation of trade. The special relation of partnership approaches quasi-kinship, gutanutigiit (see Spencer, 1959:84-87). A trading partner or joking partner (Spencer, 1959:167-177) was someone in another village. Today, partnerships with persons in other villages are often formed through military service. One regularly hears of a "National Guard partner." Those persons are accorded special hospitality when visiting, are invited to village festivities, and subsistence goods are shared with them. Visiting partners from other villages receive shares of maktak during Nalakataq (the whale feast) and those who do not attend are sometimes sent a share by their partners. Other types of sharing or trading occur such as the trading of smelt from Wainwright for sheefish from the

Kobuk.

Hunting partnerships, not specifically discussed by Spencer, are also a longstanding tradition and are common in Wainwright (see Nelson, 1969:26). In this relation two men habitually hunt together for mutual protection and assistance. Today, hunting partners also spend a great amount of time together outside of hunting activity. Occasionally, partners in Wainwright are especially close affines, particularly brothers-in-laws. The term of partner is used commonly for non-kinsmen who participate together regularly and often when the bond between them has a special kind of strength.

A man might have three or four partners with whom he hunts at different times or for different species. Nelson (1969:261-262) described the partnership approach to hunting and we found similar patterns exist today. Partners often leave the village together, but sometimes will go out alone after arranging to meet at a hunting location. When leaving together partners normally go out on their own snow machines so they can spread out to hunt.

Larger task groups, such as whaling and walrus crews, often include those partners. An unrelated crewman is often the partner of the captain.

Complex Task Groups

Complex hunting groups occur, especially as boat crews. Boat crews hunt walrus, seal, caribou, and ducks. The structure of these groups is discussed more fully elsewhere

in this report (see especially the section on walrus.) Here we shall only stress two points. First, while these task groups often contain unrelated members, they usually include a stable "core" of members who are closely related. This core usually consists of fathers and sons, brothers, cousins, or nephews. Occasionally it includes a longtime unrelated or distantly-related hunting partner.

Second, these complex task groups are becoming simpler. The reason for the simplification is the adoption of high-speed motor boats. The usefulness of large inboard motor launches or "mother ships" has ended. This means that boat crews do not form so often into a small fleet for hunting walrus. Moreover, with more boats available, boat crews have become smaller.

Whaling Crews

The structure of whaling crews is also discussed fully in another section of this report and will not be restated here. We emphasize only that the regulation of the bowhead take through a quota system seems to have had the effect of: (1), increasing the size of whaling crews; (2), encouraging non-Wainwright membership in the crews; and, (3), creating semi-formal ways of bringing individuals into the crews.

INDIVIDUALS AS SUBSISTENCE UNITS

A person acting alone is the simplest unit which can accomplish a subsistence activity. Because of this simpli-

city, examining the activities of a person should underline the complexities that task groups face gaining their subsistence foods. Moreover, because of changes in technology, the lone hunter is a more efficient hunting unit today than ever before. By focusing on this simplest of hunting units we can see some of the complex historical influences in the constitution of present day hunting task groups.

Today in Wainwright, lone hunters tend to pursue their quarry for relatively short durations. A hunter may be gone for a long weekend, but usually such solitary quests last less than a day. This has not always been the case in Wainwright. During the 1920s--when money was scarce, fur prices were high and men traveled by dog sled--hunters singly and in small groups were often gone from town a month or more to attend their traps. In 1982, because of the high cost of the needed equipment, as well as the general availability of paying jobs in town, only one man in Wainwright followed this solitary pattern and he did so only sporadically.

The following are subsistence situations in which unaccompanied persons may be found:

Winter Trapping

While this is no longer the important winter activity it once was, some men still maintain trap lines. A man might leave Wainwright by snow machine to check his traps and be gone anywhere from a few hours to a whole day. Men will also go camping in the winter, often for a weekend but sometimes for longer. At this time of year, the small upriver cabins

are usually used as "base camps." Trap lines are often set. Commonly, however, this trapper-hunter is accompanied by his wife, or his entire family. As mentioned above, small groups of men will also make such trips, joining more for friendship and support than necessity for accomplishing tasks.

Winter Hunting

A single man on a snow machine pulling a cargo sled is an efficient winter hunting unit. From an ecological point of view, this arrangement might be the most efficient since it implies a great dispersal of the hunting population. For reasons of safety and companionship, most Wainwright men prefer to hunt with "partners." However, several do prefer to hunt alone. They give various reasons for this preference: personal taste, the desire not to be "slowed down" by other people's poor planning or poor maintenance of their snow machines, the safety from being struck by a stray bullet. At times, men who express this preference often hunt with other men as well. Those preferring solo hunts also tend to be men whose sons are old enough to "go it alone." We know of only one younger man who expresses this desire to hunt alone.

Caribou and small fur-bearing animals, especially red and red-variant foxes, wolves and an occasional wolverine, are taken on one-person hunts. As in the case of winter trapping, these excursions often involve camping and overnighting in upriver cabins. These trips often involve sizeable distances. Several times during the winter of 1981-

82, a male over 60 years of age traveled by snow machine, first, 75 miles to the east of town to his cabin; next more than 100 miles south to the Icy Cape territory; and then back to Wainwright. He left after work on Friday and attempted to return before Sunday evening church services at 7:00 p.m.

Thus, while some of the marathon trips common among Wainwright hunters are undertaken by lone individuals, most people who travel long distances to hunt like to travel with partners. Most hunting trips by unaccompanied men tend to be for caribou closer to home.

Winter Fishing (smelt)

Lone individuals often go to the Kuk Inlet to jig for smelt through the ice. Occasionally someone will walk the three or so miles necessary, although people prefer to catch a ride on a snow-machine. Jigging for smelt may be the most popular subsistence activity in terms of the numbers of people involved. Most teen-aged and adult Wainwrighters have fished for smelt in the last two years. While individuals often go, this activity generally takes on an air of a family outing. Couples go; couples take their children; a son will accompany his aged mother; an older child will be "followed" by younger siblings. The pace can be fast and exciting, the return trip, short and easy.

Smelt fishing underlines two issues concerning subsistence task units composed of lone individuals. First, it shows the element of change that goes into them. People may meet on the ice and fish together; one person may head back

to Wainwright early, leaving his buddy to jig for smelt alone. Second, it shows an element of the sexual division of labor which goes into task group make-up. Nelson (1969:148) reports that in Wainwright in the mid-1960s, smelt fishing was an important activity for women and old men. It remains an important activity but now it appears that men in active hunting ages take more of a role in it. A few women now hunt upon occasion, particularly for caribou and birds. From this, one might perceive a change in the sexual division of labor. But whereas a lone woman may go smelt fishing, she seems to prefer caribou hunting with her spouse, boyfriend or other male relative. This change in the sexual composition of task groups probably is more indicative of a recent change in the importance of the nuclear family than of some basic shift in the roles of females.

Winter Sealing

Nelson has discussed the advantages a lone hunter in winter ice-lead sealing. The animals are less wary before a lead has been hunted over. Hence, hunting tends to be best for the first hunter who arrives (Nelson, 1969). While such sealing has decreased since the mid-1960s, a solitary man leaving the village by snow machine and even an unaccompanied man pushing a small sled in front of him out onto rotten ice is still a common sight.

This phenomenon is analogous to much of the bird hunting that takes place around spring and summer camps. In these cases, people will eat and visit together at night and during

part of the day and the men will disperse over a wide area to hunt alone. With winter sealing, men concentrate in the village at night and disperse during the early mornings to hunt. In the case of bird hunting, we have defined the task group in terms of the composition of the camp, in the case of winter sealing, we have defined it in terms of who goes out on the ice together. In both cases, the efficiency of the hunters is increased through the same principle, their dispersal over a large area.

Spring and Summer Bird Hunting

When men go to shoot ducks and geese, they do not go alone. People depart as a nuclear family or as several such families or as a group of men. Nor do men leave alone when they go boating for ducks. Usually a group of men will do this; right after spring whaling, this group is often a whaling crew or a fragment of one. Sometimes lone men will leave the town to hunt birds and return on the same day. Most of the early duck and goose hunting occurs upriver at the fish camps or is done from boats in the open lead. Individual bird hunting tends to start after the snow has melted and people can travel from Wainwright by three-wheeler or even by foot.

During this period, task groups may form on ad hoc bases, much as is the case for winter smelt jigging. Most of the people involved in bird hunting are males. As in the case of smelt fishing, there are a few places near Wainwright which are well-known as productive bird hunting spots.

People may leave town alone or in groups and meet others at their destination. As the season wears on, such bird hunting on foot and by three-wheelers decreases. Subsequent hunting is done by solitary men and is often combined with the collection of duck and goose eggs.

Summer Netting

Most of the summer netting of fish occurs during camping trips upriver. The netting of salmon in the ocean is done by groups camping all along the coast, in strategic spots like the mouth of the Kuk River and from the beach right in front of Wainwright. At places like the Kuk, several miles from town, people either camp near their nets or stay in Wainwright and tend them by boat. Camping and boating are usually group activities.

However, some netting of salmon occurs directly in front of town. In such cases, the setting and checking of the net is often done by a lone male. On a calm day, he might put it in right after work, check it around 11:00 p.m. or 12:00 midnight, and leave it on the beach to dry for the next day. We observed women tending these salmon nets as well, but they were either accompanied by men or by other women.

In August or September, a small fish spawns on the beaches in front of Wainwright. These fish are often referred to as "minnows" and we have identified them as capelin. These are collected with a scoop net. While we were not able to observe this process, we were told that they are sometimes gathered by males working alone.

Summer Berrying and Collecting

Most summer collecting of fruits and other vegetable matter is done by small task groups made up of women, women and children, or nuclear families. Also, most of it takes place while families are camping along the coast or upriver. Occasionally, an unaccompanied person will collect plant material near the village of Wainwright. This might be either a male or a female.

During the subsistence activities of Wainwrighters, individual pursuits occur regularly and frequently. Individuals rarely "crew" a boat unaccompanied, hence summer sea mammal hunting is an activity that involves task groups. Nevertheless, lone individuals do hunt some of the largest game species available on the North Slope--polar bears, moose, and caribou--as well as the smaller species. Women do not hunt alone. Male hunters are more likely to work alone than are female gatherers.

The environment of the North Slope is rigorous and demands flexibility from those who make their livelihood from it. No doubt, lone-person pursuit has always been a part of the social setting. Nevertheless, this form of organization of work--like every other--reflects the changes taking place in a community, the adoption of new technologies, new family organizations, new economies, and the like. Nelson reports that the rifle made ice-lead hunting more efficient (Nelson, 1969). This encouraged the solitary seal hunter. In the 1920s, the changes in the economy which made fur

trapping attractive also encouraged the geographic dispersal of Wainwright hunters. On the other hand, elders have told us that the introduction of inboard motor launches encouraged the joining together of skin boat crews into larger units which could use the launches as "mother ships."

Today in Wainwright, contending forces both encourage and discourage the increase of solitary person subsistence pursuits. On one side, the snow machine and three-wheeler have added to an individual's mobility and carrying capacity. This has made the individual hunter a more efficient unit than before. Added to this, the present availability of well-paying jobs has brought such technology within the reach of most village adults. Jobs also mean that workers have to juggle their subsistence activities around their "free time" and vacation time. These constraints vary from individual to individual.

On the other hand, the same technology which adds to an individual's hunting efficiency allows him to leave town, accomplish a task and return in hours when it would have been days in the time of dog power. For this reason, many persons who might often hunt alone, also team with others. Also, the same jobs require that hunting and work time be juggled also puts many men on identical schedules. We have noticed that several men who work together also hunt together. This tendency is particularly strong in such cases where the work is long-standing.

Finally, some of the socioeconomic forces which might encourage individualized hunting also encourage the

expression of opposing attitudes and beliefs in the community. The same machine that gives an individual mobility increases the ease at which a couple, or a couple with children, can travel. The machines that ended the necessity to feed dogs led to a decrease in the total amount of hunting. On the other hand, they allowed individuals more choice in hunting--more latitude for the expression of their preference in time and species. One thing many Wainwrighters prefer is to hunt with friends and relatives.

CHAPTER VII

SUBSISTENCE ECONOMY

The concept of economics will be used as a generic term which refers to any full system of production, subsuming production, exchange, and distribution. The concept of subsistence economics, on the other hand, refers to a specific mode of production. Subsistence economics comprise the organization of labor to extract, process, and store naturally-occurring and renewable resources, the organization of distribution required to share, gift, or reciprocate those resources, and patterns of consumption of those resources. These natural resources occur and persist without human planning, control or manipulation. Human activities can, of course, interrupt the growth, recurrence, or even existence of these natural resources, but in the absence of man and his activities they will exist even if other natural events limit their growth or distribution periodically.

Subsistence modes of production, literally extraction, can be distinguished from other economic forms by several factors in addition to its direct and intimate links to naturally-occurring resources. First, subsistence modes of production lack well-developed market systems. Middlemen are not inserted between the producer and the consumer. Nor are permanent locations or structures set aside for the exclusive purpose of exchanges of goods. Second, while exchanges of processed or unprocessed resources for services do occur,

these are relatively rare and do not provide the energizing force of the system. Third, in a subsistence economy, labor is not a commodity that can be bought and sold in a marketplace.

A fourth characteristic is that neither the extracted resources nor the labor required for extraction and processing is converted to capital. Since capital accumulation does not occur, the savings of renewable resources for future sales is limited as a motivator of human activity. On the other hand, resources are preserved and stored to sustain human life. Forces such as wind, water, and changes in temperature, as well as biological processes, render long-term storage (periods beyond one or two years) difficult. The technological requirements for overcoming these forces and processes are very expensive or unavailable. Resources are stored and subsequently distributed to maintain life, but not stored for future sale and the conversion to capital.

A fifth distinguishing mark may be found in the distribution pattern utilized in subsistence economies. Distribution of the resources in subsistence economies is, for the most part, based upon family, extended kin, friendship, and village networks. Goods, except at community festivals when they may be pooled, are not distributed to people outside established personal networks. The absence of specialization within a subsistence economy is a sixth distinguishing characteristic. An individual's productive activity is built on a broad spectrum of skills that are directed toward a wide range of products and species. A seventh and final factor,

one closely related to the previous six, is that productive activities are directly linked to procuring food and shelter for the maintenance of life. This final factor elicits an image of an individualistic economic structure. However, in fact, the social fabric in which the subsistence economy is embedded is crucial within and among communities.

None of these factors in itself distinguishes subsistence from other forms, but taken together, they provide criteria adequate for the task. These criteria provide an ideal type conceptualization in which the features of a subsistence economy can combine in different ways for different villages.

AVAILABILITY OF NATURALLY-OCCURRING RESOURCES

Since Wainwright lies well above the Arctic Circle, its environs do not produce the wide spectrum of fauna found in regions of Alaska which lie to the south. However, certain species of mammals and fish are seasonally and locally abundant. Normally, caribou are abundant in the late summer and fall and are available through most of the year. In the spring, ducks and geese migrate through in vast numbers. In 1982, we observed a man and wife net nearly 70 salmon in a single day in front of town while thousands of walrus drifted by on ice flows. The Natives called the salmon "silvers." They were probably chum.

In the past two years several hunting trips for Dall

sheep were undertaken from Wainwright. One of these trips took four days by snow machine into the Brooks Range. Yet even when such extraordinary hunts are excluded, the people of Wainwright continue today--as they did in the past--to exploit resources distributed across vast areas of land and sea (see Pederson, 1979). In 1982, during the period of this study, it was not unusual for people to travel by snow machine 150 miles or more inland into the foothills of the Brooks Range to hunt. The cabins of many Wainwrighters are located 50 miles and more up the Kuk River. People traveled to Atqasuk on the Mead River to fish, still others hunted around Icy Cape or fished on the Utukok. In 1982, one of the two Wainwright whales was taken off Atanik, 25 miles northeast of town. In 1980, a whale was taken near Icy Cape. A boatload of Wainwright walrus hunters was temporarily stranded more than 100 miles to the north, in the ice off Barrow.

Such travels expand the types of environments exploited by Wainwrighters. This multiplies the types of flora and fauna these people encounter as well as increasing the times naturally-occurring resources are met in abundance. Table VII-1 provides a list of naturally-occurring resources available to Wainwright's people. Some are extracted, some are not. We do not distinguish here between those found in the immediate vicinity of the town from those encountered further inland or in the region around Icy Cape. This list differs only in minor details from those given in reports by Nelson (1969) and the NSB Contract Staff (1979). In compiling it we

had help from many local resource people:

Table VII-1

Some Biotic Species Encountered
by Wainwrighters (1)

Big Game:

bear, grizzly Ursus arctos
caribou Rangifer tarandus
moose Alces alces
sheep, Dall (2) Ovis dalli

Small Game, Furbearers:

fox, arctic Alopex lagopus
red (variants: blue & cross) Vulpes vulpes
hare, snowshoe Lepus americana
lemming Dicrostonyx torquatus
lynx Lynx canadensis
marmot, hoary Marmota bower
porcupine Erethizon dorsatum
squirrel, arctic ground Spermophilus parryi
weasel Mustela erminea
wolf Canis lupus
wolverine Gulo gulo

Marine Mammals:

bear, polar, Ursus maritimus
seal, bearded Erignathus barbatus
spotted Phoca vitulina largha
ribbon Phoca fasciata
ringed Phoca hispida
walrus Obodenus rosmarus
whale, beluga Delphinapterus leucas
bowhead Balaena mysticetus
grey Eschrichtius gibbosus
killer Orcinus orca

Birds (3):

pintail, northern Anas acuta
eider, common Somateria mollissima
king Somateria spectabilis
spectacled Somateria fischeri
Steller's (4) Polysticta stelleri
oldsquaw duck Clangula hyemalis
red-breasted merganser Mergus serrator
goose, brant Branta bernicla
Canada Branta canadensis
white fronted Anser albifrons
snow Chen caerulescens
murre, thick-billed Uria lomvia

loon, common Gavia immer
 red-throated Gavia stellata
 arctic Gavia arctica
 gull, sabbines Xema sabini
 ivory pagophila eburnea
 glaucous Larus hyperboreus
 mew Larus canus
 kittywake, black legged Rissa tridactyla
 tern, arctic Sterna paradisaea
 jaeger, pomarine Stercorarius pomarinus
 parasitic Stercorarius parasiticus
 long-tailed Stercorarius longicaudus
 ptarmigan, rock Lagopus mutus
 willow Lagopus lagopus
 whistling swan Olor columbianus
 sandhill crane Grus canadensis
 short eared owl Asio flammeus
 gyrfalcon Falco rusticolus
 bald eagle Haliaeetus leucocephalus
 lapland longspur Calcarius lapponicus
 double-crested cormorant Phacrocorax auritus
 phalarope, red Phalaropus fulicarius
 northern phalaropus lobatus
 black guillemot Cephus grylle
 crested auklet Aethia cristatella
 plover, black bellied Pluvialis squatarola
 American golden Pluvialis dominica
 dunlin Calidris alpina
 sandpiper, pectoral Calidris melanotos
 least Calidris minutilla
 bird's eggs -
 (squaw, eider, arctic tern, geese)

Fish:

blackfish Dallia pectoralis
 char, arctic Salvelinus alpinus
 Dolly Varden Salvelinus malma
 cisco, arctic Coregonus autumnalis
 least Coregonus sardinella
 flounder, arctic Boreogadus saida
 grayling Thymallus arcticus
 ling cod (burbot) Lota lota
 northern pike Esox lucius
 herring, pacific Clupea herengus pallasi
 salmon, chum (dog) Oncorhynchus keta
 humpback (pink) Oncorhynchus gorbuscha
 king (chinook) Oncorhynchus tshawytscha
 sculpin, four horned Myoxocephalus quadricornis
 slimmy Cottus cognatus
 shark (5)
 smelt, boreal Osmerus eperlanus
 tom-cod Microgadus proximus
 whitefish, broad Coregonus nasus (6)
 humpback Coregonus pidschian (6)
 capelin Mallotus villosus (7)

Invertebrates:

clams Macoma calcerea
crab, tanner Chionoectes opilio
shrimp Pandalidae and Cragonidae

Plants:

blueberries Vaccinium uliginosum
cloudberries Rubus chamaemorus
cranberries Vaccium vitis-idaea
willows salix sp
sour dock Rumex arcticus
wild spinach Rumex arcticus
wild rhubarb Oxyria digyna
meadow mushroom

Some Abiotic Resources (and Driftwood)

sand/gravel
clay
driftwood
coal
oil/gasoline
natural gas
ice/freshwater

Notes:

1) This list was used as, and is intended as, a basis for discussion. The assembling and checking of a catalogue of all resources ever encountered on the North Slope would be a major task in itself. At present, the existence of certain species in the area, such as the Eskimo Curlew (Numenius borealis), remains moot. Such questions are best answered by experts in the field.

2) Chance (1966) mentions Dall sheep as a biotic resource and Pederson (1979) lists these sheep as a resource for the North Slope but not for Wainwright. While the normal subsistence range of Wainwrighters does not include areas which support Dall sheep, people have, on occasion, traveled the long distances necessary to hunt them.

3) We stress that this list of birds is not intended to be inclusive. During the Spring thousands of birds fill the air around Wainwright; a great many species are found. Young and old alike enjoy watching birds, imitating their calls, and hunting them. Birds illustrate well the adage heard around town that "Before white man's food we ate everything." All sorts of birds are still eaten on occasion and since they illustrate well certain aspects of food preferences as well as certain ad hoc decisions which occur around hunting we will include a specific section on birds.

4) One hunter also mentions a "fire bird." According to him

it is like a Steller's eider only larger and extremely rare.

5) Several hunters in Wainwright insist that small sharks sometimes inhabit the summer waters. These men specifically differentiate sharks from killer-whales. Other hunters are just as insistent that none come so far north. Whichever side is correct, this is one example of how hunters in Wainwright do not share precisely the same knowledge or attitudes toward their environment.

6) Some Wainwrighters describe the humpback whitefish as "salt water whitefish and the broad variety as "fresh water whitefish."

7) The Natives call these "minnows" in English and "panmaksraq" in Inupiaq. "They are small like sardines." Usually in August they spawn in great numbers on the ocean beaches around Wainwright. We were not there in August and did not have an opportunity to see them. We believe they are capelin rather than the eulachon ("candlefish") which Spencer (1959) discusses.

This list includes resources that are harvested and ones that are not, species taken in large quantities as the object of the hunt, and those taken incidentally and rarely. The harvest of subsistence foods depends, in part, on culturally defined tastes and needs. Obviously, the harvest of naturally-occurring renewable resources also depends on their availability. Schneider and Libby developed a table of Wainwright's yearly subsistence cycle based upon relationships of abundance, hunter access, seasonal needs, and species desirability (Schneider and Libby, 1979:220). Their findings are presented in Table VII-2, "Wainwright's Subsistence Cycle." This table presents, in ideal terms, the village's yearly round of subsistence activities. It shows the relative harvest effort directed at major food resources.

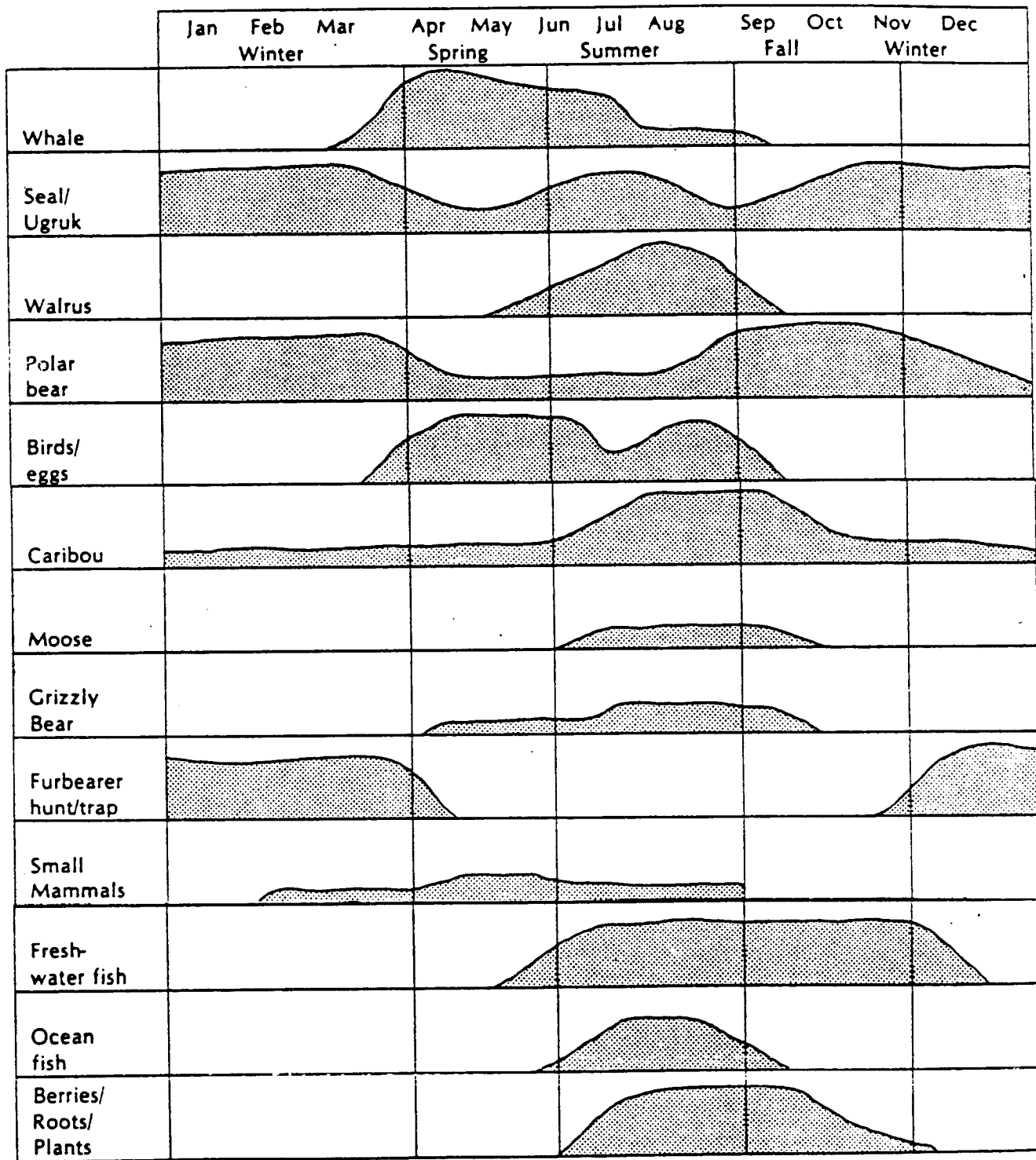


Figure VII-2

Wainwright's Subsistence Cycle

(Source: North Slope Borough Contract Staff, 1979, p.83.)

Schneider and Libby gathered materials in the mid-1970s. Their figures also provide a general indication of the focus of subsistence activities in the early 1980s. However, we would suggest several slight modifications, summarized here and discussed more fully in later chapters. First, because of International Whaling Commission (IWC) quotas on bowheads, Wainwright's whaling efforts drop to the lower summer levels earlier than indicated in the figure. Second, recent technological and economic changes have led to a decline in ice-edge seal hunting. Winter sealing levels may be half of that indicated. Finally, the relative effort of freshwater fishing has declined somewhat while ocean fishing has slightly increased.

CHANGES IN RESOURCE AVAILABILITY

The older people in Wainwright grew to young adulthood during an era of great caribou scarcity. Their memories of those hard times are instructive. Elders recalled the period as one of scarcity but did not believe there was an absolute shortage of caribou. This animal is notorious for suddenly changing its migration routes. Agreeing with many modern studies of the fluctuations of herd sizes, they felt simply that "the caribou weren't coming around Wainwright." The hunter's response was simply to go further afield in search of meat. In the fall, Wainwright families would move up the Kuk River 50 or more miles. There the women and children would camp and net and jig for fish. The men would move even

further upriver to where the Kuk and its tributaries become too swift for boats. There they would store their umiat and start out on foot towards the Brooks Range.

Sometimes hunters would trek several days before finding caribou. If the men killed more than they could carry, they would store the meat in pits dug in the ground. The meat would be surrounded by willows to keep it clean and then covered with dirt to keep it cool and protect it from animals. The food could be packed out with dog sleds after freeze-up. During this period of scarcity, people also relied more on fish, both for human consumption and dog food; several elders commented on how they got tired of fish in the old days.

In part, elders place these events in the context of the more rigorous and tenuous life which existed before the influx of money and store-bought goods. One man said, "Caribou didn't hang around the village in those days; we had to travel all around looking for them." Another elder recalled of this era, "Before white man's food we ate everything--owls, brown birds, sea gulls. When I was a young boy, anything I shot I brought home to my mother and she cooked it."

The lack of caribou in the 1970s is also viewed, by many Wainwrighters, more as a shift in their migratory patterns than a drop in their population. Various reasons for this change are given; the most prevalent is that for a few years after the oil pipeline was erected the caribou refused to

cross it.

In the 1970s, people also responded by hunting at greater distances from the village but they did not focus, to the same degree, on the upriver harvesting of fish. This new response was predicated on several new factors. First, the building of the pipeline together with North Slope Borough financial policy meant that, for the first time, large amounts of money were flowing into Wainwright's village economy. This cash financed the switch to snow machines as well as more outboard motors and boats. Thus, hunting mobility increased generally, at the same time that the overall demand for meat decreased. Also, the money allowed for the purchase of some imported foods from the store. This was an extremely expensive way to make up for the lack of Native meats, however. Finally, since the 1920s, Wainwright's population had become much more centered in the village.

By the 1960s this trend, along with the general lack of money on the North Slope, had discouraged the use of upriver fish camps. The changes in the early 1970s allowed for greater mobility but had not yet financed the flourishing of upriver camping. For all of these reasons, the caribou shortage of the 1970s did not lead, as had earlier ones, to the same emphasis on upriver fish.

The 1970s marked the beginning of what might be called legally-induced shortages as well. The State of Alaska, fearing for the biological viability of the drastically reduced caribou herd, stepped in to regulate local subsis-

tence hunting by imposing seasons and bag limits. Apparently, many Wainwright families attempted to follow the letter of the law and ran out of meat during the winter, some just after Christmas. The whole experience has left many people embittered about attempts to regulate subsistence hunting. It has left everyone in Wainwright suspicious of all attempts to gather information about harvest data, particularly with regards to caribou. This suspicion, however justified, created a major obstacle to our research.

In 1982 caribou were very abundant in the Wainwright area. Until the end of May they were readily available within a few hundred yards of town; when they moved off they did not move far. Various reasons were given for this state of affairs. Some people pointed to an increase in herd size; some said that it was due to the pipeline and to "disturbances in the southwest" of Alaska caused by development. According to the latter explanation, the caribou herd no longer comes from the east because of the pipeline; a different one has been driven up from the southwest. When they come to the pipeline they do not cross, they mill about on the coast. Other people say that the caribou have gotten used to the noise of the town so they hang about. Still others say that these caribou became tame because they have bred with the old reindeer herds. The caribou of old were longer legged, fleeter, and meatier than the ones of today.

Whatever the reason, the plenitude of caribou in 1982 allowed hunters to pick and choose the animals they would

take for food. It also allowed them to substitute caribou-- temporarily a relatively easy-to-get animal--for walrus as dog food. Finally, this plenitude freed people from the necessity of carefully planning their food supplies. They could and did supplement their caches of meat as the need arose. For example, a day before he was to leave for the open lead, a whaling captain went to the airport and killed two caribou to feed the crew.

Like the caribou, the walrus and bowhead whale populations also declined drastically at the turn-of-the-century. Unlike the caribou, the walrus and whales were decimated by commercial overhunting. Perhaps, because the lack of caribou was a natural phenomenon while the lack of walrus and whales was not, elders viewed the latter as a scarcity. The general adaptation to the loss of both maritime resources was the same; people continued to hunt for them, they migrated great distances to do so, and they depended more on fish and seals to feed themselves and their dogs. The substitute inland resource has been fish netted before and after freeze-up. The substitute in the ocean has been seals.

The relationship of walrus hunting and whaling to other forms of subsistence activity illustrates the complex history of Inupiaq reactions to shortages and changes in technology and game laws. Wainwright is not situated particularly well geographically for whaling, but as explained above, whaling had little to do with the establishment of the village. Its formation was one of the reactions to the turn-of-the-century social upheavals on the North Slope. Wainwright and similar

settlements reflect another consequence of turn-of-the-century conditions, especially the destruction of major maritime subsistence resources. Natives turned inland for food. They extracted fish populations more heavily; they traveled into the Brooks Range to find the remaining caribou. In their quest, people were aided greatly by the availability of rifles which increased the efficiency of individual hunters and small groups.

The rifle is significant with regards to Wainwright's location on the ocean as well. Nelson (1969) writes that, before the introduction of firearms, the largest North Slope settlements were whaling villages located strategically on points of land. He also notes that, since this location exposed these settlements to the harsh elements, their populations would expand for whaling and then contract as people moved back inland. The rifle favored coastal settlement but not necessarily on exposed points of land. Nelson continues: (1969:305)

The introduction of firearms altered this pattern by making ice edge hunting a focus of interest rather than a minor activity. As the availability of rifles increased and knowledge of this new hunting technique expanded, there may have been a tendency for people to move to exposed locations for the mid-winter months, in order to take advantage of the increased availability of seals. Since that time this pattern has become increasingly prevalent, with people eventually giving up living inland and at protected coastal localities...As the method of open lead hunting took hold, the other methods such as breathing hole hunting were abandoned. All this took place in a span of one hundred years.

Wainwright lies semi-protected between two points rather

than on a totally exposed point. This fact limited the site's potential as a whaling village. As today, in the early days of settlement men traveled south sometimes as far as Icy Cape or north to Atanik to launch crews. Elders report that the now abandoned village of Atanik was larger than Wainwright until the 1920s. Wainwright is in a good position for ice edge sealing and we would add to Nelson's comments above. He writes that the introduction of the rifle made ice edge hunting efficient and attractive. The natural decrease of caribou and the slaughter of walrus and whales may have made it more necessary. In Wainwright walrus is eaten, but since it is not a preferred food, almost all of it used to be fed to the dogs. Seal is eaten and more preferred but it too was fed to the dogs. Until the end of the 1960s, seal was an important supplement to walrus as dog food.

Since the declines in walrus and whale populations were caused by the same commercial overhunting, we have discussed them together. In part, the growth of Wainwright, the adoption of new hunting techniques, and an increased focus on fish and seal can be attributed to these declines. Statements about the lack of white man's food and the necessity for eating everything are relevant here. Below we discuss separately the reaction of Wainwrighters to past fluctuations in the walrus and whale populations.

The walrus population, decimated by whalers, continued to decline until the 1950s when it bottomed out at an estimated 40,000 head. Since then, due in part to more rigorous attempts at protection, the walrus population has

grown at first slowly and in the last few years more quickly. In the early 1980s, there were an estimated 300,000 Pacific walrus in the United States and Siberian waters. Some people, including many residents of Wainwright, thought they had "over populated." The situation in the 1950s, just before the decline turned around, is well summarized by Dr. Francis Fay in 1955:

At the time of Bering's voyages, walrus were definitely more abundant than at present. They covered a much wider range south to the Alaska panhandle and southern Kamacatka and they were more frequently encountered. A conservative estimate would place their numbers at more than three times the present population. As whaling developed in the North Pacific and the demand for ivory grew, the walrus population was gradually reduced, the greatest bulk reduction apparently taking place in the mid- and late nineteenth century. Ivory hunting continued into the early 1900s until the shortage of walrus, coupled with restrictive legislation, apparently rendered commercial exploitation economically unsound. The last remaining white traders, who obtained their ivory from Eskimos, were apparently put out of business by the "Walrus Act" of 1941, which effectively banned raw ivory export from the territory. [The decline] ...did not stop with the end of commercial exploitation, though it has probably diminished in rate since then. Russian estimates of the total stock in the mid-thirties were approximately 60,000 head, while present estimates place their numbers at about 40,000. The effects of this have been most noticeable in the "fringe" areas at the extremes of the walrus range and about the coastlines, [i.e., Wainwright and Unalakleet] while the island communities such as St. Lawrence, Diomed, and King have been relatively unaffected. (from Hughes, 1960:141-42)

Wainwright elders are correct in perceiving a relative lack of walrus in the past. Wainwrighters faced a slowly decreasing and then slowly expanding walrus herd. The changing technology both helped and hindered the struggle of hunters to adapt to this situation. Walrus is eaten by

choice on occasion; it is eaten when available in emergencies, and it is fed to the dogs. The problem Wainwrighters faced was the dogs. The rifle had made individual hunters more effective at the same time that it encouraged the growth of dog teams. Men with large, fast dog teams had a competitive advantage in ice edge hunting (Nelson, 1969). Moreover, large, strong dog teams helped in traveling long distances to hunt caribou and to bring loads of meat and fish down from upriver.

Adaptations to the new situation lead to the growth of Wainwright's dog population (Bane, n.d.). Since (during this period) walrus provided a crucial amount of dog food, it was necessary to hunt large numbers of walrus to provide adequate transportation. Technological innovations during this period helped but throughout this period walruses were limited and adequate supply depended on good ice and weather conditions. If conditions were unfavorable, people attempted to supplement their walrus meat supply first with fish netted and jigged upriver and then with seals taken during ice edge hunting. When the walrus hunt was bad, the dogs suffered and died (Bane, n.d.).

The introduction of motor driven boats facilitated the search for walrus by increasing mobility and carrying capacity. The first of these boats were inboard launches which are said to have been introduced sometime in the 1930s; one was owned by the cooperative store and one by a now retired whaling captain, Waldo Bodfish. Actually,

C.L. Andrews, who lived in Wainwright in 1924 and 1925, reports that at that time the Eskimo cooperative store was operating a "gasoline launch" (Andrews, 1939:172). In any case, these boats actually encouraged greater cooperation among Wainwright hunters. The launches acted as mother ships, towing umiat to and from the walrus herds and ferrying large quantities of meat to town. This method of hunting combined the speed and carrying capacity of the launches with the shallow draft and excellent handling abilities of the skin boats in the ice pack. As in the case of whaling, the meat was divided among the hunters, the owner of the launch getting the "boat's share."

The usefulness of this method led to the introduction of more launches and the division of Wainwright into more crews. In the mid-1940s there were eight launches; the store had two; Richard Hall—a white trader—had one, and the five others were owned by whaling captains. In 1947 a five horsepower outboard engine was introduced followed shortly thereafter by four more. All but one of these were used to drive umiat. Since outboards were not used to tow other boats to the walrus ground, their introduction led to a further decrease in the size of walrus hunting crews. This decrease, according to three of the boat captains of that era, has continued since 1947. It accelerated slightly with the building of the DEW line and the consequent addition of cash to the local economy.

The founding of the North Slope Borough and, especially, the beginning of the Capital Improvements Program further

accelerated this process. In 1982, up to 22 outboard powered boats actively hunted during walrus season. This increase of the number of boats has not only led to a decrease in the size of walrus hunting task groups, it has changed slightly the way the division of meat occurs by eliminating the boat's share. As one captain said, "Our tradition was for the boat to get a share and sometimes the motor. Since I owned the boat I never asked for a share for the motor. Now I never ask for a share for the boat. I don't do it that way. There are too many boats."

The adoption of power driven boats facilitated a response to the scarcity of walrus by Wainwright hunters. The solution to this scarcity occurred almost at its end. Beginning in the 1960s, hunters started to switch from dog traction to snow machines. Since walrus was used primarily as dog food, this switch drastically altered the need for this meat. For example, a family with seven active hunters, during the days of dog sleds, attempted to kill 65 walruses per year. This, they say, was enough food for their family and dogs and for gifts to "people who needed it." In 1982 that household still existed. However, five of those hunters had moved out to form their own households and three of these had adult sons who also hunted. These six households took a total of only nine walruses in 1981 under good hunting conditions and a similar number a year later. The switch to snow machines also affected the way walrus meat is used. Today, walrus is killed for table meat and for ivory. When hunters

bring their meat back to town, it is mostly for human consumption.

Like the walrus population, both legal and illegal commercial whaling continued to erode the bowhead population well into the Twentieth Century. As with the walrus, bowheads have been protected by more and more restrictive legislation. Unlike the walrus, the future of this whale remains moot; today many conservationists argue that the bowhead needs absolute protection from any hunting to survive. Wainwright whalers, on the other hand, believe they are witnessing a slow but steady rise in the bowhead population. As in the case of walruses, Wainwrighters have faced a scarcity of bowheads throughout the Twentieth Century. Also, as in the case of walruses, a successful whale hunt depends on critical weather and ice conditions during the animals' northerly migrations.

Differences in the strategies adopted toward the historic shortage of bowheads come from two facts. On the one hand, in strictly economic terms, bowheads have not been as important to the people of Wainwright as has caribou or, before the demise of dog traction, walrus. On the other hand, in strictly cultural and religious terms bowheads are the most important of all animals.

The latter fact is all important. For example, Nelson writes of whaling in the 1960s from the strictly economic viewpoint. He argues:

The resource is potentially great, but it is sporadic in comparison to "everyday" game such as seal, caribou, walrus and waterfowl. How signifi-

cant whaling is or has been in the total economic picture is open to question, especially in modern times when it is degenerating even in its greatest stronghold at Point Hope. Whaling involves hard work and long cold nights for the crews, expense and effort with the hope of prestige for the umialik, or crew captain. (Nelson, 1969:214)

By stressing the economics of whaling--benefits versus cost and effort--in this passage Nelson underestimated the emotional returns of the enterprise. Whaling not only provides prestige for the umialik and his crew, the perceived relationship between these whalers and the whales is the archetype of all relationships between Inupiat hunters and their quarry. The whale not only provides great quantities of meat and greater quantities of the most preferred of all foods, maktak, a landed whale supplies the reason for and the primary food distributed in the Nalukataq, the major North Slope Inupiaq giving ceremony.

While interest in establishing whaling crews relates to the possibility of success (because of its important social features) Wainwrighters have persisted in hunting the bowhead even when success has been limited. The most anybody remembers ever landing in a year is five; usually it is two or one, often none. Nelson wrote of a time in the 1960s when, for four years straight, Wainwright crews got no whales and on the fifth and sixth years only one. The strength of the whaling tradition is shown in the answers people give when asked what they did for whale during those years. They would answer they received shares "from other villages" or "from Barrow." A Nalukataq brings people from all the villages on the North Slope together and distributes whale and maktak

throughout the area.

Putting a crew out on the ice is expensive. Because of its cultural significance, doing so relates as much to the ability to meet those expenses as it does to the immediate chance of success. This fact has had significant consequences to the people of Wainwright and, indeed, to all Alaskan Eskimos. The relatively large amounts of money brought into the economies of the North Slope villages by the founding of the North Slope Borough and the funding of the Capital Improvements Program allowed more and more whaling crews to be fielded. This, in turn, led to more bowheads taken and struck. The numbers grew so rapidly that the International Whaling Commission, which hitherto had not regulated the subsistence whaling activities of the Alaskan Eskimos, stepped in to limit their take.

The present amounts of whale on the tables and in the ice cellars of Wainwright can be directly attributed to these regulations. In 1981 Wainwright was given a quota of three whales struck. They struck and landed three. In 1982 the quota was two and both were taken. In 1983 the quota was one. Not all villages have been so fortunate. On the North Slope, the only other village to get a whale in 1982 was Point Hope which took one. Barrow struck their quota of five and lost all of them. The adjustment to this disastrous season took the same form as did Wainwright's during its lack of success in the 1960s; people came in great numbers from other villages to the Nalukatat in Point Hope and Wainwright.

For weeks before the festivities we were told, "A lot of people from Barrow will be here because they didn't get any." And when the time came people gladly welcomed their guests.

CURRENT TECHNOLOGY OF SUBSISTENCE

Firearms

Nelson (1969:282) reports that in 1965 the 34 Wainwright households owned 84 high-powered rifles, 50 .22 rifles, 57 shotguns, and 12 pistols. On average, Wainwrighter households owned a fraction more than two rifles each and a fraction less than two shotguns each. Four households owned no shotguns and four owned no rifles with telescopic sights. Rifles, obviously, are necessary to subsistence hunting. Hence, money spent on them might be considered as an investment. Considering the wear-and-tear on firearms that comes with even their careful use in an arctic environment, rifles might be seen as a capital good in relatively short supply in the early 1960s.

This situation has altered drastically since the formation of the North Slope Borough and the consequent influx of jobs and money into Wainwright. Men have invested large amounts of money in guns. Although we did not conduct a house-to-house inventory of firearms owned, we can say definitely that their numbers have greatly increased. Two families containing three active hunters apiece own well over 20 firearms each. Almost all men who hunt at all own at least three--two rifles and a shotgun. Most active hunters

own more than that. Pistols, too, have become common in spite of their limited usefulness. Considering the cost of firearms today, their increased ownership in Wainwright should be viewed as a major investment of present-day households in subsistence hunting.

As in the past, the ownership of firearms is not distributed evenly in Wainwright households. Several households with elderly heads and containing no male hunters own no firearms. The same is true for at least one female headed household lacking male adults. Also, households with younger active male heads tend to own fewer firearms than those with older active heads. In part, this is because young men, even when they are not living with their parents, often borrow hunting equipment from their fathers. Younger men also have had less time--they lack the "investment history"--to amass a great number of guns.

Apparently, women also own firearms. Usually in households where women actively participate in the shooting part of the hunt, the men tend to be viewed as the actual owners of the gun. In one such case a man said, "I own two 12-gauge shotguns--one auto and one pump--and one 16-gauge automatic." His wife interjected, "I like the 16-gauge; it doesn't hurt my shoulder." Nevertheless, female ownership has a history at Wainwright. We saw an old .25-35 Winchester that had its stock modified. We were told the gun had been altered so it would be lighter and easier for a woman to draw from its scabbard. The woman who, as a young wife, used it is now in

her 80s.

If one excludes the antique off-calibers of firearms, one still finds a very wide assortment of rifles and pistols in Wainwright. This is because men hunt a lot and, over a long period, have experimented with various types and makes of guns to discover their advantages and disadvantages. The following is a list of calibers we observed in Wainwright. Others surely have been used.

Table VII-3

Observed Firearms

.22 (rifle & pistol)	7mm Remington
.22 Hornet	.30-30 Winchester
.22 Savage	.30-06 Springfield
.22-250	.300 Savage
.220 Swift	.300 Weatherby Magnum
.222 Remington	.303 Savage
.223 Remington	.308 Winchester
.243 Winchester	.32 Smith & Wesson
.25 auto (pistol)	.357 Magnum (pistol)
6mm Remington (.244)	.38 Special (pistol)
.25-06	9mm Luger (pistol)
.25-35 Winchester	.44 Magnum (pistol)
.250 Savage (.250-300)	.45 auto (pistol)
.257 Roberts	.458 Winchester Magnum
.270 Winchester	
.264 Winchester	

Although, previously, people hunted with 10-gauge shotguns, today only 12-gauge, 16-gauge, 20-gauge and .410 shotguns are used or found in the town's stores.

The list of calibers above illustrates the Wainwrighters' long history of hunting and experimentation with guns. Some of the bullets, like the .22 Hornet, .220 Swift and .25-35 Winchester, are early examples of "wildcat"

loads seldom seen in most areas today. Other bullets, like the .30-06 Springfield and .308 Winchester, are seen more frequently in other parts of the country than in Wainwright. An older hunter in Wainwright might own 6 or 8 rifles that he picked up over his career but might have used only two or three of them in the past year.

The first rifles introduced on the North Slope were long-bored. Older hunters still remember the "old .44s." Since then, the move by Wainwrighters has been toward high velocity, smaller calibered firearms. Nelson's 1960s data reflects this change. He reports (1969:283) that the most popular high-powered rifles used were .220, .222, .264, .30-06, and .308. The first three listed are small, high velocity, flat shooting guns. The .30-06 and .308 were popular throughout the United States in the 1960s. Since these were ex-military pieces, they were in large supply and relatively inexpensive.

This shift has continued but along with it has come a trend towards more specialized firearms. We found the largest rifle in use in 1982 to be a 7mm. By 1984, at least one hunter bought a larger one, a .458 Winchester Magnum. Both these firearms are used exclusively on walrus. Normally rifles such as .30-30s, .30-06s, and .308s were also used primarily on walrus. In general, people use light calibers; the .270 is the largest popular one today, considered by many hunters to be "too big". Such calibers as the .30-06, the .300 Weatherby, or the .308 are seldom seen at all. The

most popular rifles are probably the smaller .243 and .25-06. Many saw these as the best general purpose firearms, big enough to kill walrus, small enough to use on foxes, and fast enough to hit caribou at long range.

Boats

Traditionally, North Slope Inupiat were a coastal and riverine people. Boats were an important part of their technological adaptations. Two basic types of craft were employed, the umiaq and the qayaq. The umiaq was used for whaling, for hunting in the open ocean, and for traveling both in the ocean and upriver. The qayaq was used for hunting in open water and for hunting caribou in rivers and lakes.

Today, the traditional umiaq is still seen in the village. Three umiat were used in the 1982 whaling season. Five or six more umiaq frames without skins could be found around the village but only one or two seemed usable. Presently, the umiaq is used only for whaling. After the season its ugruk skins are removed and stored in the ice cellar.

Large, inboard launches were once used as "mother ships" for teams of walrus hunters in umiat (see our discussion of walrus hunting). Several of these are beached near the village but are no longer in use. Old whaling boats, originally attached to commercial whaling ships, are also seen around the village. Perhaps five of these lie in the village and another is beached in the Kuk Lagoon. Possibly

one is useable.

One man in town makes large, flat-bottomed plywood boats for sale. These are about eighteen feet long and wide-beamed with a shallow draft and are powered by outboard motors. Two of these boats are found in the village. They are used, primarily, for upriver hunting and fishing; they are big enough to camp in and are known for their ability to get into shallow water. This craftsman sells most of his boats in Barrow, the village where he was born.

Most boats today are aluminum, 12 to 18 feet long. Fairly powerful outboard motors are used, ranging from 50 to 90 horsepower. During the summer months these boats are pulled up along the beach in the village and a few are on the beach in the lagoon. We counted from 11 to 22 beached boats, depending upon the weather. Twenty-two boats were counted on especially windy, cold days when few, if any, people went hunting. Five aluminum boats were counted in the Kuk Lagoon for a total of 27.

The most popular motor is the Evinrude. That brand name, pronounced "Evinruq," became the generic or Inupiaq term for outboard motor among Wainwrighters. A survey of the beach along the village on a warm, clear summer's day found the following boats:

Table VII-4

Boat Types and Description

<u>Types</u>	<u>Contents</u>	<u>Motor</u>
1. Aluminum	Empty	Evinrude 70
2. Aluminum	Empty	Evinrude 90
3. Aluminum	Tarp with gear	Evinrude 35
4. Aluminum	Empty	Evinrude 50
5. Aluminum	Fuel tanks, tarp, gear	Johnson 55
6. Aluminum	Half tarp	Evinrude 55
7. Aluminum	Floats	Evinrude 50
8. Aluminum	Empty	Evinrude 55
9. Aluminum	Empty	No motor
10. Wooden	Empty	Johnson 50
11. Aluminum	Empty	Evinrude 75

Several other aluminum boats were found at homes throughout the village. These were trailered to and from the beach. Not all of these had trailers with them but trailers could be borrowed when necessary.

Three other types of boats were found in the village. One is a tiny fiberglass dingy used for setting nets along the beach or at camps upriver. Some people kept small wooden boats at upriver camps for this same purpose. Another is the umiahalurak or "small umiaq", a very small skinboat used to retrieve seals (see Nelson, 1969:308). We saw only two of these and only two qayat, one with skin in a shed and the other without skin outside a house on a rack. The latter frame was very old; it looked as if it were a transitional form between the qayaq and the umiahalurak. Neither of the kayaks were in use.

Nets

In the past, nets were used during the winter to take seals under the ice. They were also used upriver to take fish, both before and after freeze-up. By the 1960s nets were no longer used to take seals (Nelson, 1969); today some people still have seal nets and talk of using them but nobody has done so for several decades. Also, before the introduction of shotguns, ducks and geese were netted (Nelson, 1969:159-60).

Today, nets are used only on fish. Set nets are used in the ocean and upriver before freeze-up; a sunken net is used upriver under the ice after freeze-up. A small scoop net is used in the ocean to take capelin as they spawn on the beaches around Wainwright. Nets with mesh from one and one-half to three inches are used in the ocean, with mesh from one and one-half to two and one-half inches upstream. Upstream, grayling, whitefish, ling cod, dolly varden, pink and chum salmon are taken in nets. In 1982 a few red salmon were taken upstream. In the ocean pink, chum and red salmon, tom-cod, arctic flounder, a few smelt, and many sculpin are taken in gillnets. The sculpin are generally thrown on the beach and not used.

While some people still prize their tools for making nets, in the 1980s all nets are store-bought and they were expensive. Nets bought at Wainwright's cooperative store cost more than \$200; the price varied depending on the net's mesh size and length. We were told that their cost kept many people from purchasing nets to be used in the ocean for

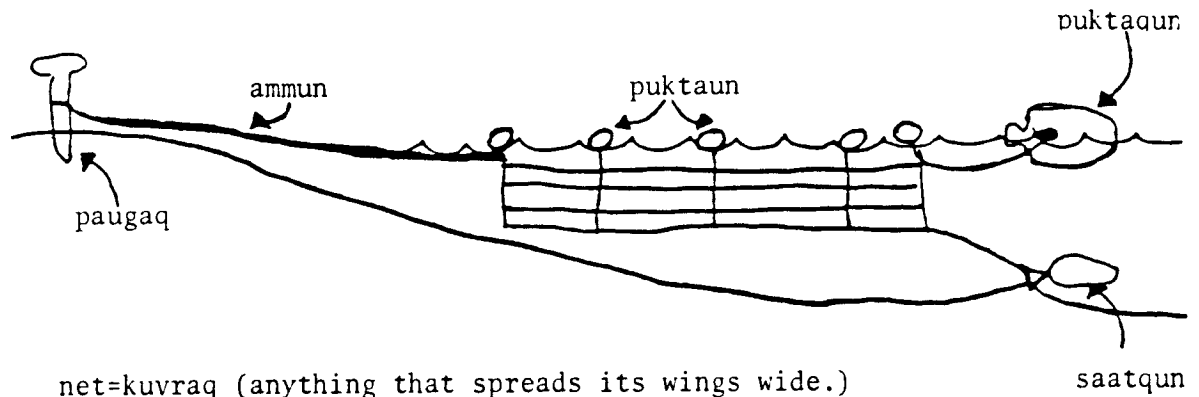
salmon. Repairs on the nets and parts for them were manufactured at home.

The set nets used in the ocean and upriver are made the same. They consist of a stake driven in the ground to hold them at the shore end, a long cord running from the stake to the net which allows the net to hang in water of the proper depth, the net mesh itself held up by small floats, an anchor to hold the water end of the net in place and a large marker float to warn boaters away from running over the net. The stake can be anything; a stick, a broken axe handle. Often one sees several left in the ground at good netting areas. The line's length is adjusted by wrapping it around the stake, generally the net must be placed further from shore when used in the ocean than in the river. The anchor is made of a hand-sewn cloth bag which is filled with stones and gravel to give it weight. The marker float is usually an old clorox bottle or the like. The net itself is sometimes dyed with coffee grounds or mud to make it less visible to the fish.

The Inupiaq names we collected for the parts of the set net are on the diagram below:

Figure VII-1

Set Net



Upriver, after freeze-up, set nets are placed under the ice for grayling and whitefish. In the winter of 1982-83, only one such net was set at a famous fishing spot called Anaqtuuq on the Kuk River. Winter nets are similar to summer gill nets but with weights or sinkers to hold the floats below the ice. These sinkers are homemade, usually of bone. The distance between the float and the ice is kept at about one foot and must be watched with care for if the floats freeze into the ice the net is lost. Under ice nets are also narrower than the others, usually 2 1/2 to 3 feet in depth as opposed to four feet.

The net is set in the following way: one large hole is cut in the ice. A series of smaller holes, placed from 3 to 5 feet apart, are then made in a line running from the larger one. These holes are usually cut with an axe or spud although, nowadays, ice bores are sometimes used. The finished holes form a line the length of the net. A cord is then pulled from hole to hole under the ice with a grappling

hook. This cord is used to stretch the net in place. The lines at both ends of the net are then carefully anchored. To tend the net one only has to keep open the two end holes. The net is emptied by first cleaning the new ice from these end holes. Care is taken in this chopping for if one cuts one of the net cords the whole process of cutting holes and setting the net has to be done again. Then the net is pulled back in place with the line from the small hole.

The net set-up and the Inupiaq names used in Wainwright for some of its parts are diagrammed below:

Figure VII-2
Winter Set Net



The net used to scoop the capelin, or punmaksraq, which spawn in August, is a small, homemade affair. The one we were shown was almost funnel shaped. Its frame consisted of a wooden hoop with an attached wooden handle. Netting was made from a 50 pound flour sack. Since the fish are only 3 to 4 inches long, the cloth used for netting has to be relatively fine.

Dogs

In 1966 Ray Bane would write that no valid study of the factors influencing Wainwright hunting could be made without considering their dogs (Bane, n.d. VII-9). This was for two reasons. First, dogs and sleds were the major source of transportation for eight months of the year. This meant that hunting techniques employed by Wainwrighters had to fit well with the capabilities and limitations of their dog teams. Second, dogs ate a lot. This meant that hunting techniques had to be aimed at amassing great quantities of meat to be used as dog food. One could say that in Bane's day the fuel used for hunting was meat, a renewable resource.

Since dogs are no longer used in Wainwright for any serious hunting, their attributes as sled animals are no longer salient. However, their food consumption is relevant for the simple fact that it is something for which the hunter no longer must provide. In Wainwright, most families got rid of their dogs when they switched to snow machines for transportation. Some dogs they let die; many were shot. Dogs were too costly in energy and time if they were not working. In 1982 there were less than 75 dogs in town; in 1983 there were a few more despite a distemper epidemic. Five or six households have enough so they could conceivably use them as a team. We heard of two teams run in the winter of 1980-81. In the winter of 1981-82 we heard of one case in which a man ran his dogs but more were running the year after that. Several younger men are talking of starting up sled racing again and if this sport becomes popular in Wainwright it

would have an impact on subsistence hunting. However, at present, nobody seems to be doing much about it.

In order to understand the effect that the lack of dogs has on hunting at Wainwright one must establish the amount of meat they consumed. Spencer writes, "A dog is said to eat as much as a man, which may mean from six to seven pounds a day when working" (Spencer, 1959:468). Nelson mentions four to five pounds daily when the weather is severe and the dogs are working (Nelson, 1969). Ray Bane, who lived in Wainwright for three years, kept his own team and hunted regularly with the villagers, writes that dogs were fed as little as one-half pound of meat daily in the summer and as much as six pounds daily in mid-winter. From his observations and experiences he concludes that, "a conservative estimate of the amount of food consumed by a husky on an average day would be approximately three pounds" (Bane, n.d.: VII-9-10). Using Bane's three pound estimate, a table can be constructed showing the amount of meat consumed over time by the dogs of Wainwright (Bane, n.d.:VII-4,11; Milan, 1964:47).

TABLE VII-5

Meat Consumption
by Wainwright Dogs

Year	Number of Dogs	Number of Households	Average no. of Dogs per Household	Average HH Consumption lbs.	Total Yearly
1940	639	75	8.5	9,307.5	669,705
1955	243	41	5.9	6,460.5	266,085
1965	358	42	8.7	9,526.5	392,010
1982	75	97	.8	843.0	82,125

per dog: 3 lbs. per day, 1095 pounds yearly.

In 1940, about 350 tons of meat were consumed by the dogs. In 1955, around 133 tons; in 1965 around 196 tons; in 1982, about 41 tons. Put in terms of households, in 1965 the average family had to amass 4 3/4 tons of meat to feed its dogs; in 1982, it needed 843 pounds. We stress that, except for the 1982 figures, these numbers are conservative estimates. The 1982 figures are based on the same three pounds of meat per dog per day but they overestimate the number of dogs slightly and underestimate the number of households. This is because only the number of Native households are used for the average consumption figures. Moreover, in 1982 dogs were not working so they were fed considerably less than 3 pounds per day.

Bane counted the number of dogs for 1965, so that figure must be considered accurate. Yet the figure may still underestimate the number of dogs fed by Wainwright hunters during

this era. We say this for the following reason: Bane's figures show the largest team as including 18 dogs. There was one team of this size, one of 17, one of 16, and so on down through 11 dogs. Yet, when people discussed this period, two people recalled having teams of more than 20 dogs and one household claims to have had 50 at one time. There are several possible reasons for these discrepancies. For one, people were describing their teams at their largest while Bane captured it at a point in time. Also, his census was taken in 1965; since a famine during the winter of 1963-64 killed about 100 dogs, the husky population may have been down. Finally, the size of the dog population may not have peaked. Both Bane and Nelson describe the factors which encouraged the growth of dog teams. Settling in villages meant men had to travel farther to get game; it also meant that they were in more direct competition with each other for the animals near the village. These facts meant strong, fast dog teams were advantageous. We would add that, insofar as there were jobs around which men organized their time, such teams were especially necessary. Presumably all these factors encouraged the growth of the size of teams for a few years after Bane's report.

In any case, the difference between the demands for meat on Wainwright households in 1965 and in 1982 is profound; in the former year 42 households had to come up with 392,010 pounds of meat; in the latter year, 97 households needed 82,125 pounds. A household with 18 dogs, the largest team Bane lists, needed 54 pounds daily, 378 pounds weekly, 19,710

pounds--or almost ten tons--yearly. A household with 22 dogs would need 66 pounds daily, 462 pounds weekly and 12 tons of meat a year. The household which claimed 50 dogs would have been using 150 pounds of meat a day, more than 27 tons a year.

These figures also give some idea of the amount of meat it would take for Wainwright to return completely to dog traction and subsistence foods. The greater number of households today means that there would be greater hunting pressure on the environment which means, in turn, that hunters would have to go great distances to kill the necessary animals. For this reason the 1965 average of 8.7 dogs per household might be taken as a conservative estimate. With the present 97 native households this would mean that Wainwrighters would need 2,532 pounds of meat a day, 17,724 pounds a week, and 924,280 pounds--or 462 tons--of meat a year just to feed the dogs.

To return to the situation as it was in Wainwright in the 1960s, 350 plus dogs had to be fed so as to hunt effectively. This was a major compulsion of the economy as it existed. When hunting did not go well the results were sometimes devastating to the very animals needed for the hunt. Bane witnessed one such case:

The winter of 1963-64 in general was a time of exceptionally low food supplies for Wainwright natives. Ice and weather conditions reduced the walrus kill to only five animals. The caribou herds moved inland during the month of September and did not return to the coastal region until the following summer. Almost all sources of dog food were exhausted by December, including the

The second point is this: that waste of meat also must be seen in this context; dogs were fed almost everything. If a caribou tasted bad or was not fat enough, it went to the dogs. Old meat cleaned from the ice cellars, before whale season opened, went to the dogs. When sea gulls and loons were shot they often were used as dog food; so were fish and spoiled meat. People describing life before snow machines recall "dog soup" always cooking on the stoves. Making this was a woman's job. One told us, "Everything went in these kettles: blubber, gulls, caribou, walrus, sometimes rice, fish, and fish heads." There was little wasted because the dogs ate the waste.

Without a doubt, there is more wasted meat in the subsistence system today, simply because there are few dogs to eat it. Presently, when ice cellars are cleaned out in the spring some of the food is given away and some thrown away. When meat has spoiled it often goes unused. Such losses should be looked at, however, in the light of the tons of game which is not being killed to feed the dogs. The waste, one might say, is the logical consequence of a society which is using game more conservatively.

A third point is that the elimination of dogs has not affected the hunting of all species equally. The bulk of dogfood came from walruses and seals. Neither of these is preferred food for humans (Spencer, 1959:467). The hunting of these animals has substantially decreased. For example, one family which kept 14 dogs needed at least two walruses, 20 ringed seals and 10 to 12 ugruks just for them. Last year

that same family reportedly killed no walrus, four seals, and no ugruks. Another family reported killing 65 walruses when they owned dogs. That same family has since divided into five households each headed by a hunter and four containing sons who also hunt. Last year they killed a total of nine walruses.

The decline of dogs has particularly affected ice edge hunting for seals and walrus, an activity now done very little. Walruses are still taken for food and their ivory but even so, they are taken in much lower numbers. Here, we find another case where less hunting has led to more waste. When there were dogs, walruses were never taken only for their ivory because the meat was needed as well. Presently about five men in town hunt these animals for their tusks. One family, which still keeps five dogs but does not run them, took 10 ugruks, 13 ringed seals, including three during the winter, and five walruses.

While the hunting of certain sea mammals has been somewhat curtailed by the direct effects of the adoption of the snow machine, the same cannot be said for all animals. In the early 1980s, most of the dogs in Wainwright were fed mainly caribou. The reason for this is that the diminished demand for meat could easily be met with the then plentiful herds in the area. Also, many people in Wainwright have observed that bird hunting has actually increased because of the effects of the snow machine. It gives people the speed and mobility to get upriver to hunt geese. Also, by

lessening the demand for great quantities of meat, it gives the hunter more time in which he can hunt birds.

The last observation brings us to our final point. When great numbers of dogs needed to be fed, the Wainwright hunter operated under the compulsion to amass large quantities of dogfood. Usually, all available resources had to be exploited. Sea gulls were energy for dogs, so were the carcasses of fat foxes. Walruses had to be hunted because their herds represented a huge bulk of meat and fat.

In Wainwright, subsistence hunting has not disappeared but some of the compulsion has. The use of several species which were marginal to the human diet, such as sea gulls, has dropped by the wayside. So has the necessity to kill huge numbers of walruses and seals. People still hunt walrus because they "want a taste of it"--Wainwrighters feel the need to vary their diets. Or they may hunt walrus for the ivory. In the present situation these activities are choices people can make and are considered as such. Bird hunting has increased because people have the time to do it and ducks and geese are a preferred food.

Such changes in subsistence patterns have often been interpreted as an erosion of a group's lifestyle and it may be that such rapid alterations in demands have been a shock to the social system (see Nelson, 1969:383-87). However, in an alternative view of these facts, Wainwright hunters today have more room to choose what they are going to do than they did in the past. In part, the choices may express the tastes of the individual hunter. Thus, one man will concentrate on

upriver spring goose hunting while another will go out on the sea ice as a member of a whaling crew. Yet, present day choices also express the food preferences of the community. At the present moment in history, perhaps more than ever before, hunting on the North Slope is a direct expression of Inupiaq culture--that is, hunting decisions are structured by culturally specific, individually learned food preferences and behavioral patterns.

CHAPTER VIII

SHARING

The phenomenon of sharing will be described throughout our discussion of the collection and distribution of specific species. Here we provide a general overview of the main types of sharing that occur in Wainwright.

A great amount of sharing of naturally occurring renewable resources goes on in Wainwright today. Most of this sharing involves relatively small quantities of food--enough caribou meat for one or two family meals, a baked dog salmon brought over to a neighbor's house, a few ducks or geese, an invitation to a dinner of freshly taken game, or a pot of soup sent over. People who receive a gift of meat will often be involved in secondary gifting; they will send part of what they get to someone else. Most sharing also occurs within fairly narrow confines--food is given to parents, to children, to siblings, to aunts, uncles, nephews and nieces, and to affines. This is not always the case. People share with friends, partners, and neighbors. Sometimes they send food parcels to friends and relatives in distant cities. Also, sometimes people give fairly large amounts of food or valuable items--a 40 pound sack of grayling and whitefish, a whole caribou dressed, a wolverine pelt.

This type of sharing occurs daily; it is so common--so much a part of life--that most of it can scarcely be recalled months or even weeks later. While a more detailed discussion

of sharing appears in later chapters on specific species, several ways that people in Wainwright share food will be described here. These include the following types that are formal or semi-formal; one, giving to "old people"; two, giving at the Nalukataq; and three, giving at the Thanksgiving and Christmas feasts.

GIVING TO "OLD PEOPLE"

Special giving to "old people" occurs in two ways. Young men, as they learn to hunt, are expected to give the first animal of every species they kill to some old person. If the young man forgets to do this, he will be corrected by his parents. A strongly held belief in Wainwright is that a young hunter demonstrates his generosity by giving his first kill to an older person; the particular type of animal given in this manner will be pleased and will express its own generosity by allowing the young hunter to take more of its kind. Thus, giving leads to more getting. Several hunters have pointed to this belief as a specific example of the general principle governing Wainwright's subsistence economy. Good hunting comes from generosity.

A second type of giving to old people might be seen as a more generalized version of the first. Everybody in Wainwright seems to hold the view that one should give to old people because they cannot hunt for themselves. People who have little to give, for example, a single woman with children who is herself dependent of gifts of Native foods,

will give to old people by sending over pots of soup or by inviting them to her home for dinner. Good hunters sometimes give a great deal; one man shoots a caribou for each of six "old people" on his list; another gives a sack of fish and a caribou to people on his.

Stresses in this practice of giving arise only when a particular old person has a son or sons who, other people in the village feel, is not doing his share for his parent. Then there is some grumbling, but still a lot of giving.

NALUKATAQ

Nalukataq means "blanket toss." It is also the word for the feast given by a successful whaling crew to the village in celebration of the taking of a bowhead whale. This ceremony gives thanks to the whale for allowing itself to be caught. The blanket toss, after which the ceremony is named, is part of the celebration. Since Nalukataq revolves around the sharing of food, of dances, and of hospitality, we shall describe it in its entirety in the discussion of sharing. Wainwright successfully struck two bowheads in 1982 which meant that two Nalukatat were to be given. We will concentrate on describing the first.

Days before the first Nalukataq, the population of Wainwright burgeoned as relatives and friends from all over the North Slope came to the town to partake in the celebrations. Everybody had predicted that this is how it would be

because "Barrow didn't get any whales." "People came because we share and they are hungry for maktak," we were told. And people did come, from the North Slope villages, from Kotzebue, from Fairbanks, and from Anchorage. One man who had been in California for 27 years returned to Wainwright to retire just before the celebrations. Since, in 1982, there were no hotels in the village, everybody stayed in private homes. Most people stayed with close relatives, with parents, children, uncles and aunts, nieces and nephews. Several stayed with more distant collaterals, such as second cousins. In such cases, they were also "friends." Several people had unrelated "friends" staying with them and several had "partners." In one example, it was a National Guard partner from Kotzebue.

For a few days before the first Nalukataq and during the three days separating that one from the next, it was almost impossible to get any work done in town. Everybody in Wainwright was excited; the major activity was "visiting." This would begin around 10:30 a.m., and go late into the night--until perhaps 3:00 a.m. People could be seen wandering back to their abodes at 6:00 a.m.

When entering a house, one encountered other visitors. People would go from one relative's or friend's house to another, sometimes staying a few minutes; sometimes a few hours. Gossip was exchanged, sometimes business was discussed, old times were brought up. During the visiting the host served food, buffet style. Guests took what they wanted. The spreads included, coffee, tea, crackers, bread,

rolls, "Eskimo doughnuts," butter, and Native foods. Since the Nalukatat preceded summer fishing, the native foods consisted of caribou--frozen, boiled, and stewed--duck and goose soups, maktak, mikigaaq, walrus, and seal.

The Native foods provided the focus of these festive meals and the hosts took pride in well-appointed ones. For weeks before the celebration, people had prepared by checking their ice cellars to see what was on hand, trying to decide how many guests they would feed, and attempting to fill out their supplies. People hunted intensely during these weeks and concentrated on the game they needed to serve. They also traded abundant foods for scarce ones. A local market in game, usually in abeyance, heated up. Ducks and geese were one dollar each. One man who had plenty of caribou, traded some for brant geese from across town. His sons concentrated on hunting for seals and eider ducks. People also serve the foods they receive at the Nalukataq.

The Native foods served in the homes during Nalukataq are status foods. Having varied and adequate supplies reflects well on the hunter and his wife. Often people expressed some anxiety over the preparations; they worried about what foods to leave on the table and which to save for their special guests--say, their partners from other towns or their house guests.

It was during this period too that a few people commented on how certain others in the community did not pull their own weight. One would hear comments like, "So-and-so

is lazy and doesn't hunt and now he's coming to me for meat to give away" or "I won't give caribou to so-and-so because she has two sons which should hunt. People have to learn that drinking all the time is no good." This harping reflects the minor anxieties that crop up before the festival. As such, they are analogous to the anxieties inherent in Christmas celebrations which occur throughout the United States. Both holidays explicitly celebrate profoundly held cultural ideals. They intensify these ideals and focus them. Expectations are high; meaning runs deep. Naturally, during such periods some cultural tensions surface in the midst of great joy. Mostly, the celebration and visiting around Nalukataq is a lot of fun. The visiting before and after the festival and the giving of food that took place during it was at least as significant as the actual ceremony and ceremonial giving.

At noon, Wainwrighters and their guests gathered at the old elementary school yard in the center of town. The celebration was opened with a prayer from a visiting preacher and then people were served lunch: soup and bread. The crowd numbered a few over 500; an exact count was impossible because children dashed everywhere. Youngsters climbed over the playground equipment while many of the teenagers and young adults removed themselves from the main activities. They slouched against the outer buildings, watched intently, chatted with their friends, but remained somewhat aloof.

Chairs formed an enormous circle around a wooden platform which serves as an outdoor basketball court. The chairs

filled and people sat in several rows on plastic sheets on the ground. Behind this semi-circle of people, was a wind-break made up of a umiaq turned on its side and tarps of cloth and plastic. Here some of the successful whaling captain's friends and relatives sat. Behind this wall, people could mill and walk. In front of the semi-circle was the wooden stage piled with food and the captain's flag flying on a pole.

Old people sat together and most of their animated conversation was in Inupiaq. Everyone seemed to be enjoying the conversations and anticipating the maktak and mikigaq which would be handed out. The captain, the captain's wife, members of the whaling crew, their wives and girl friends, and other close relatives were on the platform. They were busily sorting food into large pails, plastic bowls and plastic bags. Some pails were so large that two men strained to carry them. Some of the people who worked on the platform later distributed the food to the crowd. During the second Nalukataq, they called for young men from the crowd to volunteer to help. In this case, not all the food distributors were crew members or directly related to them.

As in the case of the food given out by households, members of the crew, selected spouses, and close relatives had worked for days preparing for this feast. They had taken whale meat and blubber out of ice cellars and cut it up with knives, spades, saws and homemade knives. In the first Nalukataq, the food to be shared had been stored in the ice

cellar of the successful whale captain and the ice cellar of one of his brothers. In the second Nalukataq, it had been stored in only one ice cellar--that of the family of the successful whaling captain. Two days before the first Nalukataq, the whaling captain, his brother, and one or more of his sons had gone walrus hunting and shot four to be served. Since walrus season was late in 1982, these were the first for the village. Mikigaq, a mix of whale meat and blubber, had been fermenting for weeks. Several varieties of bird soup, doughnuts, and bread were made the night before, as well as the morning of, Nalukataq. These were made by wives, daughters, aunts, nieces, and girl friends of the whalers. For the second Nalukataq, people also made and dispersed cakes and pies.

The people who came to receive came with plastic containers--tupperware--plastic bags, boxes, cups, plates, and silverware. Vats of soup were ladled out first; these were as thick as stew and had been cooked mainly for immediate consumption. Several kinds of soup were prepared: eider duck, brant, and white-fronted goose were the three major ingredients. Rice, salt, pepper, onions, spices, and flour were also added. One of the vats was made with "Soup Starter;" two used noodles. Several rounds of soup were served. One person carried the container, a second scooped out the soup and pieces of meat.

There was plenty of soup for all; one could essentially have as much as one wanted. The same was true for the bread, doughnuts, and cakes. Most of these foods were eaten immedi-

ately. Hot coffee and tea were passed out intermittently throughout the entire food giving. People used their own cups, plates, and silver. Throughout this part of Nalukataq, jokes and laughter were exchanged between the food takers and the food givers. More greetings and conversation occurred between the food givers and their recipients than between the adult members of the crowd. Once the adults were situated, they tended to remain stationary, their attention focused mostly on center stage. This is not to say that there was not a lot of chatting with their neighbors. The children were very mobile; they were free to explore and play anywhere and were only shooed away from the serious preparations occurring on the platform. Some of the young adults and teenagers sat with their parents while others hung out with their friends, leaning against the out-buildings.

After this eating portion of the festivities, walrus, several varieties of maktak, whale meat, and mikigaq were given by the whaling crew to the assembled guests. This was done under the supervision of the captain and his wife. This was really the centerpiece of Nalukataq. The idea is to divide all the food equitably among the families represented. A representative of each household would go up and get one share for each member of the household of each food given. People would pass by giving strips of maktak. If there were a lot of maktak, a share might be six pieces. They would ask someone, "How many shares?" If that person's household was made up of a husband, wife and teenage child, that person

would answer, "Three." He or she would then get eighteen pieces of maktak. If there were six members of the household, he would be given thirty-six pieces of maktak.

Each tub of food was given out in this manner. If there was some food left over after it had been divided up, the remainder was given out in the same manner. If just a little remained, the share might be one or two pieces per capita. This process is repeated until each kind of food had been divided. There were different kinds of maktak; long strips with little skin and lots of blubber, small pieces cut from the tail, and so forth. Each of these is a type and was divided separately. Two tubs of mikigaq were prepared differently, and were considered two types of foods to be divided separately.

Whale meat and maktak, mikigaq and walrus were all given out in this manner by members of the whaling crew, their wives, girlfriends, and close relatives. Some worked on the stage separating the foods and estimating shares, others lugged the food around to the semi-circle of assembled guests and handed out the shares. The people actually dispensing this food showed amazing concern for assuring that everyone received their fair share. This seemed almost an affair of honor. If a guest mentioned having missed a round of some item, one of the people in charge would drop their work and go to the platform in order to retrieve a proper share, if possible. The guests also looked after their neighbors' shares. If someone had to retrieve their children or run some errand, a bystander would make sure they received their

proper portion. Whites visiting the village could, if they wished, be treated just like any other guest. All they had to do was to find a place in the semi-circle and ask for their shares.

Considering the number of people actually present and the number of shares these people represented, an enormous amount of food was doled out. We estimate that a person representing a household of three and wanting his full shares of all items received more than 50 pounds of meat and maktak. More than half of this would be maktak. This was true for both Nalukatat. People took the food they received home in the plastic containers and bags and the cardboard boxes they brought with them.

When weather permitted, Cape Smythe, the air carrier servicing Wainwright, put on extra flights to the village because of the high demand for them. Also, chartered planes came from the various North Slope villages. On the day of the second Nalukataq, at least six planes landed in the morning. After the second ceremony, planes started leaving for home. Even though there were extra planes out for the next few days, the planes that left were so crowded with people and boxes that some of the food had to be shipped or left behind for relatives in Wainwright.

During the first Nalukataq, the "lunch"--the serving of food for immediate consumption--began about noon and lasted until around 2:00 pm. The giving of food began around 5:00 p.m. and lasted until after 8:00 p.m. At this time, people

took a break; they went home to get warm, maybe change cloths, to drink coffee and tea and chat, and to put away the food they received.

After 9:00 p.m., the festivities began again, this time with the "blanket toss" or Nalukataq. Although the whale thanksgiving ceremony is named after this part of the event, at present in Wainwright, this is not the focus of activities. In fact, many older people rest, visit and prepare for the night's dances.

The blanket toss centered around an apparatus made of bearded seal skins sewn together. In Wainwright, this was held in the air similar to a trampoline by ropes attached to it at the four corners. Each of these ropes ran over a support about eight feet high and then was staked to the ground. When these ropes were pulled tight, the skin was about six feet off the ground. A rope ran around the skin that could be grasped and used for throwing.

Although this device looks like a trampoline, it does not behave like one. People are literally thrown into the air, not bounced. The peoples' hold on the skin dampens the rebound so much that the jumper does not bounce. The use of the tall wooden supports is an innovation that has been used at Wainwright for a long time. It is not employed at Point Lay. The supports make throws higher and catches easier; their disadvantage is that if a jumper loses his balance, the blanket cannot be moved to catch them. This makes for more accidents.

At Nalukataq, young people and men jammed together to

help hold the sides of the skin. Holding it was a task because the person jumping had to be flipped high into the air. A great deal of hilarity accompanied the jumpers' endeavors. People would shriek with delight as participants were vaulted into the air. People who jumped had different styles: some pumped their legs and held their backs straight as if on a bicycle; others twisted their bodies; several did flips. Some people lost their balance and landed askew, off the skin. The throwers nearby grabbed them to break their fall. Exclamations and laughter greeted these near disasters too, since no one was injured. Everyone agreed that the best jumper was a particular young male, a dancer from Barrow.

The tossing began with the captain of the whaling crew and several of the crew members. This was followed by a few of the women related to the crew. After this, several other middle-aged people participated, but it was soon given over to the younger men, women, and children. In the beginning, at the first toss, many people, especially the women and girls, threw pounds of candy into the air as gifts for the children. Small, individually wrapped pieces of salt water taffy, hard candies, and sticks of gum bounced over the ground and children dove to retrieve them.

Around 10:00 p.m., after an hour of the blanket toss, the skin was taken down and people left en masse for the high school gymnasium to watch the Eskimo dances. This was more crowded than either the blanket toss or the food giveaway. At least 600 people packed the gym. They filled the

bleachers, the space in front and on either side of the bleachers, and sat against the wall facing the bleachers. The drummers also faced the bleachers. At first 12 men drummed, but as more came in, chairs were added. A few of the older women sat behind or to the side of the drummers and sang the accompaniment.

The dancing can be divided into three parts. In this first part, anybody can dance. The music is exciting and feverish; the rhythm almost compelling. The idea, people will say, is to "act like a walrus." Men and women each have a characteristic step and manner of holding their heads and arms. There is a notable difference in levels of skill between dances and, while ability was certainly appreciated by the spectators, less accomplished dancers were encouraged by the audience.

During this first part of the dancing, an individual or small group would get up and perform for the pleasure of all. Young and old, men and women, all danced together. The groups were made up of old friends, partners, husbands and wives, brothers, sisters, nephews, nieces, aunts, and uncles. Typically, they included part of a family and visiting relatives or household guests. Toward the end of this period, large group dances occurred in which everybody was encouraged to take part. On one occasion, more than 70 people were on the floor.

This first part of the dancing may be viewed as an expression of solidarity--the solidarity of the group of friends of family that performs together and the solidarity

of the society as a whole. The intensity of these feelings were at times dramatic, for example when brothers and sisters separated by the great distances of the North Slope danced for the approving crowd. In one particularly moving case, a man got up to dance who had just returned to Wainwright after having been gone for over 20 years. He had been forced to retire due to a serious construction accident. He came onto the floor with crutches, threw them down, waved and began to dance with one leg, holding the other stiff. He was then joined by his brother and brother's daughter, the people with whom he was staying. Then two more nieces joined in. The crowd clapped wildly and the family did an encore. The approving crowd encourages everyone to participate: old, young, Wainwrighter, visitor, Inupiaq, white.

The importance of the social solidarity demonstrated in this part of the Nalukataq should not be underestimated. Members of households show it by dancing together; so do siblings and friends. This activity cuts across social divisions. Visitors dance with townspeople, white outsiders dance with everyone. These small groups of dancing people express solidarity with the Inupiat as a whole by basking in their applause.

In the second part of the dance a visiting group presented dances to the assembled spectators. Actually, one may say that the visitors present dances to the Wainwright people. These were composed, set pieces like dances seen at the Eskimo Olympics. Each dance was short. After it was

performed, it was repeated at a faster tempo with more powerful drum beats and louder singing. The same dance steps are also repeated, only more vigorously, with more exaggerated movements. The repeated section is the "motion dance." These are planned and choreographed. For some of the dances, only two people were on the floor, while in others, dozens of performers were exhibited. When a young favored dancer appeared later, everybody applauded.

After the Barrow dancers performed, the Wainwright dancers came on stage. This was the third and final part of the Nalukataq dancing. They too presented motion dances to all the assembled people although one may say they presented them to their visitors. Their dances were similar to, though in a different style from, the dances presented by the Barrow troupe. Each North Slope village has its own style. People loved to comment on these differences and, although almost everyone seems to like their hometown style best, they are not unappreciative of other versions. One man explained how a song written by a famous Wainwright dancer--Oliver James--was reworded by the people of Point Lay.

The dancing finished about 1:30 a.m. It was very bright outside and many people continued visiting, first around the doors of the gymnasium and then at people's houses. Some people were wandering back to their abodes at 7:00 a.m. the next morning. Although the dancing started earlier for the second Nalukataq, around 10:00 p.m., it persisted as long as the first, and the visiting did as well.

Nalukataq seemed almost to mark a shift to summer

patterns of visiting. This all night socializing began just before the celebration and continued afterwards during the summer months. Many of the women in Wainwright prepared the foods that had been distributed at the Nalukataq for lunch and dinner. Snacks from this feast were also offered at all hours to their out-of-town guests. Also, from June 25, the date of the first Nalukataq, until several days after the second one on June 29, special foods were flown into Wainwright. These were foods like sheefish and beluga maktak, subsistence meats not normally available. In many instances, they were brought by visitors as gifts but some were just shipped. These, too, showed up on the Wainwright dinner tables.

In a typical case, a piece of beluga maktak was put on the Cape Smythe plane in Point Lay, where it is frequently bagged, destined for a woman in Wainwright, where it is not. In both towns, it is considered a delicacy. The woman in Wainwright was told by phone to pick up a package; the woman who sent it was the adopted daughter of the Wainwright woman's mother's mother's sister's daughter. "That's why we are so close," she said, "but we are also friends." Two or three pounds of it were sent; it was used as part of one family meal plus given to visitors the day it arrived. These included one cousin (mother's sister's daughter), one nephew (mother's brother's son), at least one uncle, several unrelated people, and perhaps others.

During this period, the sharing of subsistence foods

sometimes takes place in the guise of trading. Someone in Wainwright will send bowhead maktak, mikigaq, or whale, seal, walrus or caribou meat to relatives and friends in other villages or cities like Fairbanks, Anchorage, Seattle and Los Angeles. That friend or relative is explicitly expected to reciprocate in moose meat, fish, or some hard to come by commodity. Around Nalukataq, mostly maktak was sent from Wainwright since it was in season, keeps well, and was in short supply in other villages. In a typical instance, a member of a whaling crew traded a piece of maktak--around twenty pounds--to a "friend" in another village in return for about fifty pounds of red salmon. In another, a family sent a "piece" of maktak to Fairbanks expecting something in return which did not come. The comment was, "See if they get anything from us again."

Right after Nalukataq, a small market in maktak also surfaced. The price of this commodity to a visitor to Wainwright was one dollar per pound; we were told that in Barrow it cost five to ten dollars per pound since no whales had been taken there. To the best of our knowledge, this buying and selling only took place between Natives long known to each other. Certainly this was the case in Wainwright.

Quite correctly, commentators have made much of the importance of whaling to the Inupiat of the North Slope. The striking and landing of a whale is an exciting, colorful, and highly visible event made more so by the controversies surrounding the International Whaling Commission regulations. The Nalukataq may be less visible to outsiders, but it

remains an important feature of the cultural landscape to the people of Wainwright and for all the North Slope Inupiat. Tremendous quantities of subsistence foods are shared, not only at the celebration itself, but also during the festivities which surround it. At the celebration, the focus is on the whaling captain's family and crew and on the whale. In the rest of the festivities, it is on family and friends and traditional subsistence foods in general. This coming together to share helps define the Inupiaq community. One might say that the giving of the whale at Nalukataq is what gives whaling its importance.

People on the North Slope are conscious of the cultural importance of this ceremony. Some are even sensitive about it, a fact illustrated by an interesting incident which occurred in Barrow in 1982. Barrow lost all five whales struck. Since a Nalukataq is a ceremony given by successful whaling captains, Barrow was to have no Nalukataq. A restaurateur, sensing a loss and perhaps an opportunity, advertised on the radio that the restaurant was going to give a Nalukataq "to continue the age-old tradition of having one each year." This person also asked for donations of Native foods for the event. Many people were outraged by the thought that an outsider would attempt to redefine their heritage in order to make a profit. After a few days of advertising the upcoming Nalukataq, the restaurateur felt constrained to air a long apology over the radio, one stating that no offense was intended, it was just a party to enjoy

good company and Native foods, and that there would be no charge for foods which had been donated.

Visiting Wainwright for Nalukatuq became more extensive in the late 1970s and early 1980s than it had been before. The population of the North Slope had grown and many more people could afford air travel. Moreover, the period witnessed a revival of interest in many traditional events including all aspects of whaling. The International Whaling Commission quota may have intensified this interest; it certainly had another effect. While Wainwright had fared relatively well under the quota system, other villages including Barrow had not. For all these reasons more people than ever came to Wainwright from across the North Slope to join with their relatives in the fun of the Nalukatuq. Such increased pressures on the system led to a significant innovation in 1984. That year, at Wainwright, the two successful whaling crews joined together to give but one Nalukatuq. In general, residents of the village and visitors alike appeared satisfied with this change.

THANKSGIVING AND CHRISTMAS FEASTS

The division of food into per capita shares occurs not only at Nalukataq, but also at the two other holidays during which food is given away, Thanksgiving and Christmas. At these two celebrations, Native foods and store-bought foods are distributed. Although we had no occasion to participate in this, we were told of the great care that is taken to

ensure that the divisions are equitable. For example, in one Christmas observance described to us, the food was stacked in the center of the room divided by types. While most people sat in family groups around the room, several Natives active in the church putting on the festival divided up the food. The minister says, "People make sure everyone gets their share. When the pilot bread is given out to the families present, first it is given by the box and then if there are a few odd boxes left over, these are opened and the pieces are divided equally."

From photographs, the arrangement of people at these ceremonies may be seen as analogous to the Nalukataq. People sit around the edge of the food in a semicircle. The minister, his family, and some active members of the church stand with the food at the focus of this circle. First, soups and stews are eaten, then everything is divided and carried home in boxes and bags. Like Nalukataq, Thanksgiving and Christmas are important times for the giving of food. All the active hunters donate to these events in the church they attend. The corporation store and cooperative donates food items to both churches. The Recreation Committee and Search and Rescue organization donate money to both as well.

In summary, Nalukataq, Thanksgiving and Christmas are all celebrations in which people share large quantities of native foods. Each ceremony exhibits two aspects or faces to this sharing. In one, sharing takes place informally in the home as friends and relatives visit one another. In the

other, sharing is formal and public, division is done in "shares." Two of these celebrations, Thanksgiving and Christmas, take place in a church. Nalukataq does not, and encompasses the entire community, as well as visitors, although even at Nalukataq, a prayer by a minister opens the proceedings.

The second observation is this: the division into shares is a traditional way of giving. However, this sort of division also harmonizes well with payment in shares which was common to nineteenth century white whaling with which North Slope Inupiat came into contact. Van Stone (1964) has argued that certain ideas about God's and the Devil's intervention on Earth fit well with traditional beliefs and this facilitated culture change. It may also be that certain non-material aspects of white whaling, such as the division of profits by shares, fit well with traditional ways of doing things.

CHAPTER IX

LAND MAMMALS

BIG GAME

Three big game species are encountered by Wainwright hunters in the area they normally exploit: grizzly bear, caribou, and moose. Of these, only the caribou is of major importance to the village's subsistence economy. Caribou provides the staple subsistence food in Wainwright; it is the most significant land mammal hunted (see Nelson, 1969:153,180).

Brown Bear

Brown bears are fairly common in the northern foothills of the Brooks Range (NPR-A Task Force, 1978:2(1)). Occasionally they are encountered at upriver fish camps or behind Icy Cape, rarely near Wainwright itself. In the old days, their furs were sometimes used for clothing, mattresses, and door covers, but this is not so presently. Wainwrighters are aware of the dangers of trichinosis. When bears are shot, their meat is eaten boiled. It is often shared. Everybody in Wainwright seems to agree that brown bear meat is inferior to polar bear.

Brown bears are rarely hunted today. However, one will be shot if it is disturbing the fish camps. Wainwrighters shoot "a few each year." We know of one killed in the fall of 1981, although there may have been more. Three were shot

in 1983. Normally, Wainwrighters shoot between 2 and 5 bears per year. Because these bears are shot only when they come around camps, they are taken by groups organized around other tasks. These can be individuals, family groups, or groups of men assembled to hunt caribou, fur bearing animals, birds or to fish.

People seem to enjoy relating hunting stories about brown bear. These are often tales of fun and daring. One group of men told of shooting a mother bear that was disturbing their camp. After this bear was dead, one of the men, on a bet, attacked and killed her cub with a knife. While, as in this case, these stories often show daring, they do not seem to contain the religious overtones or the identification of hunter and prey found in stories about hunting polar bear (see below).

Caribou

Nelson reports that caribou was the staple food at Wainwright in the mid-1960s (Nelson, 1969:153,180); today, it remains the staple subsistence food. Even taking into account store-bought substitutes, it is the meat most often consumed in Wainwright. Caribou is a highly preferred food. Everybody in town agrees that it is the only meat that a person would not tire of eating every day. Nelson wrote recently that, along with whale and waterfowl, caribou "is one of the foods that they could least imagine doing without..." (Nelson, 1982:50). Today, too, caribou is the meat most often fed to dogs.

Exact figures on the caribou kill at Wainwright are difficult to come by. In part, this difficulty arises from earlier attempts by the State of Alaska to regulate caribou hunting on the North Slope. This interference has left the people in the village extremely suspicious of outsiders questioning them on this subject. Many people in Wainwright also, to some degree, attempt to hide their success in hunting this animal from their neighbors. These people say they resent being "hit up" for meat by members of the community who could hunt, but do not, or who have sons who could hunt, but do not.

In these situations, one sees some of the tensions which have arisen in the community in conjunction with recent economic changes. Some of these relate to the present use of alcohol by some of its members. Several hunters, for example, have said they do not give meat to families who have male members who drink when they should be hunting caribou. One active hunter said, "I don't mind giving to somebody that needs it, but people have to learn how to act in the village." One also sees in this situation the tensions which exist between the subsistence economy and its ideal of sharing on one hand, and jobs and money on the other. Many contradictory attitudes exist on this subject, as can be seen in the following statement made a close relative of one of Wainwright's good hunters:

People won't say how many caribous they have because they're stingy. They don't want others to know. I won't give meat to anyone who earns a thousand dollars or more a month. It's only for

those who don't have income. For people I owe, I give them caribou in return. Some people are too lazy and so they bum food off me because they know _____ is a good hunter. People working at the dredge site don't need any subsistence food because they earn \$4,000 a month. That's enough money... There are too many people greedy for money. I won't help them with food...

Such statements can only be taken as reactions to the stresses that presently exist between the subsistence and cash economies. Both people quoted above are known to be generous with their meat supplies. It is hard to believe that either speaker would not feed anyone who visited their house or give meat to someone who needed or asked for it.

Households dependent on non-members for their caribou are, obviously, involved only in secondary distributions of it. Such households tend to be headed by women. In a typical example, the household head gives to friends, to cousins, and to siblings, in-laws, and to several related and non-related "old people." All these gifts tend to be small, given either as meals served at home or cooked dishes sent to other houses, or as pieces of meat large enough for a meal.

There are few statistics on the number of caribou taken in the past. Chance (1966:42), quoting Milan for the 1950s, states that the average annual caribou take at Wainwright was 800 and that a full-time hunter in a family of six killed an average of 24 per year. This would be a consumption rate of about 3.6 caribou per individual per year. This figure of 800 was also used as an estimate for Wainwright's annual caribou take in the 1960s (Dept. Comm. & Reg. Aff., 1972:917). This would drop the 1960s per capita consumption

to about 2.5 per year. Neither Bane nor Nelson provide statistics on average takes for the 1960s, although Nelson (1969:302) says that the volume of caribou shot "considerably exceeds that of seals." Nelson's statement would be even truer today since changes in hunting technology and the village's economy have affected the hunting of the latter much more than the former. Finally, Stoker writes that, in the years between 1962 and 1982, "estimated caribou harvests at Wainwright have varied from a few hundred to 1,500 or more per year." He concludes that, even compared to other North Slope villages, Wainwright's caribou harvest may be especially prone to fluctuation (ACI-Braund, 1984:A-34).

Nelson stresses a long term view of subsistence systems. In his most recent assesment of the importance of caribou at Wainwright he notes that, "in terms of meat volume harvested, caribou rank with bowhead whale, ringed seal, and walrus as one of the most essential game species in Wainwright's subsistence economy over the long run." Nelson then emphasizes the error in assuming that the relative importance of a species is a constant from year to year. He argues, "The actual ranking of these and other species varies considerably from time to time, as their populations and availability fluctuate. In recent years, bowhead whale and caribou have provided the largest volume of subsistence food; but this could change at any time" (Nelson, 1982:50).

Today, the taking of caribou is not distributed evenly by households. A father and his sons, two of whom head their own small households, killed more than 60 in 1981. Another

household containing three active hunters took about 30. A man who heads a family of six and is considered a good hunter in Wainwright killed between 10 and 12. This is an annual rate of approximately 2 caribou per individual per year. Other households took fewer. An older hunter with a wife and adopted child shot five while a man in his 40's heading a household of six, killed seven. Two men, each living alone, shot nine caribou each. Both of these men are considered good caribou hunters and are known for their generosity with meat. On the other hand, three households that were interviewed killed no caribou in 1981. Two of these were headed by unmarried females, but one was made up of a childless couple, both in their 30's. All three households had access to caribou supplies of close relatives.

Caribou consumption is difficult to estimate not only because people do not like to talk about it, but also because it varies greatly from house to house. While all Native households in Wainwright consume caribou, some eat it four, five, or six times a week, while others have it only rarely. The latter persons eat more store-bought foods, including beef, frozen fish sticks, "Banquet" chicken, "Banquet" shrimp, frozen pizzas and submarine sandwiches, and pork chops.

If we had to make an estimate of the average number of caribou consumed per household in 1981-82, we would set it at five. This is considerably less than Milan's estimate for 1955, even when one considers the smaller households of

today. Actually, we consider the 1982 rate to be on the low side of present consumption levels. During this period the employment level in Wainwright was extremely high and marine mammal hunting was very successful. We would estimate that, normally, the present annual consumption rate at Wainwright is approximately two and a fraction caribou per adult and one per child.

Ray Bane has written a detailed description of caribou hunting at Wainwright in the early 1960s (Bane, n.d.:XI-1-31). Inasmuch as the adoption of the snow machine since Bane's day has changed the hunting techniques for this animal only slightly, the reader is referred to this description.

The caribou population is cyclic; their migration paths notoriously unpredictable. The snow machine and outboard motor driven boat have reduced the inherent difficulties of reliance on such an animal by increasing the hunters' mobility. In Wainwright during the winter of 1981-82, the caribou's unpredictability presented no difficulties. Normally, this animal moves away from the village and off the coastal plain sometime in January and does not return until late June. In 1981-82, however, caribou were to be found within a few miles of Wainwright throughout the winter. In May, a whaling captain shot and butchered two at the airport as part of his effort to gather food for his crew.

That year, people gave various explanations for the caribou's behavior. Some claimed that the animals were tamer because they had bred with reindeer; others said they were getting used to people and were attracted by the noises in

town; one man said it was because the pipeline had changed caribou migration routes. Several feared that the animals might be suffering from rabies. The winter of 1981-82 witnessed a major rabies outbreak. A person in Barrow came down with the disease. Apparently he shot a caribou that had been bitten by rabid foxes and ate the meat as qwaq, raw frozen meat.

The following year, caribou also remained close to Wainwright for much of the winter and, as in average years, small groups of them could be located within 25 miles of town throughout this season. However, in the winter of 1983-84, no caribou were taken by Wainwright hunters and none could be found. The summer hunt had been successful and the caribou moved off in the fall as they normally do. However, unlike most winters they did not reappear. Various explanations of this turn of events could be heard. One man felt that hunting at Atqasuk had deflected caribou migration, others felt that increased activity on the North Slope was effecting their movements, still others felt it was simply another example of caribou unpredictability.

A discussion of caribou hunting can be broken into two parts, hunting before freeze-up and hunting after freeze-up. The hunting of caribou becomes a major activity around the first or second week of August. It is during this period that the skins are considered prime for clothing because the fur is not too thick. Caribou meat before freeze-up is considered prime for one of the favorite of all dishes--qwaq,

a word for meat eaten frozen and raw. When meat is frozen in the ice cellar, tiny ice crystals form in it which meat lacks if it is taken after freeze-up.

Hunting during this period is a cooperative effort; it is done by groups of men in boats along the ocean's coast and the shores of the rivers. Presently, the Kuk River and its associated waterways is the major focus of such activities. During warm days, the mosquitoes drive the caribou down to the water's edge where they can be shot easily. When it is cooler, the caribou remain in tundra meadows away from the water's edge. Then, the men must leave the boat to stalk them (see Bane, n.d.).

Hunting before freeze-up is considered by most, but not all, of present-day Wainwright hunters to be the best time to hunt. Bane (n.d., XI-4) writes:

Caribou hunting during the summer months is considerably easier and more rewarding than it is during the winter. Not only are caribou usually plentiful along the coastal plains during the summer, but they are also less alert to possible danger. Wainwright Eskimos say that the warm weather makes caribou careless. Undoubtedly the noises, movements, and odors of the abundant flora and fauna help to mask the approach of a hunter.

Large kills are made during the late summer and early fall by single boat crews. Ten and twenty animals taken in a day is common; thirty and more are not unheard of. If the crew is not made up of all members of one household, the caribou are divided equally among crew members. Most households in Wainwright take the bulk of their caribou by this method. Of the families discussed above, only the two single male hunters that took nine caribou each were exceptions to

this rule.

Most often, these boat crews consist of combinations of fathers, sons, and brothers. Next most frequently included are brothers-in-law, fathers-in-law, and cousins. Several crews we observed included unrelated "hunting partners" or "friends" although, in Wainwright, there is a tendency for hunting partners to be related through affinal ties. Boats are sometimes borrowed for the hunting of caribou. The cases we observed included only fathers and sons or brothers. Caribou hunting is often done while camping, especially upriver. For this reason, these boat crews are often made up of people who are camping together. Women are included as well--wives, girl friends and daughters of the hunters. When included, they usually help only with the butchering and do the cooking, although lately, several have been known to actually shoot caribou. Even when a boat crew is made up of only one household, the men are often resistant about bringing too many women along. They say it takes up room in the boat that can be used for hauling caribou meat back to town.

Usually, by mid-September, ice formation puts an end to the hunting of caribou by boat. After freeze-up, hunting is done by snow machine and it ceases to be as much of a cooperative venture. Although many people go out with one or two others, each goes with his own machine. The snow machine makes the individual person an efficient hunter. Some men prefer not to be "held back" by others while some enjoy the

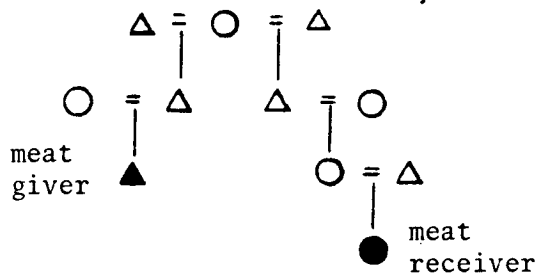
company and assistance available in a group. These task groups are obviously not complex ones. They usually include near relatives, although several unrelated hunting partners have been going together for years.

While many of the families most involved in hunting plan to lay in their yearly supply of caribou during the warm months, most seem to run out during the winter. The speed and mobility gained from snow machines has made caribou hunting after freeze-up more efficient and productive than it was during the era of dog traction. At the same time, it has encouraged increased winter caribou hunting by adding to the problems of sea-ice hunting. Snow machines are not well adapted for traveling over rough ice and their weight distribution increases the dangers of breaking through the ice.

Today, when caribou are near Wainwright, it is relatively easy for hunters to bring in more meat as it is needed. With a snow machine, it is possible to run down a group of caribou and shoot the ones wanted. This is done at times, but often hunters resort to the older method of getting in front of the caribou and waiting for them to pass by (see Bane, n.d.). It is said that running the caribou ruins the flavor of the meat.

Very small caliber, fast, flat shooting rifles are generally used on caribou. Rifles such as .222, .223 and 6mm. Remingtons, .243 Winchesters, and 25-06s are often used. Hunters say they are more accurate than larger calibers and ruin less meat. Rifles are normally sighted at about 200 yards; shooting is usually done at long ranges.

A great amount of caribou is shared. Several hunters discussed how they regularly shoot one caribou a year for each of four or five "old people" they list. These lists often include their father and/or uncle, but they include non-related individuals as well. One unmarried hunter, known for his generosity, stated that he likes to give caribou meat to his immediate neighbors. These include one household in which the wife is his cousin, one in which the wife is his cousin through adoption, two households with "old people" as heads, one of which is related to the hunter and one of which is not, and a household which is headed by an unmarried woman related to him as follows:



He says she is a "distant relative." This woman and his cousin also invite him to meals at their houses.

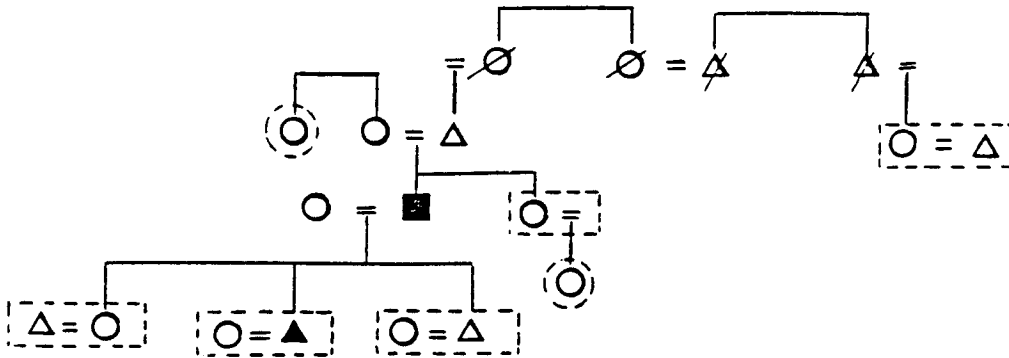
People give large amounts, rather formally, to "old people." Many of the good hunters in town also give caribou for the Christmas and Thanksgiving festivals and at church sings. For this, they often reserve what is considered one of the best meats, air cured hindquarters. These, too, some people reserve for special occasions like for out-of-town guests and for home meals around Nalukataq. Often, individuals discuss the amount of stored caribou remaining in terms

of the number of hindquarters remaining on hand. Such comments indicate more than the fact that this cut is preferred. People prefer to gift choice subsistence foods. Such comments demonstrate the specific importance of this cut of meat in sharing as well as the general importance of sharing in stimulating the subsistence system.

People give the most to their closest relatives; sons (who perhaps do not hunt enough), daughters, and their parents. There is also much giving to cousins, nephews and nieces, and uncles and aunts. But, the sharing of caribou is more general than this. As one man put it, "Inupiats are all related. We share with our relatives. You have to give some caribou to the bums who don't hunt. Everybody shares caribou even if they aren't related." The last sentence should be underlined. Caribou is a preferred meat; it is plentiful; gifts of it are appreciated. For all these reasons it is the meat most often gifted and shared. Nobody in Wainwright is excluded from this gifting; many offered to share caribou with us.

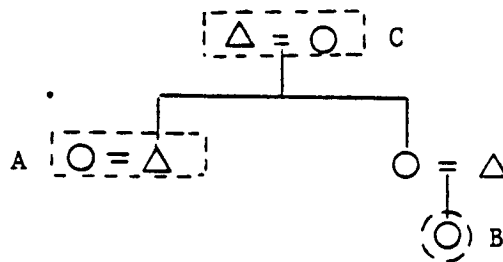
Below we have diagrammed the relatives with whom one Wainwright hunter shares. Most goes to his sons and daughters. He also gives a lot to his mother's sister, an "old person" without a hunter to support her. The sister to whom he gives lives in Anchorage; he carries her a "box of caribou" each of three or four times he visits that city. The daughter of that sister lives in Wainwright and has no hunter to support her. Some of this hunter's sons go with

him for caribou. Dotted lines indicate households to whom he gives. Hunters are indicated in black; ego with a black square:



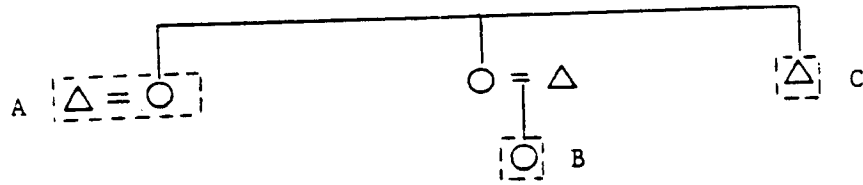
In Wainwright, most gifts of caribou meat are made in small amounts; enough for a meal or two, sometimes just an invitation to dinner. Secondary distributions are made also. Typically, someone will be given enough caribou to make a large amount of stew. That person will cook it and serve it to family and guests and send the "leftovers" elsewhere. Often, this circle of giving remains in a close family network. Three examples are given below:

1.



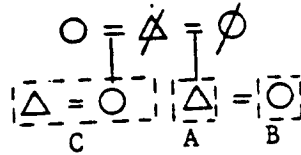
Household A gives meat to household B. Household B cooks and serves it and sends the rest to household C.

2.



Household A gives meat to household B. Household B cooks and serves it and sends the rest to household C.

3.



Household A gives meat to household B who gives part of it to Household C. As we can see from the last of these examples, uncooked meat is also given in secondary distribution. It should be noted that, like primary distribution, secondary distribution usually stays within a close family circle, but it does not always do so. Cousins, nephews, nieces, and friends partake in it.

Caribou is termed nigipiaq which means "real meat" in Inupiat. Caribou is the preferred food of the people in Wainwright; it is also essential to their diet. Much of the caribou is utilized; people use it for clothing and bedding. In Wainwright, caribou is probably the greatest single source of protein.

Inupiat prepare caribou in many different ways, which provides much of variety in their diet. People in Wainwright eat caribou fresh, but most of it is saved for future use. Caribou is preserved in several ways. It is air cured by

hanging up on outside racks to dry; it is cut into strips and dried like jerky. The size of the strips depends on whomever cuts it up. It has to be high off the ground so the dogs do not get it. It does not matter if the drying meat is rained on. When the meat turns nearly black, it is ready to take down. Also three to four-inch chunks are stored in containers or barrels of seal oil.

Most of the caribou stored by Wainwrighters is preserved by freezing in ice cellars. People tend to divide it up in the ice cellar according to how it will be used. Many people use freezer-wrap to cover the meat, and each package is marked and labeled. Pieces are separated according to whether it will be cooked or eaten as qwaq, and whether it will be boiled or fried. Bones are often stored separately. Sometimes, meat is boxed for convenient storage. During the winter, quarters of caribou are hung in the qanitchat, an unheated arctic entry way, or in a storage shed. Pieces are sawed off as needed.

Over half of the caribou meat is eaten boiled. Wainwright cooks make soups, stews, Eskimo ice cream. Inupiat eat caribou panfried or raw and frozen. They snack on the bone marrow. The head, brains, tongue, neck, kidneys, and heart can be boiled. Fresh liver is often fried. Some of the older people eat caribou eyes mashed into a paste and mixed with caribou tallow. The fatty membrane around the intestines is eaten raw, as is the back fat called kalnuk (see Bane, n.d.).

Onions, salt, pepper, dried celery, "Soup Starter," bay

leaves, and other seasonings are often added to boiled caribou. Caribou is made into a soup with a little flour or made into a stew by adding rice. Some people add fresh, canned, or dried vegetables to their stews. Round pieces of caribou can be prepared like pork chops. The pieces are fried in lard, not seal oil. Flour, salt, pepper, and spices are added. Frozen caribou, qwaq, is dipped into seal oil, although it is occasionally eaten without it.

Seal oil is also used in making akutuq, or "Eskimo ice cream." Eskimo ice cream is made from the fat and meat of caribou. Women usually make akutuq in the fall when caribou have about a three inch fat layer. The fat on the hind-quarters is best. Equal portions of fat and cooked caribou meat is ground up. The meat and fat are put in separate bowls. A little bit of seal oil is used to make it mushy. Hooper Bay and Kotzebue Eskimos, as well as many others, add berries to their akutuq, but Wainwright does not. This mixture is then made into a paste by stirring. The smooth paste is frozen. We were told that if the akutuq is eaten fresh, "it will get stuck in you." We were also told that since many younger women do not have the time to make akutuq, children eat frozen push-ups instead.

Caribou marrow can be eaten raw or boiled, sometimes as a snack. Some people think it is especially good when it is frozen. Everybody eats the marrow, called patiq. Many people claim that the hindquarters used to be very big and now they are much skinnier. The hindquarters are still

considered the most delectable part of the caribou. The hindquarters and roasts are served to out-of-town guests and during special occasions like Thanksgiving, Christmas, and when church singing groups convene. Out-of-town visitors frequently take roasts home as gifts.

Caribou is still the preferred meat and is served more frequently than anything else. It can be served with other foods, including such sea mammal products as maktak, or it can be eaten with fish. The combination of sea and land mammals, similar to a smorgasbord, is occasionally served. Many viewed this as a very traditional approach to food. Several people commented that Point Hope was especially known for this.

One informant thought that older people still ate caribou intestines, but was not sure. Older people eat the stomach contents which are immersed in seal oil for several days. Bane reports two dishes made with the stomach contents. Tiguk, consisting of pickled liver and meat is eaten uncooked and has a tart, sour taste. The caribou's liver and pieces of meat are cut into thin strips and inserted into the vegetation-filled stomach-pouch. The entire stomach is left exposed to the weather for five days. The liver and meat are removed after becoming permeated with the digestive juices of the stomach and taking on a deep greenish-red color. Kasagruaq is the stomach cleaned of its contents and immersed in seal oil for several days. The tissue then develops a tart, tangy flavor from the combination of the digestive juices and the seal oil.

As Bane notes, even by the mid-1960s, peeled ear was no longer used as "Eskimo chewing gum." None of our informants mentioned eating raw or boiled nose, kinsk, nor using the inner pulp of hooves as the basis of a soup. Caribou antlers were eaten in the past. The tip of each prong on the velvet covered antler is soft and filled with blood. Bane reported that these were cut off, skinned, and eaten raw. While no one spoke of any of these foods, they may still be part of the diet.

In the past, caribou has served Wainwrighters in emergencies and times of scarcity. Bane writes: (Bane, n.d.:XI-27)

Caribou bones were often served as emergency food for past Eskimos in times of scarcity. Whenever a large number of caribou were killed, such as during a communal drive, the bones would be piled in central locations. If food supplies became exhausted during the winter, these bone caches were sought out.

Three Wainwright people advised Bane to search for fecal pellets if he ever became lost. These pellets could be used as the basis of a soup, or eaten uncooked. Apparently, in earlier times, caribou spoor were used more generally. Dried droppings were soaked in seal oil before being consumed. Bane, citing Murdock, writes of feces being removed from the rectum of the freshly killed caribou by Point Barrow Eskimos of the late 1800s.

The carcass and skins of caribou still provide raw materials for a part of local technology. Snowpants and parkas made of caribou were once commonly used by everyone.

We saw several such parkas and pairs of snowpants; all were owned by older people. Our impression is that lambskin and sheepskin have virtually replaced the use of caribou for parka linings. Several women in town still make caribou boots for their own families and to sell to other residents. Sinew taken from the caribou spine and upper hind legs, used as thread, and bone needles from the caribou's metatarsal and metacarpal splints of the rear legs (see Bane, n.d.) are still owned by some women. However, these are momentos from their childhood. All sewing is done with store-bought needles, cotton thread, and dental floss for skin sewing. Several women own electric sewing machines.

The skins of the caribou legs are used to make mukluks for inside or outside. Caribou skin is also used to make a liner like a felt pad for the inside of boots. Skins from caribou killed in the winter are too thick to be used for clothing. However, they are used as a soft, comfortable mattress when camping. They give more warmth than an inflatable plastic pad. Formerly, the furs were sewed together as a sleeping bag. The fur on the inside and a felt pad could be inserted. Bane writes about rawhide lines and tools from antlers and bones being used. No one stressed its importance to us. Toy sleds are made from the jawbones of caribou, so several women we knew saved the heads of the caribou for the artisans who would convert the jawbones into a marketable work.

Moose

Pruitt, in 1966, notes that the moose range was expanding both in North America and Eurasia. He writes, "Moose have been observed as close to Ogotoruk Valley as Kuropuk and Kisimilok creeks, in addition to Kivalina, Point Lay, and the upper Colville River valley" (Pruitt, 1966:526-27). Apparently, moose in Alaska have continued to expand their range on the North Slope.

While a few people claim that "in the old days, moose were more plentiful," most Wainwrighters agree that the numbers of this animal have been growing in recent years. Moreover, while moose have always been found in small numbers upriver, lately they seem to be moving northward, closer to Wainwright. This year, a returning walrus crew spotted a moose near the ocean beach about 10 miles north of Wainwright. Since the men's walrus hunt had been curtailed for lack of fuel, they decided to pursue the moose. The hunters were kept away from the animal by huge clouds of mosquitoes.

Moose are not common and provide, at most, a secondary meat source. Of the eight hunters we questioned closely on this subject, only one had killed a moose within the last year, in August of 1981. Moose hunting is done by boat crews. As already noted, as moose move toward the coast, they will be hunted occasionally by walrus crews or by caribou hunters operating in boats along the beach. However, most moose that are encountered are found upriver; all the moose that have been taken have been shot as "targets of

opportunity" by men hunting upriver caribou by boat. As such, moose hunting is exactly like caribou hunting before freeze-up. As in the case of caribou, not all the moose that are seen are shot. We were told that people prefer the smaller ones. Moreover, because of the difficulty of butchering one of these animals and carrying it to the boat, moose are only shot if they are close to the water's edge. Perhaps speaking from recent experience, the hunter who got one in 1981 said that "one-half mile is too far." Again, this general attitude reflects that found in caribou hunting by boat (see, Bane, n.d.).

Moose is usually boiled. Although it is not a preferred meat, people mention liking the taste of it occasionally.

Dall Sheep

Chance (1966) mentions Dall sheep as a biotic resource and Pederson (1979) lists these sheep as a resource for the North Slope, but not for Wainwright. Historically, they may have been found on the southwestern edge of Wainwright's present subsistence use area. In the 1880s, sheep were reported at Cape Beaufort, north of Point Hope. Bailey and Hendee record a sighting of Dall sheep at Cape Lisburne, also near Point Hope, in 1921. By the 1960s, however, Dall sheep were no longer present in this area (Pruitt, 1966:527).

While the normal subsistence range of Wainwrighters in no way includes areas inhabited by Dall sheep, men from the village have traveled the long distances necessary to hunt them. At least one trip was made in the 1980 season and

another in 1981. The first was made by snow machine and took four days each way; the other was made by charter airplane.

Both trips included the same men and perhaps others. The party was led by one of Wainwright's premier subsistence hunters. His son and a long-standing hunting partner went also. The second trip was unsuccessful; we have no information on the first. In any case, these trips can be seen more as an example of "sport hunting" than as a subsistence pursuit. Many Wainwright men take great pride and pleasure in their hunting activities.

Dall sheep are not a real part of Wainwright's subsistence inventory. There is only one case of the use of Dall sheep in the village during the period of this study. A retired hunter made handles for ulus from the horn. He made them for his daughter, who lived at home, and also to be sold in Fairbanks on the occasions of the Eskimo Olympics. He sought from \$35 to \$55 for each, depending upon size.

This man had only one sheep horn which he had bought from another native in Anaktuvik Pass. He would cut a piece from the horn and shape it with a file. He thought this material was better for ulu handles than ivory because it was not brittle.

SMALL GAME, FURBEARERS

Of the many small fur-bearers which inhabit the area exploited by Wainwright's hunters, only four have had

noticeable roles in the subsistence economy of the village. These include: the arctic fox, the red fox and red fox variants, the wolf, and the wolverine. The arctic fox is generally trapped; the rest are usually shot with very small caliber rifles so as to minimize damage to the pelt. The wolf, and the wolverine, are seldom encountered by Wainwrighters. Except for the arctic fox, these animals have not played a central role in the village economy. The hunting of all of them, and in particular the trapping of arctic foxes, has been affected negatively by the growing wage economy.

Arctic Fox

Before the opening of the fur trade, the taking of arctic foxes was not a major focus of activity for the North Slope Inupiat. The pitfalls and snares with which arctic foxes were trapped (see Nelson, 1969:172-174), have not been used for many years. After the decline of commercial whaling and until the crash of the fur market during the Depression, fur trapping was the most important cash producing activity on the North Slope.

In the 1920s and 1930s, trap lines sometimes ran for a hundred miles or more and the men tending them by dog sled might be away from the village for weeks or even months at a time. Trapping even effected settlement patterns and hunting strategies. For example, Bailey and Hendee write of Wainwright caribou hunting in the early 1920s, "The Eskimos are good hunters and do not allow an animal to escape if they

can help it...Their custom is to kill all they can and to make their winter camp on the sight of the kill, living on the meat while they trap" (Bailey and Hendee, 1926:22). This particular pattern was the "custom" only during the height of the fur industry.

Since this trapping is done for cash, it is affected by both the demand for furs and the local job market. Milan reports for 1956 that fur trapping was continuing, "but not nearly as much as previously" (Milan, 1970a:32). For 1965 Nelson writes, "Nowadays the fox pelt has decreased in value and the longest traplines run 50 miles. Men seldom leave the village for more than a week at a time for trapping. The best trappers alive today are sixty years or over and are no longer active" (Nelson, 1969:181).

Nelson's comments on the decline of fur trapping, true in 1965, are true today (see Nelson, 1982,38). Although today the carcasses of fat foxes still occasionally feed the dogs, the trapping of arctic foxes is done solely for their pelts. While these skins are used for parka ruffs in Wainwright--particularly on women's parkas--the large majority of the skins are gathered to sell. Running a trapline takes time, is arduous in bad weather, and costs money for gasoline and in wear-and-tear on the snow machine. In 1981-82, a prime arctic fox pelt could fetch \$35 to \$40. Considering the well-paying jobs available in Wainwright, the money that could be made from fox trapping was not very attractive to most hunters. Unlike many types of subsistence activities, trapping ties one to a schedule which tends to

conflict directly with the time demands of wage work. In order to trap successfully, one must check the trap line daily. Otherwise the foxes will gnaw their way free or other predators will eat them in the traps.

We know of nine men who trapped some in the winter of 1980-81. Doubtlessly others did as well. Of these nine, only two did so with regularity. The most active was a man who, because of his age, had just been retired from a long-held job at the village corporation. The other man was older still. In the early 1960s, the younger man ran a trapline 50 miles in length or a bit more; today his line runs about eight miles. In 1982, he took 19 foxes which sold for \$920.00. He said he would have taken more if he had checked his line more. More typically, six of the men who trap are middle-aged, are considered good hunters, and work at wage-paying jobs. These men set small traplines near the village or set out traps when they go upriver on weekends and vacations. These traplines can be very short, three or four traps set near the house. One such trapper took six arctic fox. Finally, one of the trappers is a young man in his 20s who is, at times, very involved in subsistence pursuits. Last year he spent a month or more during the winter upriver hunting and trapping. This year he worked for the village corporation and trapped upriver only on a few weekends.

Red Fox and Red Fox Variants

Red fox and red fox variants are less common than arctic foxes. Today, they are also more sought after. The variants

include blue foxes and cross foxes, both distinguished from the red by different colorings of, and markings on, their fur. Prime red fox sold for around \$150 in Wainwright in 1981-82; the rarer blue and cross foxes for \$185 and more. These foxes, although less durable than wolf or wolverine, are sought for ruffs and decorative trim on parkas--particularly women's parkas.

Unlike arctic foxes, red foxes are not normally found near Wainwright. They are hunted upriver. While occasionally one will be trapped, usually they are shot with small caliber rifles. The take of red foxes is not high. In the winter of 1981-82, a man and his wife shot 10 during a two day snow machine trip. This was considered by all a real windfall. The same couple, although they manage to go upriver about every other weekend, took no more red foxes all winter. One of the older trappers who regularly follows his trapline shot three cross-foxes in 1980-81. A good hunter who goes upriver regularly got only one cross and one blue fox.

Most of this hunting was done upriver by small family groups, often couples, who embark on the weekends or extended weekends after work. In the cases we know of, the males in the groups did the actual shooting. Most of the skins are sold. In one case, the hunter was too busy at work to do all the skin preparation so, after skinning the animals, he hired an unrelated retired trapper to finish cleaning the pelts. Since these skins are preferred for ruffs, they are sometimes

given as gifts. In two cases this year, they were given to near relatives, to a granddaughter, and a niece. In the latter case, an aunt was going to use the pelt to teach the girl skin sewing.

Occasionally, pelts are also sold within Wainwright and to Inupiat in other villages. The price of these furs is comparable to prices from fur dealers, sometimes even a bit higher. Wainwright, Barrow, and perhaps several other North Slope villages, import some decorative furs. However, local furs are preferred; they are seen as fuller, richer, and more durable.

Snowshoe Hare

We were told that, rarely, snowshoe hares are encountered in the southernmost part of the territory normally exploited by Wainwright hunters. More rarely still, they are found close to the village itself. One man told of finding a hare, apparently dead from the cold, on the beach about three miles north of Wainwright. These animals are not hunted.

Lemmings

Lemmings are very abundant around Wainwright and in the village itself. Basically, they are viewed as pests. Presently, no use is made of them. In the spring, summer, and fall when most of the snow has melted, the children--particularly the boys--hunt the lemmings with bows and arrows and with BB guns. This is a traditional form of play which could be seen as helping to teach the young marksmanship and

training them in the ways of animals. In the spring of 1982, the only toys we found available at the cooperative store were bows and arrows, BB guns and kites. We were told that in the 1960's, children used to spend time capturing live lemmings because NARL--the Naval Arctic Research Laboratory--used to pay 25 cents apiece for them.

Lynx

Lynx are rarely seen in the foothills of the Brooks Range. Like red foxes, wolves, and wolverines, when they are encountered they are sometimes shot with a small caliber rifle. None of the men we talked to had done this in the last year. In 1921, the biologists Baily and Hendee report that lynx were "often taken in the willows of the barren country back of Wainwright" and that in some years "a hundred or more skins" were brought in. None were taken in 1921, however. Bailey and Hendee conclude, "While the numbers of lynxes taken seems to vary in a more or less regular way, it is remarkable that there are frequent periods when none at all are taken or reported from the country around Wainwright and Barrow" (Bailey and Hendee, 1926:16). A later biologist believed these variations, "may be the result of the well-known emigrations of lynx from forest regions, concurrent with periodic declines in snowshoe hare populations" (Pruitt, 1966:527).

The period on which Baily and Hendee report was marked by a rapidly expanding fur industry and a paralleled increase in the reindeer industry (Spencer, 1959:361). Fur prices

were going up, land-use patterns were shifting, trapping productivity was not yet in decline. Nothing like 100 lynx have been taken by Wainwright hunters for many years. An older hunter at Wainwright stated that, in the old days, lynx were common every ten years but that this is no longer the case because there is too much activity on the North Slope.

Marmot, Hoary

Several people mentioned encountering marmots in the foothills of the Brooks Range. They are reported as sometimes numerous within 50 miles of Wainwright (Bailey and Hendee, 1926:20). The hoary marmot is included on a resource list for North Slope Borough residents (NSB Contract Staff, 1979:11). Marmots are rarely hunted by Wainwrighters, although one of the older hunters mentioned that he enjoyed this activity. Small caliber rifles would be used. Even two decades ago, marmots were a much more important food and fur resource on the North Slope than they are today. This is demonstrated by a report from Point Hope dated 1960: (Pruitt, 1966:525)

On Aug. 5, 1960 John and Frank Omnik, Point Hope Eskimos, left Cape Lisburne on foot with three pack dogs and light loads. They walked overland eastward nearly to Igloo Mountain and returned to Point Hope on August 30. The object of their 140-mile hike was to obtain marmot skins; they secured 17.

Porcupine

These animals are sometimes encountered upriver at fish camp and, more often, as one goes further into the foothills of the Brooks Range. On rarer occasions they are even found

as far north as Wainwright, itself. One was discovered there, living under a house, in the summer of 1982. At Anaktuvuk Pass these animals are hunted and eaten, particularly when caribou is scarce. At Wainwright, however, these animals are not hunted, trapped, or eaten although they will be killed if they venture too close. As one Wainwrighter said, "I shot one this year to keep the kids from playing with it." Apparently, this habit of shooting porcupines when seen has existed in the area for some time. Pruitt writes of Point Hope in the early 1960s, "The local Eskimos go out of their way to kill porcupines because of their possible danger to valuable sled dogs" (Pruitt, 1966:526).

Pruitt also comments on this animals appearance in tundra environments: (Pruitt, 1966:526)

The presence of this species in...the summer is understandable because the many willow groves and lush grasses and sedges along the creeks offer food. However, it is almost inconceivable that an herbivorous mammal of such size, without apparent behavioral or morphological adaptations for subnivean existence, could survive the winter in the tundra environment. I can thus only speculate that such individuals are wanderers, nonbreeders, and probably young animals.

Arctic Ground Squirrel

These are fairly common around Wainwright and upriver. Normally, they are neither hunted nor trapped. Several men have eaten them on occasion when on hunting trips. The meat is considered too rich. At present, the skins are rarely used for anything, although there are several squirrel- or

marmot-fur women's parkas in town. Some people claim that squirrel pelts come covered with lice.

Weasel

Least weasels occur across the North Slope but are more common in the foothills of the Brooks Range than in the lowlands. However, Bee and Hall, citing a local hunter, write that these weasels are common in the lowlands during and immediately after high lemming populations (Bee and Hall, 1956:207). In the 1980s, least weasels were encountered upriver but were not abundant in Wainwright's subsistence area. In the 1920s a few were brought into the village trading posts along with other furs (Bailey and Hendee, 1926:15) but, today, they are neither hunted or trapped by Wainwrighters.

Ermine

Ermine are common throughout the North Slope. They are found, especially, in the Brooks Range and along major rivers in the foothills. They are also found along well drained sections of the lower stretches of such rivers as the Kuk, Meade, and Colville. In the late 1940s, they were reported as common at Anaktuk, upriver from Wainwright (Bee and Hall, 1956:205). In the 1980s, they were neither hunted nor trapped.

Wolf

Wolves are found upriver and are shot with small caliber rifles to avoid damaging their pelts. They are usually

hunted by snow machine from around November through February when their pelts are prime. Hardly any are caught in traps. A good place for finding them is up the Ivisaruk River around Ivisharak. The number taken is small. One man shot three the winter of 1980-81 and that was considered a lot. Of nine others we interviewed on this subject, two men shot one each and the rest were unsuccessful. As in the case of red foxes, wolves are taken by lone hunters, small groups of men-- usually fathers, sons or brothers, but also including affines such as fathers-in-law and sons-in-law, as well as more distant relatives and friends, such as cousins, nephews, uncles and partners--and, couples with or without children. Since the take of wolves is small and their pelts are preferred for ruffs for parkas, few are sold outside of the village.

Wolverine

Wolverines are hunted like wolves, only they are bagged less often. Several people have stated that they are rarer today than in the past because of all the development that is taking place. They are preferred over all other furs for parka ruffs and trim. We know of three wolverines that were taken by Wainwrighters in 1981-82, although there were probably a few more. Several more were also taken during the following two seasons. Since they are so rare, few, if any, are sold outside of the village.

This same situation existed even at the height of the trapping era when many Wainwrighters were hunting furs for

money. Bailey and Hendee report that, in the 1920s, only a "few" wolverines were taken each year between Point Hope and Barrow and these skins were held in such high esteem that "practically none of them are shipped out of this part of Alaska" (Bailey and Hendee, 1926:15).

CHAPTER X

MARINE MAMMALS, PART 1 BEARS, SEALS, AND WALRUS

Marine mammals played the major role in the subsistence economy of the coastal tigiumiut. Year-round settlements near Point Barrow and Point Hope were major whaling centers. The bowhead was the primary focus of these activities but beluga and grey whales were also taken. Groups inhabiting the coasts between Point Barrow and Point Hope also whaled. Quasi-permanent whaling settlements existed north of present day Wainwright and south near Icy Cape.

While, in the early 1800s, whaling was central to the economy, social system, and religion of the area, seals may have been more important in strictly economic terms. Ringed seals were available throughout the winter and were one of the area's more reliable sources of meat and oil. Other seals were available during the open water seasons and provided meat and oil as well as important raw materials for clothing and boats. Seal oil was a major trade item exchanged with the inland nunamiut.

Walrus were not as critical to the human diet on the North Slope as they were to Bering Sea Eskimo communities. However, from Point Barrow west, walrus were used as dog food and, as such, were central to the subsistence economies of coastal villages. Other marine mammals, such as polar bears, played roles in the subsistence economy as well.

Since contact, hunting technology has changed as has the

use to which animals are put, and the roles that subsistence pursuits play in the local economy and society. Nevertheless, marine mammals remain important today to the people of Wainwright. This chapter examines Wainwright's past and present use of polar bears, ringed seals, bearded seals, spotted seals, and walrus. These are not the only marine mammals that have remained important to Wainwrighters. In the next chapter whales, both common and rare, will be discussed along with several of the less commonly encountered species of seals.

Polar Bear

Polar bear are large, dangerous animals averaging from 700 to 1,000 pounds. Many Wainwrighters believe that they grow much larger but that the biggest bears avoid man and never come near shore. In one discussion a hunter told us that while following an open lead far from shore, he found paw prints so large that he could easily sit in one. Since nightfall was near the hunter dared not follow on the ice. Hunters, young and old alike, seem never to tire of regaling the listener with stories about their experiences with polar bears—about the bears clever methods for hunting seals, its preference for blubber over meat, its complicated behavioral patterns, its willingness to stalk and attack man, and its dangerous intelligence.

This lore is aptly described by Nelson (1969:187-204) to which the reader is referred. Many stories describe dangerous brushes with bears. An old, almost retired hunter

told of watching a bear disappear into a lead and waiting for it to reappear. Suddenly, he looked around and saw the bear creeping towards him from behind, using a paw to hide his black nose. This is one method polar bears use to hunt seals. Two younger men, in their early twenties, told of stopping their snow machines when spotting a bear. They had just a .22 rifle and a .357 magnum revolver. When the animal attacked they emptied the rifle and used five shots from the pistol before the bear fell down, two yards from them.

There are two important points to be made here about such stories. First, some Wainwright hunters perceive a kind of identity with polar bears. The bears work knowledgeably to find a living in the harsh arctic sea environment. So does the hunter. Moreover, the methods of both man and animal are similar. According to Wainwrighters, one learns to hunt through careful observation of the game and by following the examples set by older hunters. Nelson (1969:189) expresses almost a native point of view when he writes:

The fact that Eskimos and polar bears use almost identical methods for hunting seals atop the ice and, to some extent, at breathing holes is more than a coincidence. It could be the result of "parallel invention." But since the bears presumably took to the ocean ice well before the Eskimos did, it does not seem improbable that the Eskimos learned certain of their seal-hunting techniques by watching them.

The second point is this; presently Wainwrighters find such special relationships with marine animals more than with terrestrial ones. The polar bear hunts like man and tries to

outwit him; brown bears do not. According to villagers, sharks, killer whales, walrus, belugas, and bowhead whales know the thoughts of man and act on that knowledge.

Polar bears are found in the area utilized by Wainwright hunters during the fall, winter, and spring. As in the mid-1960s, these hunters believe the bears pass by the village in three distinct migrations: in December bears move north, in February a small number migrate south, and in March they move north again (Nelson 1969:185-86). This last migration is usually the largest.

As in the mid-1960s as well, the most productive time to hunt polar bear is often from late October until Thanksgiving (see, Nelson, 1969:198 for discussion of hunting methods used during this period). This is the only period during the year when some men concentrate on polar bear as their specific objective. The reasons for this are two, one biological and one social. First, during this time concentrations of bears can be found and, second, polar bear is traditionally gifted during the Thanksgiving feast. At least four polar bears were shot before Thanksgiving in 1981. Presently, during the coldest months, hunting on the ice for all types of game has declined. Polar bear hunting picks up again in March and lasts into the whaling season. Towards the end of March, 1982, two bears were killed in one day and another in the same week.

The beginning of whaling brings many people onto the ice. Bear hunting during this period is opportunistic; many are shot but they are taken by men whose major objective lies

elsewhere. During the fall, winter and spring of 1981-82, at least 12 polar bear were taken. While several older men in Wainwright were accomplished polar bear hunters and while some middle-aged men still actively pursued them, younger hunters appeared to be the most active. The 14-year old son of a whaling captain killed a polar bear near whale camp in 1981. In the spring of 1982 two groups of men, each made up of brothers in their late 20s to early 30s, were responsible for at least five of the bears taken. One young hunter, aged 21, killed two.

The involvement of the younger men belies the notion, sometimes voiced in town, that the youth have given up hunting. Beyond this the meaning is not certain. Much of the literature on the Bering Straits suggest that in order for a person to prove he is an accomplished hunter, he must kill a polar bear (see Bogojavlensky, 1969). This does not appear to be the case in Wainwright, however. Recognition does come. One person said of the 14 year old boy mentioned above, "His father can kill anything, he can get every animal around here. That's why people follow him whaling. His boy is going to be just like him." The young men talked about their accomplishments with pride. On the other hand, such recognition was not universal in Wainwright. Some of the older hunters seemed to see the bear hunting exploits of their younger compatriots as akin to "sport hunting." When asked about one young bear hunter, a man 20 years his senior, said, "He doesn't know anything about hunting; he just knows

how to show off."

In an emergency, polar bears have been taken with almost any kind of firearm. Also, since people often shoot them while pursuing other game, relatively light calibered rifles are often used; .243s and .25-06s are considered adequate, some say .223s are heavy enough. When specifically hunting bears, however, men will often take more powerful rifles. Wainwright hunters prefer a neck shot although, with light guns, shots to the mouth are attempted and, with heavy guns, shots to the heart are also. One Wainwright man purposely hunted and slew a large polar bear with a bow and arrow. He said his mother explained how they were hunted in the old days, and he wanted to try it. Apparently, when a bear is struck with an arrow, it usually stops to fight the arrow instead of charging the man.

Nelson reports that, in 1965, the number of polar bears had been drastically reduced, perhaps from outsiders hunting from airplanes (Nelson 1969:194). Since then, the animals have been protected from such depredations by federal statute and the population has made a remarkable comeback. Today, polar bears are relatively common in the vicinity of Wainwright. In the winter of 1981-82, several were reported within a few miles of the village; one was killed within a mile of the snow fence.

Polar bear meat is considered delicious. Because of the danger of parasites it is always served cooked, usually well boiled. People in Wainwright are particularly aware that bears carry trichinosis. The liver is never eaten and is

considered poisonous. Nelson reports that it also was never fed to dogs. (Nelson, 1969:204). One hunter remarked that before he shot a polar bear he looked carefully to make sure it had not been marked by biologists. The mark, he said, ruined the fur and the tranquilizer used to put the bear to sleep tainted the meat. Several others agreed with the latter complaint.

If the bear is taken around November, the meat is often saved to be distributed formally to the assembled guests at the Thanksgiving feast. Polar bear meat is a preferred food gift at these celebrations. Everyone questioned stated that when a man gets a polar bear he "always shares it with everybody." If the bear is taken at other times the successful family will often simply use their CB radio to invite everyone over to receive some meat. These occasions take on a happy, festive air. In this generalized form of sharing pieces of meat always go to a wide network of relatives and friends.

In his ethnographic reconstruction of precontact North Slope society, Spencer describes the special manner in which polar bear was distributed. He writes: (Spencer, 1959:273)

The flesh of the polar bear was always divided and in a joking manner. As soon as the hunters brought the bear to the beach, the word was passed along from house to house. All rushed out to get a piece, bringing a knife and a container. The bear was hacked to pieces on the spot and each one took a section. There was considerable play on this occasion, blood being splattered over clothes and on faces. The hunter who had taken the bear held onto the hind leg while the villagers cut up the bear. When the bear had been cut to pieces, the hunter kept his joint and took it home...If two men

had taken the bear together, each held a hind leg. For the rest of the carcass there was a general free-for-all, the strongest emerging with the largest pieces.

This author notes that the division of polar bear differed from other traditional divisions, first, because it "was not divisible among a crew," second, because the bear "belonged technically to the hunter who had taken it," and third, because it was the only type of sharing that became an occasion for game-like "joking rivalry" (Spencer, 1959:273). Since the division of meat was technically between the individual hunter and the community at large, it was also a more generalized, non-kinship based form of sharing than was most. We would also point out that the only two other animals that are shared with the community at large are also sea mammals: beluga and bowhead whale.

Spencer reports that the joking behavior he describes had fallen into disuse before the 1950s. However, he believed that certain aspects of the traditional form of sharing polar bear still persisted. He writes: (Spencer, 1959:273)

When the first polar bear was taken at Barrow in the summer of 1952, the hunter kept the skin for himself. He went around to various neighbors and friends, however, and gave them the meat, keeping only a small portion of one hind leg for himself.

Presently, in Wainwright, the generalized mode of sharing polar bear meat, the fact that it occurs in the successful hunter's house and is technically between him and the village, the happy, light-hearted quality of the event, and the fact that the hunter keeps little meat for his own

household all appear as elements from the earlier form of gifting that Spencer describes.

In the 1950s, Barrow residents could not explain why the division of polar bear differed from that of other animals (Spencer, 1959:273). In Wainwright in the early 1980s, people's explanations for such distributions varied. Most simply said that the sharing of polar bear meat with the whole community is traditional and that is why it is done. On two occasions people searching for explanations of why sharing patterns are changing said that the sharing of polar bear meat has not changed because it is not of sufficient magnitude to be of importance.

Actually, the distribution of polar bear has changed in one important respect. At contact, meat was given with portions of the skin attached. Spencer writes that the bear, "was not previously skinned. Each one who took a piece tried to get some of the bear skin also. If large enough, this was made into mittens, if small, a piece was sewed to the mittens (Spencer, 1959:273). Apparently, traditional cutting of the skin occurred across the North Slope at least to the Bering Straits (see Bogojavlensky, 1969). Obviously, such a division ruined the commercial value of the hide. Today, the successful hunter normally keeps the bear skin and skull.

According to the Marine Mammal Protection Act now in force, only natives may hunt polar bear. Legally, unworked skins cannot be sold but natives may sell handicraft and art works made from those skins. Some polar bear is cut and sewn into handicrafts, mostly long mukluks and an occasional pair

of pants. Most of these are sold and traded outside of the village or to visiting whites. However, occasionally one sees polar bear clothing on a village male.

Whole skins are also sold, traded and gifted, sometimes legally through a loophole in the law and sometimes illegally. Here are several examples. A raw polar bear hide with skull was offered to a visiting white for \$2,500. This hide was later sold to an Inupiaq in Barrow for \$600. The reason it was sold to this man at this price was that he was a "partner" of the owner. A polar bear hide was traded to another Inupiaq in Barrow for a wolverine pelt. The man making the trade said, "I can't sell the hide anyway and wolverine is expensive." Another polar bear hide was given, by an Inupiaq, to a white resident of Wainwright because he was a "friend." In the early 1980s, several other skins were sold to whites outside of the village. We do not know the exact prices but \$2,500 would be a conservative estimate. While, because of the current law, skins are difficult to dispose of, even scraps from them are worth money. Wainwrighters often note that the hair is coveted by people who tie salmon flies.

Normally the pelt belongs to the man who shot it. In two cases we know of, however, the pelt went to the hunter's father. In both cases the hunter was a younger male; the father had stewardship of the skin and disposed of it as he saw fit. In at least one of these instances the father did not act in a manner to maximize the family income. When a

polar bear is taken by a whaling crew, as sometimes happens, the meat is divided amongst the crew but the captain gets the skin. This is also at variance with Spencer's report of precontact practice. According to him, polar bear were not divided among the whaling crew (Spencer, 1959:273). In the spring of 1982, such a division occurred in Barrow; no Wainwright whaling crews took polar bears.

Polar bear skins are hung on racks to cure; their skulls are often kept under the house or in the entryway if the use or sale of the whole pelt is contemplated. If the skin is to be cut and sewn into handicrafts it is usually sent out of the village to be professionally tanned. One Wainwright native had the skin of the polar bear he killed with bow and arrow tanned, mounted like a rug, and hung on his wall.

Nelson writes, "Polar bear skins are stretched to the greatest possible dimension, cleaned, and sold to the outside buyers...There is no question, however, that the hunt for bears has become more a cash occupation than a means of obtaining food" (Nelson, 1969:204). Although present federal regulations alter the situation in Wainwright, without a doubt the cash value of polar bear skins is still a prime reason for hunting them. Several older hunters have said, for example, that they no longer shoot polar bears unless one bothers them because the skins are too difficult to sell.

Two points should be added to Nelson's remarks, however. First, the value of the hide is not the only reason Wainwright men shoot bears. Young men find recognition of their hunting prowess when they kill them; all the men who

talked about it took pride in donating polar bear meat to Thanksgiving and Christmas feasts. Second, although polar bear skins are sold, even then they are not always treated as pure commodities. The manner in which kinship and friendship plays a role in the distribution of these skins as well as in the oddities of their price structure demonstrate this.

Seals

Three major species of seals are important to Wainwright's subsistence economy: the spotted or harbor seal, the bearded seal, and the ringed seal. While seals were never a preferred food by Wainwrighters, they were important as dog food before the switch to snow machines. Nelson writes that, in the mid-1960s, Wainwright took between 200 and 300 seals yearly; they would take more when walrus or caribou were less abundant (Nelson, 1969:300). During this period, the village population grew from about 270 to 285 people (Bane, n.d.). This would mean that, in the mid-1960s, Wainwright was taking an yearly per capita average of just under one ringed seal. Although, at Wainwright, caribou has always been the preferred food for human consumption, traditionally seals provided a cornerstone for the village's economy. The reason for this is that, with the possible exception of upriver fish, seals gave the Wainwright Inupiat the most abundant meat source that was reliable. In 1965, Nelson was still able to write: (Nelson, 1969:228)

Patterns of seal utilization have probably been disrupted less than any other, although methods of obtaining seals have been altered considerably...

Long and short-term fluctuations in availability appear to be less marked in seals than in the other mammals of economic importance to Eskimos.

Nelson has described, in clear detail, the various methods for hunting seals: breathing hole hunting (Nelson, 1969:235-244), ice edge sealing (Nelson, 1969:246-309), sleeping seal hunting (Nelson, 1969:310), and hunting of seals from skin boats, the umiaq (Nelson, 1969:333-350). According to discussions with Wainwright hunters, these methods have not changed significantly since the mid-1960s so they will not be described again. In the past, Wainwright hunters employed two different methods for netting seals. Nelson reports that these methods were things of the past by the mid-1960s. Bailey and Hendee report seal netting still occurring at Wainwright in the early 1920s. They write, "A few are still secured there by netting, but it is only the "old time" Eskimos who have the necessary patience and skill for this" (Bailey and Hendee, 1926:17).

With three exceptions, the technology has remained about the same as well. First, today many crews take portable CB radios along when they go boating for any marine mammals. This allows them to keep their households informed about their activities and vice-versa, to give information to other crews about the location of game, and to radio for help if needed. Second, while in the past umiat were often used for seal hunting, today these boats are only used in the bowhead hunt. This has had the indirect effect of decreasing the demand for bearded seals, whose skins were used to cover the umiaq. Finally, and most important for its indirect effect

on sealing, today snow machines and not dog teams are used to hunt seals on the ice. This has reduced the demand for all seal meat. It has also made sealing less advantageous since the snow machine is ill-adapted to rough ice conditions and its weight distribution makes it unsafe on thin ice.

The reduced demand for seal meat coupled with the present wage work in Wainwright, has changed the patterns of seal utilization as described above by Nelson. Basically, the amount of sealing has been reduced drastically. This effect has not been distributed evenly, however. Breathing hole hunting and ice edge sealing have been reduced more than summer sleeping seal hunting or sealing by boat. Several of the still middle-aged men who were very active ice edge hunters in the 1960s did not do this at during all the winters of 1981 and 1982. However, 1983 witnessed somewhat of a resurgence in winter sealing. A group of these men began going ice edge hunting again for ringed seal. This, they did, several times. Nevertheless, while generally all types of seal hunting has lessened, this has happened more in the case of ringed seals than for bearded or spotted seals.

In the past, marine mammals such as polar bear, walrus, seals, and beluga and bowhead whales were offered fresh water when they were caught. This act was thought to appease their spirits. Spencer writes that, "For the seals, particularly, it was most important that water be given" (Spencer, 1959:274). Some Wainwright hunters still are careful to give a seal they kill a "drink" of fresh water. Several hunters

mentioned this practice specifically. One person told of seeing her uncles doing this regularly when she camped with them in the summers. These men are active, middle-aged hunters. The drink of water is given to the seal because the animal lives in salt water so it is thirsty. Giving fresh water to the seal one kills will make it happy, and other seals will allow themselves to be taken by the same hunter.

Spotted seals are relatively rare in the area exploited by Wainwrighters. Nelson reports this to be the case in the 1960s as well (Nelson, 1969:220-221). Spotted seals used to occasionally be found in the mouth of the Kuk River. They were also found in Peard Bay to the north of Wainwright and in the lagoon system near Icy Cape. Today, they are rarely found at Peard Bay and people say they no longer enter the Kuk. The explanation hunters give is that the developments and noise at Wainwright now frighten this animal away. To hunt them, people have to travel by boat to the inlets 50 miles and more to the south of town. Harbor seals are shot from boats and, since they usually sink immediately, they must be struck quickly with a retrieval harpoon (see Nelson, 1969:222). More often, harbor seals are shot by stalking them on foot while they bask on sand bars (see Nelson, 1969:224).

Spotted seals are hunted in July, August and September. Although they are relatively scarce and their meat is not considered particularly good, they are desired for their spotted pelts which are often used in mukluks. For this reason, men sometimes look for them specifically. Nelson

reports on one hunting trip in 1964 in which two men shot and retrieved 24 harbor seals near Icy Cape (Nelson, 1969:225). This was considered a large number even then. During the summer of 1982, most of the seal hunters we talked to did not get any spotted seals. The most any hunter reported taking was two. That man hoped to get one or two more in 1982. Nelson writes that harbor seals are more clever and wary than other seals and that they are the only ones that display aggression toward man. For this reason, Wainwright hunters feel they should be treated with utmost respect (Nelson, 1969:223-224). This attitude about spotted seals held true in the 1980s as well.

Ringed and bearded seals are hunted along leads in the ice November through July or August depending on when the sea ice goes out. Nelson reported that Wainwrighters, in the 1960s, maximized their hunting effort from December through March since in late March seals begin to disappear (Nelson, 1969:272). Although winter ice lead hunting has decreased dramatically with the adoption of snow machines, these months remain a period of great activity. Just before the ice goes out is another one. Usually in July but sometimes in August, there is a northward migration of seals, particularly ringed seals. This one or two-day period is marked by intense hunting activity in which a substantial part of the yearly ringed seal take is harvested (see, Nelson, 1969:247-248).

After the ice goes out, people hunt ringed and bearded seals from aluminum boats. Ice conditions were unusual

during 1982. People state that usually there is a long period in which the shore fast ice becomes rotten. At this time, seals begin to congregate in the cracks and holes and can be hunted. Because the spring of 1982 was unusually cold, the ice did not go through this slow process of rotting. Instead, a few days into the disintegration process of thaw-freeze-thaw, the tide broke off the shore ice and moved it into the ocean almost as a single piece.

The hunting strategy in this case was to wait for the winds to shift and bring the pack ice back towards shore. When it came back, people said, it would be carrying all sorts of game that could be hunted by boat. The ice went out on June 23 and for four or five days there was intense hunting activity by several boat crews. Their major objective was to get bearded seals for the Nalukataq celebration. After this, boat hunting occurred on warm clear days after work and on the weekends. Hunting intensified again when the ice began to move back toward the village in late July, bringing with it bearded and ringed seals as well as huge walrus herds. The day after the ice moved out, five bearded seals were taken. When it moved back in, hunters concentrated on the walrus.

The hunting of bearded seals has decreased less in recent years than has the hunting of ringed seals. Bearded seals are still sought because their blubber is considered, by many Wainwrighters, even better than the bowhead's for the rendering of oil. Moreover, its flesh is considered the best of all marine mammals for making dry meat, a kind of jerky

made by cutting the raw meat into about half-inch thick strips and hanging it to dry. Flippers and steaks cut from bearded seals are fermented. While many of the younger people in town have not developed a taste for this form of fermented meat, most of the older people relish it. The stomach and parts of the intestine are eaten as well. The hide of bearded seals are still important for covering umiat as well as for making the waterproof soles of mukluks.

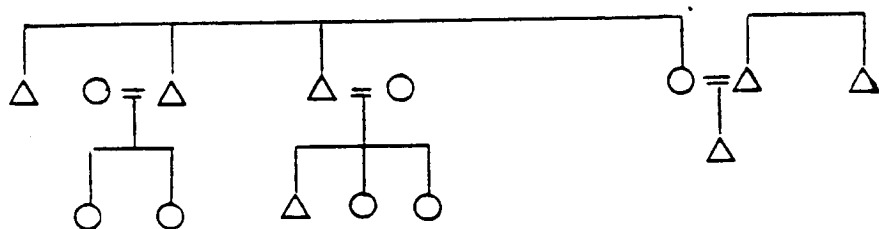
The meat of ringed seal is eaten less often than that of bearded seal. However, people still want to "taste" ringed seal occasionally and its blubber is still an important source of seal oil. Ice lead hunting is particularly important to taking ringed seals. Nelson writes that during the winter months, a good hunter can take more than 1,000 pounds of seal daily. This is one to three seals a day, mostly ringed seals and a few bearded. Since ringed seals are not eaten in great quantities today, it is understandable that winter sealing has decreased.

One hunter said that in the old days, when he kept 14 dogs, he took at least 20 ringed seals and 10 to 12 bearded seals yearly. In 1981, this man took four ringed seals by boat and no bearded seals. The family had taken two trips by boat almost to Icy Cape in search of bearded seals. However, on both trips ice conditions prevented them from getting close enough to kill and retrieve any. Ice conditions in 1982 were better and this same family took two bearded seals in July.

Another hunter, who used to be a very active sealer, took three ringed seals in the winter of 1981-82 and 10 ringed seals by boat the summer after. He also took 10 bearded seals by boat. He usually takes one bearded seal per trip and never more than two. Otherwise it creates too much work for his wife to properly prepare the skins. A third hunter took four bearded seals but no ringed seals. One hunter took two ringed seals and two bearded seals while his father took ten ringed seals, four of them on the same day that the family took a walrus. These two men hunt for the same household. A single male, known as a good hunter, took two ringed and three bearded seals, all by boat.

Three of the households above contain women who are active skin sewers, two of whom use some of the seal skins to make mukluks which they sell as well as ones for their family and near relatives. The butchering and preparation of bearded seals is an arduous task. In the few instances that we observed, near relatives helped and were given meat to take home meat appears to be like the sharing of caribou.

When people travel to the Icy Cape area to hunt, they often set up camp. Several boat loads of people travel there together. These groups are usually made up of closely related families, although friends and partners are sometimes involved. A typical camping trip group included the following in four households:



The boat crews which hunt for ringed and bearded seals are essentially the same as those which hunt for walrus and will be discussed in the following section.

Walrus

Walrus are highly migratory and prefer open water so they rarely winter near Wainwright. Occasionally one will, however. Bailey and Hendee write of the early 1920s, "Mr. Charles Brower informed us that the few walrus which occasionally winter near Barrow become seal killers. In such cases the Eskimos make every effort to destroy the animals as they drive away the seals and ruin the hunting" (Bailey and Hendee, 1926:19). Walrus begin to enter the area in small numbers in May or June. In some years, a few have been killed in these months (Nelson, 1969:352).

The walrus season really begins in July after the ocean ice breaks up to form the ice pack. When the ice went out in a solid piece in late June, 1982, five walrus were killed within two days by boat crews traveling to the south. This surge of hunting occurred because people wanted to "taste" the meat and to serve it at Nalukataq as well. When the ice went out, people continued to hunt, but not heavily since they were waiting for the winds to change and bring the ice

pack back, bearing large numbers of walrus, in range. About 15 walrus were killed between June 23, when the ice went out, and July 28, 1982, when the ice began to return. In most years, hunting continues through August. First, female walrus with their pups migrate up; later the bulls follow.

Nelson describes the details of walrus hunting by umiaq in the 1960s (Nelson, 1969:354-372). Since then, several changes have occurred. The most significant is that, with the end of dog traction, the taking of walrus has declined dramatically. Wainwrighters have never valued large quantities of walrus meat as food for humans. In the 1980s, many people still enjoyed a "taste" of various walrus dishes and tidbits as occasional meals, but nobody considered this animal's meat and blubber to be a fit staple food. In the past, walrus meat, skin and blubber was the preferred dog food. Nelson gives figures for the walrus kill before the adoption of the snow machine. In 1965, around 200 were taken before the hunters stopped; this was approximately four-fifths of a walrus per capita (see Bane, n.d.). In 1966, about 160 were killed. Today, probably less than 80 are taken annually by Wainwrighters, even though the town has grown much larger.

The decline of walrus hunting has been detailed in another section of this report (see Chapter VII). Here we will list numbers of walrus bagged by several families in Wainwright. None of these families hunt walrus for its ivory, that is, cut off the piece of nose which holds the tusks and leave the rest. Three households we talked to

which were headed by men of hunting age took no walrus in the summer of 1981. Two of these were headed by men considered by everyone in the village to be good, active hunters. One of these households took two walrus in July of 1982. One group of four hunters took one walrus in 1981, although they could have shot many more. In the primary division of the meat, it went to four households, all brothers. Two households killed two walrus each. One of these households is headed by an ivory carver. One household took four walrus and another took five. Another man, who hunts for ivory, took more than five. These figures are not high.

A second change is related to the first and has to do with hunting for ivory. Apparently, in the 1960s, walruses were never shot only for their tusks, even though men attempted to shoot specimens with big tusks. Nelson (1969:370) writes:

The Wainwright Eskimos are very sensitive about loss and waste in walrus hunting, and will take all practical measures to minimize it. They occasionally find rotting carcasses that have floated north on the ice--ones that have been killed and left after the tusks are removed--and they speak very disparagingly of the practice. Imminent danger occasionally forces them to leave a carcass on the ice. When this occurs, the hunters "forget" it, and never mention it to the people of the village. This kind of loss is regarded with shame and embarrassment, unlike similar losses which happen in seal hunting.

In the early 1980s, these feelings still existed in Wainwright, but they were mixed with others. At least six men in the village did, upon occasion, hunt walruses just for the heads. Others held this activity in low esteem and were

even embarrassed by it. As one hunter said about a man who was out for ivory, "He might as well live in Gambell." These contradictory feelings are not part of interpersonal conflicts in the village. Rather, they are aspects of a general uneasiness that some individuals feel toward changes that have occurred in the village in the past few years. Moreover, this emergent ivory hunting in Wainwright must be viewed in the light of the overall diminished walrus take. Now that great quantities of this animal's meat are not needed to feed the dogs but money is needed to feed the snowmachines, the individual must choose whether or not to kill a walrus for its tusks.

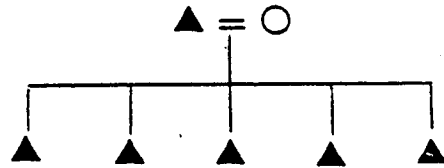
Minor changes have taken place in the technology used in walrus hunting. CB radios are now used by many walrus crews to keep people on shore informed of their activities as well as to guide other walrus crews to the herds that are discovered. These radios are also useful in emergencies. While some people prefer to use light calibered rifles on walrus, the trend has been to larger-bored rifles. A man who used to use a .222 Remington has switched to a .25-06. The largest bored rifles we observed in Wainwright, several 7mm Remingtons and one .458 Winchester Magnum, were used solely to hunt walrus. The use of large bored rifles is also mentioned by Nelson (1969). Finally, the skin-covered boat, the umiaq, is now used only in bowhead whale hunting and is removed from the water after the whale quota is filled. Today, outboard motor powered aluminum boats are used for walrus hunting. Some of the motors are 80 and 90 horsepower;

most are in the 40 to 60 horsepower range.

Nelson reports that, in the 1960s, large inboard motor launches were often used as "mother ships" for several umiaq crews. This no longer occurs. For this reason, even though boat crews still often work close to each other, the size and complexity of walrus hunting task groups has decreased.

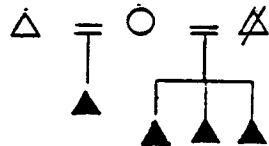
Below are diagrammed several representative walrus crews in 1981. Three to four members is considered optimal. Since many crews are made up of fathers and sons or brothers, all of them are not included. Darkened-in triangles equal men in the crew.

1)



This crew, which is the largest, contains one sibling from Barrow. This man is sent walrus meat whether or not he comes to Wainwright to crew.

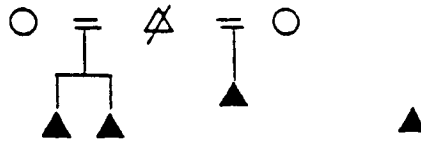
2)



3)

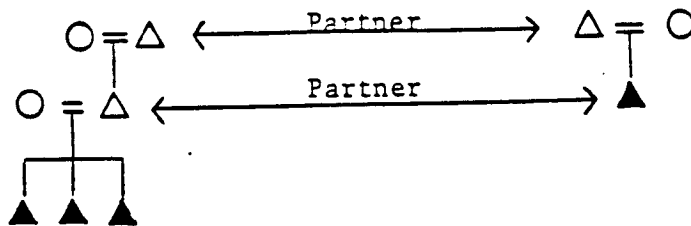


4)

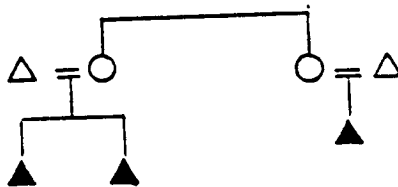


The unrelated man often goes with the two brothers. There are at least three crews in which this configuration forms a core. There is also a group of three unrelated men who often crew together.

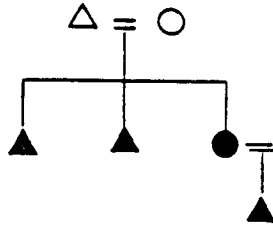
5)



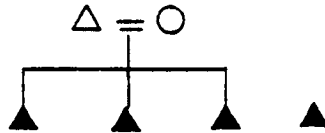
6)



7)



8)



In this crew, one to three of the brothers go out at the same time. The unrelated male hunts on other crews as well, ones made up of men who are not close relatives. This individual is considered a good and active hunter.

Walrus crews have changed in one important respect during the 1970s. Presently, women sometimes go out in the boats. This began to happen in the late 1970's. The women were always closely related to the male hunters: wives, girl friends, daughters, or nieces. There were at least five women who had gone walrus hunting in 1981. They were said to be very brave. In the summer of 1982, at least two men took their families on the hunt--their wives and some of their children.

Nelson (1969:355) described walrus hunting in the 1960s as a "communal hunt" which maximized the "net productivity for the village as a whole." It is understandable that, since productivity no longer needs to be maximized, the communal nature of the hunt has somewhat diminished. Techno-

logy and the growing wage economy has encouraged this as well. A decade ago men hunted to exhaustion when the herds were available. In the 1980s, men had to balance hunting with their jobs; they hunted and worked to exhaustion when the herds were available. They hunted after work and on weekends when the weather permitted. They would race out to the ice pack after work in high-powered boats and race back home in the early morning hours for a few minutes sleep before returning to their daily jobs. This division of labor encouraged small, mobile crews. Also, the money from jobs allowed many more people to own and operate boats than in the past.

In the past, the boat owner took an extra share of the meat for the boat. This is no longer done nor is it necessary. The meat is divided equally among the crew members. One boat captain said that in the old days, he used to get the ivory. Nowadays, it is divided more or less equally between crew members. The reason he gave for this change is that, today, "there are too many boats."

Nelson (1969:362) writes, "The walrus is regarded as being mysteriously intelligent and malevolent toward man." These words accurately describe Wainwright's attitudes toward walruses today. This animal seems not to be afraid of man; it will sometimes come to the aid of other wounded walrus. Bailey and Hendee note that walrus "are usually harmless enough, but a female with young is apt to be savage. The Eskimos feared the young bulls more, however" (Bailey and

Hendee, 1926:19). As in the case of polar bears, hunters enjoy regaling each other with reminiscences of dangerous situations involving walruses, especially walrus attacks on their boats.

Walrus are said to know people's thoughts. If someone goes out in the boat with the wrong attitude--"just for the show"--the walrus will give them a show by attacking the boat. Sometimes, walrus will attack the ice flow upon which the hunters stand. It is said that the animals attempt to chip away the ice under the hunters' feet. One man, quite old and almost completely retired, is believed to have special walrus magic. He can talk to the animals and tell them to go away. One place near Icy Cape is said to have special walrus. These are slightly green in color and are, on the average a good 700 pounds heavier than usual.

We were told that although cooked walrus meat is delicious, it can be oily, too. Walrus adds variety to the diet, and variety is appreciated. This meat is eaten with its component parts intact; included are the outside skin, the middle part which is chewy, the blubber, and finally the meat. The chewy part is two inches thick, while the thickness of the blubber depends on the size of the walrus and how well fed it is. There is always a lot of meat in each walrus.

Since walrus can carry trichinosis, it is rarely eaten raw. Usually, it is boiled a long time in order to kill worms and tenderize the meat. A popular way to cook walrus is to cut the skin and the other parts into small chunks,

perhaps 2 1/2" square. Onions are added and the ingredients are boiled in a large pan, such as an oblong roasting pan. A special dish, considered a delicacy, is urraq, fermented walrus flipper. Fermented walrus meat, tuktaq, is also eaten. Wainwrighters eat walrus fresh, but cooked, in the summer.

Walrus skins are too tough to make into parkas. Because they are thick and heavy they are also not used in Wainwright to cover the skin umiat. Walrus hides absorb water which makes boats covered with them heavy and unwieldy. At places like Diomede in the Bering Straits boat crews face greater ice movements; walrus skins are used for umiaq covers because their thickness stands up better to the impacts of the ice pack.

Walrus tusks, tuugaaq, have tremendous commercial value. Mounted ivory tusks are prized locally, too, and grace the living room walls of several native Wainwright households. Tusks are traded and sold. The ivory has been traded for TV's and other imported items, and sold for as little as \$200.00 which was considered an unfair, cheap price. Carvers on the North Slope use the entire tusk to make cribbage boards or scenes of local animals and traditional activities. High quality carvings can be sold for as much as a thousand dollars in Barrow, Fairbanks, Anchorage, Seattle, and elsewhere. Ivory artisans also make watch bands, bracelets, necklaces, earrings, rings, pins, small curios, and ulu (Eskimo knife) handles. Samuel Driggs, Weir Negavanna, and

Thomas Ekak are a few of the local artists working in ivory.

Usiks, walrus penis bones, also have commercial value and are sold either with or without any ornamentation. Carved ivory pieces sometimes glued to the ends. A baleen strip is usually included between the end of the usik and the carved ivory. These retail for around \$350.00, depending on the size of the usik, whether or not it is fossilized, and the craftsmanship of the ivory carving.

CHAPTER XI

MARINE MAMMALS, PART 2 WHALES AND UNCOMMON SPECIES

Beluga Whale

The beluga whale is seen as a gentle animal by people in Wainwright. Like the bowhead, it allows itself to be captured. Under certain circumstances, such as when killer whales drive a herd of belugas close to shore, Wainwrighters have been able to herd them into the Kuk Inlet and kill them in great numbers. One person said, "Belugas are gentle creatures; they allow themselves to be herded and killed. They are like Eskimo cows." The view of belugas as "timid and cautious" creatures especially sensitive to noise has been reported by Spencer for an earlier era. He writes, "In approaching the beluga, one was required to be very quiet and to whisper if talking was necessary. Any loud noise would drive the beluga away" (Spencer, 1959:276).

Belugas begin to appear in March and, according to Nelson, are in greatest abundance in May. After this month, they occur sporadically throughout the summer, sometimes in large numbers (Nelson, 1969:205). Nelson sees beluga as providing a possible "windfall," not as a reliable source of subsistence food. He reports that, during the early 1960s, Wainwright Inupiat usually took some beluga in a year, but the amount could vary anywhere from less than five to more than one hundred (Nelson, 1969:213).

Nelson lists several large kills. During a suaqssat, a

condition in which herds of beluga are trapped in small leads in the ice, around 20 were killed. Toward the end of the 1940s about 300 of these whales were driven into the Kuk Lagoon, trapped and killed (Nelson, 1969:207,212). We could add two more. Around 1970, 22 beluga were trapped at Thomas Point and killed. A large kill took place in the mid-1970s when seven or so beluga were taken and landed right in front of Wainwright. They were brought into town with a front end loader for butchering. Finally, Nelson reports two successful drives during the summer of 1979, one bringing in 19 and the other 30 animals (Nelson, 1982:78). One thing seems to have changed. While Nelson reports that some beluga are taken almost every year, this appears no longer to be the case. No beluga were taken the summer of 1980, 1981, or 1982 nor, we believe, in 1983 or 1984. This is a five year period.

Beluga are reported to be hunted from the ice during whaling season. While, in the 1960s and before, this spring whaling was the "principle hunting time for white whales" (Nelson, 1969:205, see 205-207 for a description of this method), this no longer holds true. At Wainwright, beluga have not been taken during the bowhead hunt for several years. Partly, this change occurred because the quota on bowheads changed the timing of the whaling season by a month or so. Crews do not go out now until the leads are wide, well into April. Also, when the crews go out, they concentrate on the bowhead. They fear that by hunting beluga they

will miss a chance at the larger whale. This shift has also been reported at Point Hope for similar reasons (ACI-Braund, 1984).

Nelson also describes a method for hunting belugas with a rifle from shore during the summer (Nelson, 1969:209-213). Even in the 1960s, this type of hunting was reported to him as a thing in the past. Nelson (1969:211-215) writes:

In this case, the whales must have been swimming fairly close to the land, as they apparently do sometimes. Around the village of Wainwright, they are said to have done this frequently during former years, but now they always stay well off shore. The people blame this on the accumulation of garbage, barrels, and junk that litters the ocean bottom in front of the village. Also, there are engines running almost constantly...which may produce enough noise or vibration to frighten them away. One advantage of the aboriginal villages for hunting was that their small size, lack of noise, and sod-covered houses made them so inconspicuous that game animals, such as walrus, seals, or caribou would come very close to the settlement without fear.

What was true in the 1960s is more true for the 1980s. Today, beluga seldom come close to the shore around Wainwright or even into the Kuk Lagoon unless driven there by killer whales. As one hunter said, "People get them seldom now. They used to come into the inlet, now hardly. They are afraid of noise and there are too many tug boats." This tendency for the numbers of beluga to diminish in the immediate vicinity of a village as that community grows and modernizes has been noted by villagers across the North Slope and in other parts of Alaska as well.

Today, most of the hunting of beluga seems to be done by small groups of men in high-powered outboard driven aluminum

boats. This occurs in the summer months, July and August. If beluga are spotted in the area, men will run to the boats and go in search of them. Often, people at Point Lay, a village located on a lagoon where these whales enter to feed, will call their friends and relatives at Wainwright if a large herd of beluga has passed by. People in Wainwright will expect the herd to arrive sometime after two days and they keep a sharp eye out for it.

Beluga skin with blubber attached is called maktak. (However, some people in Wainwright call the skin and blubber of beluga maktaak as opposed to the maktaak of the bowhead.) People in Wainwright report that the division of beluga maktak and meat differs between whaling season and summer hunting. If a beluga is taken during the whaling season, the division of it is the captain's decision. It is divided between the boat crew or, if several boats are working nearby, it may be divided among the various crews. In the summer, the beluga are divided in shares for each household if a sizeable number have been taken near the village. If only one beluga was taken, it is divided among the boat crew. Nelson (1982:78) writes, "Divisions have been made, limiting shares to those who helped with the drive and subsequent handling of the catch. But this created some dissention in the village and was cited as the reason for poor harvests in following years." If people take beluga while camping, it goes to those in or near the camp. Generally in such cases, much of it is given to friends and relatives on the return to Wainwright.

Beluga maktak is a preferred dish. It is usually served fresh and plain or garnished with something like dill pickles. Some people in Wainwright even prefer it to bowhead maktak. Since no beluga have been taken by Wainwrighters for several years, all the beluga consumed of late has come from other villages. Most of it comes from Point Lay, which along with Point Hope, is located at a place more advantageous for beluga hunting than is Wainwright. Especially strong kin ties exist between Wainwright and Point Lay. Gifts of beluga, when fresh, are usually sent by the regularly scheduled plane which flies between Barrow and Point Lay. People will be notified by telephone or over the radio that a package is coming for them. The amount is usually small, two to five pounds, we estimate.

Bowhead Whale

Whaling provided the avenue through which significant outside influences first reached the North Slope. In 1848 commercial whaling ships began operating in the Bering Straits. Bockstoce estimates that, in the next sixty years, more than 20,000 bowheads were taken (Bockstoce, 1978). While soon after the 1850s, Eskimo crews began to trade for darting guns and bombs (Spencer, 1959:360), not until the establishment of commercial shore-based whaling stations in the 1880s did native whaling change drastically. These companies hired large numbers of Inupiat; this labor was paid for in money or trade goods and the company owned the baleen. These companies also bankrolled independent native crews for

an agreed upon share of the baleen harvest (see Brower, 1942; Allen, 1978). Spencer describes Barrow's economy at this time. He writes, "This community appears to have reached a peak of whaling activity around 1900. At this time the population of the village was fairly large and most men were either directly or indirectly associated with the whaling industry" (Spencer, 1959:360). This industry collapsed in 1908; the numbers of crews fell and whaling reverted more to its non-commercial dimensions (Bockstoce, 1978).

Whaling provided an avenue for more recent outside influence as well. After its turn-of-the-century decline, the scale of North Slope whaling remained rather constant. However, in the 1970s it began to increase. Various causes for this may exist. Caribou harvests were down, village populations were up, increased wage work meant more money to outfit whaling crews, the area was also undergoing a general cultural resurgence. In 1977, responding to increased strikes and losses of bowhead whales, the International Whaling Commission proposed a moratorium on Alaskan native bowhead whaling. Instead, a quota system was established. The 1978 quota was for 12 whales taken or 18 struck; this was increased to 14 landed or 20 struck. Since 1978, Eskimo whalers have been operating under a quota system.

In the Wainwright area, aboriginal whaling sites are found north of the village at Nunagiak, Pingusugruk, and Atanik. To the south and east, an important aboriginal whaling settlement was located at Icy Cape. Modern day

whaling has occurred near all these locations as well as directly out on the ice from Wainwright itself. The latter is the most preferred because it is closest; the sites north of town between Nunagiak and Atanik have generally been the most productive; and Icy Cape--because of its great distance from the community--is the least preferred location. In 1980, Wainwright whalers took a bowhead off Icy Cape and had to call on the villagers of Point Lay to help land and butcher it.

Generally, bowheads reach the Wainwright area in April, although they may appear as early as late March. The first whales to be seen are said to be large males who are "breaking trail" for others to follow. Nelson writes that Wainwright elders believe that these early explorers turn back to guide other whales north (Nelson, 1982:82). A visitor to Wainwright in 1956 noted a similar and, perhaps, related belief. Taber (1958:19) writes:

The Eskimos believe that whales follow one another along some underwater path and rise to breathe at the same points along the route. Where one whale has come to the surface is a good place to wait for another...

In 1982, whaling began on May 1. The camp was established on the ice near Atanik. The first whale was struck late on May 13, pursued, killed, and towed during the night, and brought to the ice lead edge early on May 14. The second bowhead was struck and landed on May 29. Both whales were female.

Good, long term harvest data exists for the bowhead whale. William Marquette assembled all known reports for

Alaskan village takes. His figures for Wainwright begin in 1916. By 1940 the record is almost continuous. Below appears a table of Wainwright's annual bowhead harvest based on Marquette's work (see Marquette, 1979; Marquette and Bockstoce, 1980).

Table XI-1
Wainwright's Annual
Bowhead Harvest

Year	Number	Year	Number	Year	Number
1916	1	1945	6	1967	0
		1946	1	1968	2
1922	3	1947	1	1969	3
				1970	0
1924	0	1949	2	1971	2
1925	2	1950	2	1972	2
1926	1			1973	3
1927	2	1955	1	1974	1
		1956	2	1975	0
1931	6	1957	0	1976	3
		1958	0	1977	2
1936	1	1959	0	1978	2
		1960	0	1979	1
1938	2	1961	1	1980	1
		1962	1	1981	3
1941	1	1963	2	1982	2
1942	1	1964	1	1983	1
		1965	0	1984	2
1944	2	1966	1		

This table does not include struck and lost figures nor information on the size of the whales that were landed. Since harvested whales at Wainwright have been estimated at less than ten tons and more than sixty, these statistics would be useful. Nevertheless, the numbers presented are interesting. Harvest figures exist for 47 years beginning in

1916. During that time, 73 bowheads were taken. In 1936 and again in 1945, 6 were landed. Otherwise, in all the years recorded, Wainwright took between 0 and 3 whales. During these years the village took no whales about 19 percent of the time. Wainwrighters took one or two bowheads with almost the same frequency, 34 percent and 32 percent respectively. They landed three whales 11 percent of the time. The overall harvest average was 1.55 bowheads per year.

An unbroken series of harvest figures for bowheads exist from 1955 to 1984. During this thirty year period, 39 were landed for an average of 1.3 whales per year. These figures also indicate a slump in whaling success in the late 1950s and early 1960s. Between 1955 and 1964, the first ten years of the series, only 8 whales were harvested; in the last 10 years, on the other hand, 17 whales were taken. In the first 10 years, Wainwrighters took no whales 40 percent of the time and one whale also 40 percent of the time. Two whales were landed 20 percent of the time and they never took three. In the last 10 years, Wainwrighters got no whales only 10 percent of the time; also they took one whale 30 percent, two whales 40 percent, and three whales 20 percent of the time. From 1975 to 1984, Wainwrighters harvested an average of 1.7 whales per year. They took the same yearly average after the IWC quota was instituted in 1978.

Thus, in the last 10 years Wainwrighters have done better on a yearly average basis than they did in the 1950s, 1960s, and early 1970s. However, they did not do as well as they had for years recorded before 1955 in which they took an

average of 2 bowheads annually.

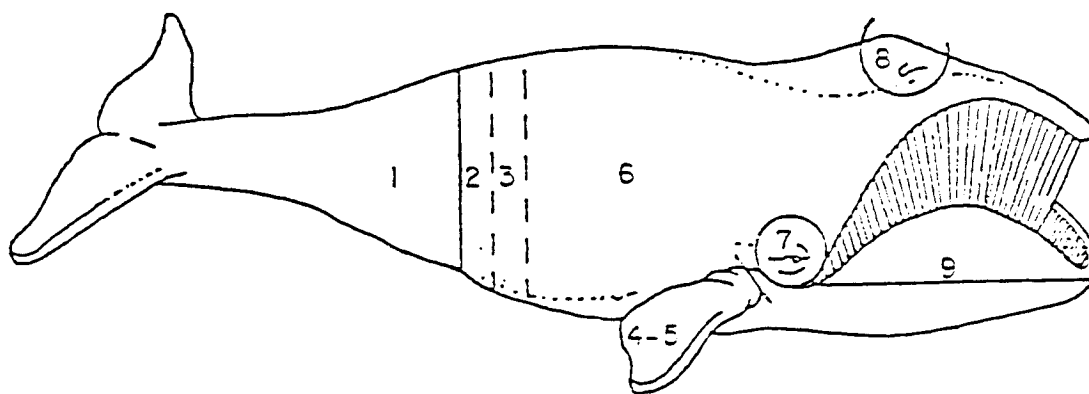
When one considers Wainwright's growth, one must conclude that, in general, the bowhead harvest has not kept pace with the village population. For example, in 1955 one bowhead was shared among 232 inhabitants; in 1983 another bowhead was shared among 485, more than twice the earlier number. The average whale taken by Alaska Eskimos in the years 1973 through 1977 weighed 15.9 metric tons. Of this, approximately 7.2 metric tons or 51 percent of the whale's body weight is considered edible. Consumable parts include the red meat, all the viscera, and a portion of the blubber (Marine Mamm. Com., 1978). Assuming that both the 1955 and 1983 whales were average size, the first would have provided Wainwrighters with approximately 70 pounds of food per capita while the second whale would have provided only 33 pounds. Moreover, added to the growth of the village is the increased numbers of visitors at Nalukataq (see Chapter VIII). The assumption that these whales were both average size is incorrect. Nevertheless, by making it we demonstrate one problem facing Wainwright's subsistence hunters in the 1980s.

Because the bowhead whale is an endangered species, because the International Whaling Commission is regulating the traditional Eskimo hunt for the bowhead, and because certain political organizations such as the North Slope Borough are actively striving to preserve this traditional hunt, much has been written about whaling on the North Slope. The reader is referred to already published works on the

biology, the anthropology, sociology, and technology of the hunting of the whale. Worl's work, particularly, describes the social division of a whale taken in a successful hunt for all North Slope whaling villages. Her findings for Wainwright are presented in Table XI-2, below. While the division varies from village to village, we note that the "belt" cut found at Wainwright also occurs at Barrow and whaling villages to the east while the division at Point Hope appears more complicated.

Table XI-2

Wainwright's Bowhead Distribution



Section

- 1-2-3 Captain's share, which is held for distribution to community members during feasts. For every whale the captain takes after his first whale, one "belt" (indicated by the dotted line) is added.
- 4-5 One flipper goes to the harpooner, the other flipper to the gunner. If the harpooner is also the hunter, as is frequently the case, the other flipper goes to the steerer.
- 6 This part of the whale is divided so that there is one equal share for each crew member plus one share for the households. The crew shares are divided equally, so the amount each receives depends on the total number of men in the crew. Wainwright crew shares are divided so that they are distributed to

the owner of the boat and equipment as well as each crew member. If the captain owns the boat, he can take a share for himself plus a boat share. Frequently the captain will not take this boat share so that the crew members will receive larger shares. This rule also allows people who are unable to be active crew members to receive shares by loaning equipment.

- 7-8 The blowhole and eyes go to the captain, who saves them for Nalukatak.
- 9 The lip goes to the captain.
- Tongue One part goes to the captain; the rest is divided among the whaling crews and the village.
- Baleen Half of the baleen generally goes to the captain, and the rest is distributed among the whaling crews; however, distribution patterns vary since the final decision rests with the captain.

(SOURCE: AEIDC, 1979:62)

This table delineates rules governing the first, or primary, division of a bowhead. Through sharing networks within the community, the maktak and meat is redivided until every village household receives a "piece." Moreover, this secondary redistribution radiates outward from Wainwright to include Barrow, Point Lay, Point Hope, Atqasuk, Fairbanks, and Anchorage (AEIDC, 1979:40; ACI-Braund, 1984).

We would note several points about the rules governing the primary division of the bowhead. First, while the captain's share is large, much of it is held in trust for various community festivals. These include the Nalukataq, Thanksgiving, and Christmas ceremonies as well as an "open house" given after the whale is butchered at the successful

captain's home. At this time, anyone who helped bring in the whale may go to the captain's house and ask for a "piece" or "share" of it. Second, the value of boats and whaling equipment as "capital" is recognized by these formal rules of division, as is the market value of baleen. Such recognition may be throughly assimilated elements from an earlier era of whaling. Finally, while the rules are complex, they also call for guidance from the successful captain. Thus, a flexibility or latitude is built into the system. Nelson, in his most recent report on Wainwright's subsistence, also hints at this flexibility. He writes that, while the crew credited with the first strike gets the largest portion, all active crews recieve a share. Nelson (1982:92) continues:

Ideally, all other crews receive equal shares, although there have been some variations according to crew size...Some people emphasize that traditional rules for division of whales must be strictly followed, because doing otherwise can offend and alienate the animals. Improper division is sometimes blamed for poor or unsuccessful seasons...

We shall do three things in this section: one, we shall reemphasize the social and religious aspects of the bowhead whale to the people of Wainwright; two, we shall note some of the responses to the legal threats to the hunt; and, three, we shall describe the composition of whaling crews.

The general belief held by Wainwrighters is that bowhead whales know people's thoughts and, if the people's thoughts are correct, the whale will allow itself to be taken. The proper attitude could be described as a kind of loving respect mixed with humility. Often one hears, in town,

complaints about outside regulation mixed with phrases like, "They [the outsiders] don't understand; we love the whale, we have love for them in our hearts." The phrase "love for them in our hearts," is heard particularly around whaling season; it occurs in conversations, in discussions at public meetings, and in prayers at church.

Such sentiments are not posturing, they are deeply held by the great majority of Wainwrighters of all ages. It is these deeply held sentiments that cause hurt and anger on the part of Wainwrighters when outsiders cast them in the role of people destroying the whale. They believe that their hunt for the whale binds them closely to the animal. The need for humility shows up in the following story told by a whaling captain:

After several years of no luck, we finally struck a whale. It was lolling in the water and we came beside it to shoot it. It was almost dead for sure, on its side, flukes waving. Then just when I was set to strike it again, it turned over and dove. Later we found that a kid in another boat was watching us with binoculars and said, "They got a whale." The whale dove just then, probably. The whale knew what he was thinking. Afterwards, I told him about it. I'm not a better hunter than other people. Plenty of those others know a lot more than me.

The whale will not allow men to presume about it. Not until it is dead can someone say that they got a whale.

These sentiments are ultimately derived from a pre-contact Inupiaq view of the relationship of man to the animals he hunts (see Spencer, 1959:332-353, on the "whale cult"). Today, while these sentiments exist toward other animals, particularly other sea mammals, they are most often

and most clearly expressed with regards to the bowhead. In the 1980s, the bowhead hunt was the center around which these beliefs grew and were taught. For this reason the hunt is particularly important for North Slope society. Around the bowhead hunt, too, present-day Christianity fuses with these earlier beliefs. The churches are full of prayers for the whales when the crews are on the ice. The Inupiaq minister of one of the two churches in town takes an active role at whaling camp.

Thanksgiving and Christmas celebrations are well attended in Wainwright, but they are given at two different churches at the same time. Two of the three occasions which seem to bring the entire village together are the landing of the whale and the Nalukataq--the summer ceremony given by a successful whaling captain and crew. The third occasion, Fourth of July, seems to be the least popular of them all. The Nalukataq was described in detail earlier (see Chapter VIII), here we stress the amount of social involvement in landing the whale.

The first whale taken in 1982 was a large one, estimated at 60 feet long and 60 tons. It was landed around 9:30 a.m. Immediately people began to drive and hitch rides to whale camp which was located about 30 miles from Wainwright over rough ice. Getting there was a bumpy two hour ride. By evening, 22 tents were set up at camp which probably slept 80 people. More people would come out to camp when necessary. At noon on Monday, the next day, about 35 people were pulling on the block and tackle to move the whale; by 8:00 p.m. there

were 150 people pulling and at least another 150 people in camp.

All told, probably 70 percent of Wainwright's population took an active part in the landing and butchering of this whale. This is a very large percentage of the town's people when one remembers the difficult ride to camp, the number of aged and very young people in the population, the numbers of whites living in town, and the number of people who are gone from town at any one time. Sociologically, the whale brings people in Wainwright together in a way that nothing else does. The elimination of whaling would be a tragedy to the Inupiat.

Because of the importance of the bowhead to the Inupiat, it is understandable that there has been a strong political reaction to the regulation of the hunt and threats to stop it altogether. So far, people in Wainwright have taken the lead of the North Slope Borough and the Inupiat Community of the Arctic Slope. These governing bodies have agreed that by accepting the quota system and by regulating whaling themselves through the Alaskan Eskimo Whaling Commission, they will be able to establish the principle of self-regulation for the future. The North Slope Borough is also advancing studies of whale population dynamics which, people on the North Slope believe, will ultimately show that Eskimo whaling does not constitute a threat to the existence of the bowhead. It is believed that the principle of self-regulation, along with new scientific information, will free the North Slope

from interference from the International Whaling Commission.

This is the policy being followed by Wainwright whalers, although none of them are happy with the quota as it presently exists. The 1982 quota was two; it was one for 1983—the smallest ever. The 1984 quota was to be renegotiated. Generally, people in Wainwright believed that if the quotas were not relaxed at that time, trouble would develop on the North Slope.

The 1982 whaling season was disasterous and presaged trouble. Wainwright bagged its quota of two. Point Hope, however, landed only one of its quota of two, while Barrow struck its quota of five, but lost them all. For awhile, it looked to Wainwrighters as if the Barrow crews were going to go back out on the ice. Billy Neakok, President of the Inupiat Community of the Arctic Slope, issued the following letter and left for the ice:

May 4, 1982

To: The United Nations, Human Rights Division
U.N. World Health Organization
President of the United States, Ronald Reagan
Secretary of State, Alexander Haig
Secretary of the Interior, James Watt
Russian Embassy, Washington, D.C.
Alaska Eskimo Whaling Commission
North Slope Borough
Governor Hammond, State of Alaska

From: Billy Neakok, President
Inupiat Government

Re: Inupiat Eskimo Bowhead Whaling

Today, the Inupiat whalers struck five whales, which is the quota set by the International Whaling Commission and "white pigs" like you.

The Inupiat position is still "the Inupiat level of harvest will be no more than two (2%) percent of the best known population."

Mr. Reagan, you have NOT responded to my telegram of April 14, 1982, on Inupiat Eskimo Bowhead Whaling.

If the United States is going to enforce the I.W.C. quota, and if the Law Enforcement Division of the United States is to arrive, then, Mr. President, you have three days to evacuate the citizens of the United States. If I, as an Inupiat whaling captain, cannot meet my people's nutritional needs, then you leave us no choice but to starve!!! I have instructed Inupiat whaling captains to "keep on whaling." "Hunger knows no law." I will also notify the U.S.S.R. for detant.

Barrow whalers debated and finally ordered Neakok and his crew off the ice. They decided that it was best to follow the already established policy. In Wainwright, there was excitement as well. Most people seemed to think the letter was "hot-headed," but they empathized with Barrow's plight after the loss of their entire quota. The situation was resolved quietly; Neakok and his crew, through social pressure to conform, was convinced to return to Barrow. However, the resolution might not have been as easy if the promise of new negotiations on whaling in 1984 was not in the air.

In general, Wainwright whalers have adjusted successfully to the quota system. In 1981 Wainwright crews took three bowheads, in 1982, two, and in 1983, one. These takes represent the village's full quota for the years 1981 through 1983. In 1984 the town's crews struck and took two bowheads. People in Wainwright spoke of their success as "luck" and, to some degree, it is. However, Wainwright's relative success is not completely fortuitous. Under the quota each whale struck and lost counts. Wainwright whalers have taken

measures to minimize struck and lost whales. They do this in four ways. First, before going out, whalers hold closed meetings in which they discuss strategies, ways to strike and kill, and the like. At these meetings, older whalers are given a chance to discuss their own experiences, to teach the younger whalers how to do things correctly. Second, apparently at these meetings informal discussions and decisions about the make-up of the crews occur. An attempt is made to make sure that every crew has experienced members. Third, whaling crews have adopted the strategy of only going out when the lead is very wide and not striking whales near the lead edge. This makes it harder for the whales to escape under the ice. Fourth, whaling crews have adopted the strategy of hunting more in a group than they did previously. This way, a crew can "help out" more quickly when a whale has been struck.

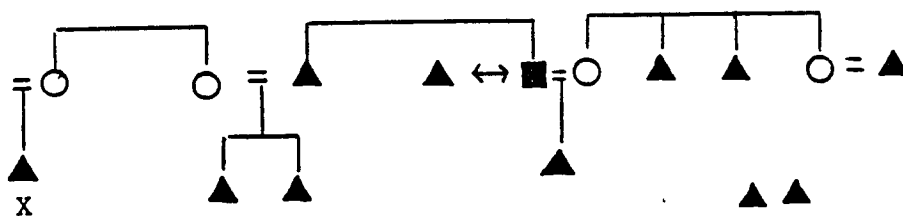
In 1982, a crew spotting a whale near the lead edge did not attempt to strike it. Instead, they ran their boat between the whale and the ice in a successful attempt to drive the whale into the middle of the lead where it was struck more safely by another boat. These regulations have had one effect, at least, on Wainwright that was unintended and undesired by whale biologists. Since the crews now wait until the lead is wider, they are waiting until later in the migrational season. At the time the crews go out now, they strike a high percentage of large whales in their reproductive prime.

Regulations seem to have encouraged the increased size

of whaling crews by decreasing the growth in the number of crews sent out. Because of the size of his crew, in 1984 one captain considered sending two fully manned boats out to the lead. The regulations seem also to have helped create a situation in which more non-relations are on crews and one in which more people from other towns on the North Slope come to Wainwright to hunt whales. In one case in 1982, a man, noted for his abilities as a harpooner, came to town to be a member of an inexperienced crew.

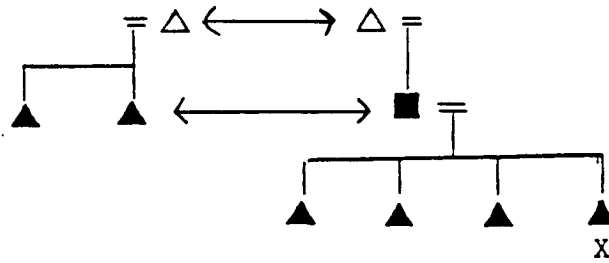
Below are kinship diagrams of crews with comments. The first four crews are, essentially, complete. In these charts, a darkened triangle is a crew member; a darkened square is a captain. A double-headed arrow (\leftrightarrow) represents a longstanding "partner" relationship. Crew members from out of town are signified by an X underneath. Non-kin members are unattached darkened triangles. An attempt has been made to place them in the proper generation.

Crew 1



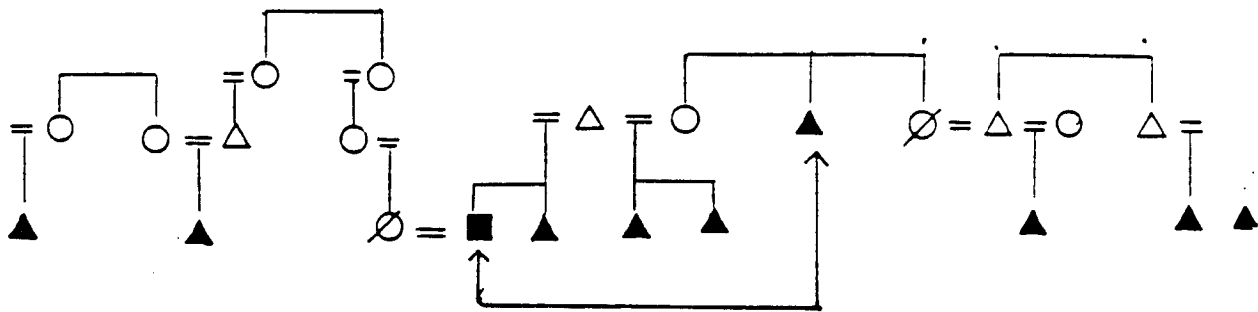
This crew contains two generations connected by affinal ties through women. There is a core of brothers with sons; the partnership tie is with the captain. Two of the younger members are unrelated. Two crew members are from out of town.

Crew 2



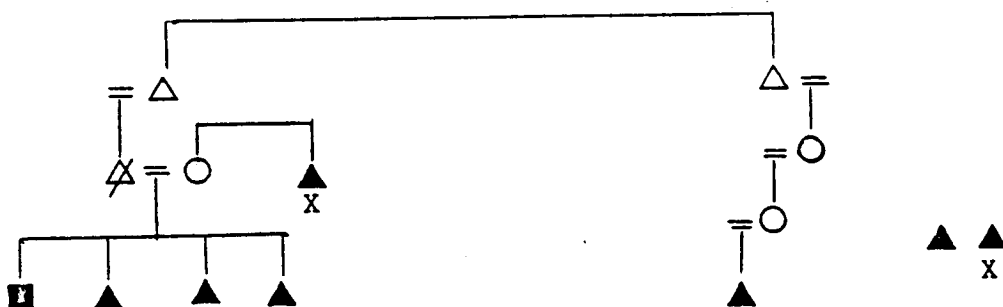
This crew contains a core of a captain and his four sons, one of whom now lives out of town. The other two brothers are connected to the captain through a long-standing partnership tie, one which extends back to their respective fathers. The partner of the captain and three of the captain's sons also make up a regular walrus and seal crew. This crew contains two generations.

Crew 3



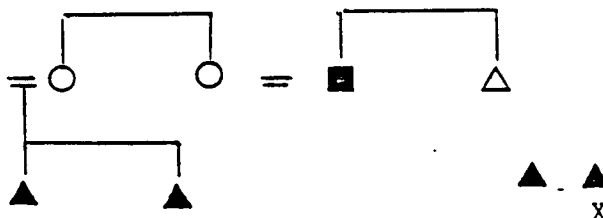
This crew comprises either two or three generations depending where one places the two unrelated crew members. The crew's core is made up of the captain, his brother and half-brothers and a long-standing hunting partner related to him as a step-uncle. Two first cousin groups are also included, one related through males and the other through females.

Crew 4



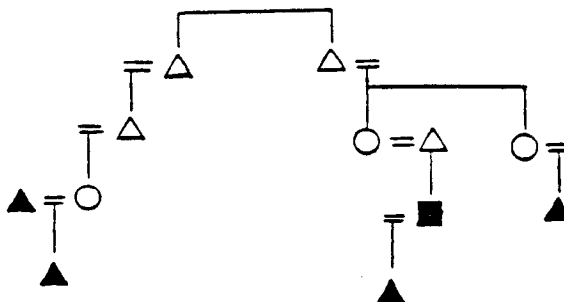
This crew contains a core of brothers, helped out by their uncle from out of town. It includes two out-of-town members. This crew is three-generational but the single member of the third generation is about the same age as some of the brothers. Several of the brothers often hunt walrus together.

Crew 5



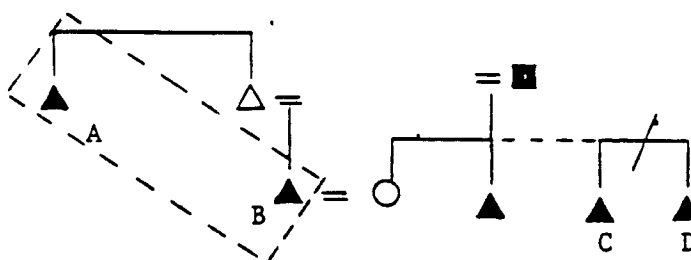
In this crew, the boat and guns were borrowed from the captain's brother, also a Wainwright whaling captain, but who did not organize a crew in 1982. The crew includes two generations and two unrelated members, one of which used to live in Wainwright but now lives out of town. Two of the members are affinal relatives of the captain.

Crew 6



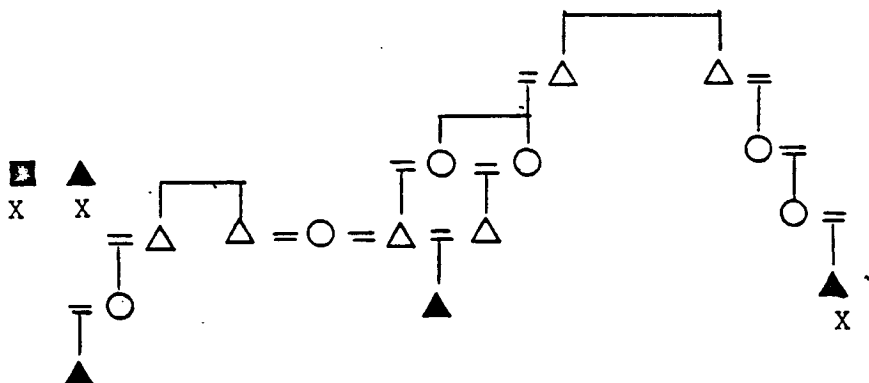
This is a two-generational crew. The captain and his son are attached to a third crew member--the captain's cousin--by an affinal link through women. There is a second father-son link in the crew.

Crew 7



This crew is two-generational and encompasses some important adoptive relationships. The nephew (b) was reared by uncle (a). This can be seen almost as a father-son tie linked to the captain's core group through the son's affinal tie. Man (c) was adopted by the captain while his biological brother (d) was not. This crew can be seen as having a core group of the captain, captain's son, and an adopted son with a strong blood tie to the adopted son's brother.

Crew 8



This crew contains three out-of-town members, including the captain. All three have strong kinship ties to Wainwright. Except for the sole kinship relation of "great-great cousin," the kinship ties appear to be fortuitous, if not fictional markers of convenience.

Grey Whale

Grey whales have been reported in Barrow leads even before bowhead whales have finished migrating (Durham, 1979). From July through September they are often sighted in front of Wainwright. Occasionally they appear in very large numbers (Maher, 1960). Marquette and Braham have assembled all documented gray whale takes by Alaskan Eskimos from 1925 through 1980. Wainwright is known to have landed one grey whale in 1925, two in 1934, one in 1950 and again in 1951, two in 1952, and one in 1954 and in 1957 for a total of nine (Marquette and Braham, 1982:388). The two in 1934 were taken by Jim Allen's crew (Maher, 1960).

These figures may be as good as the historical documentation on the harvest of grey whales will ever get. These

are not a preferred animal and takes are not well remembered (see, for example, Nelson, 1982:79). However, since systematic records exist only for the years 1954 through 1959, Wainwright's historic harvest of grey whales is doubtlessly greater than these numbers indicate. In the late 1950s, for example, Barrow hunters reported taking an average of one every five or six years even though landings are recorded only for the years 1954 through 1965. In these 12 years, 13 grey whales were landed (Marquette and Braham, 1982:388,391).

The existing harvest figures suggest that both Wainwright's and Barrow's grey whale catches were in response to low catches of bowheads (Storro-Patterson, 1980:9). Probably, Wainwrights sporadically harvested a few grey whales over a great many years. Several hunters made statements which implied that Wainwright's last kill of a grey whale may have occurred in the late 1960s and that it was motivated by curiosity about the animal as well as by the availability of so much meat.

Thus, although these whales represent a substantial available food resource, Wainwright boat crews hardly ever strike or attempt to strike this animal. There are several reasons for this, perhaps the most important being that the maktak is not considered good. The maktak of the grey whale is thin and is commonly so invaded by barnacles that it is said to be inedible. More than the meat, whale maktak is important to the North Slope Inupiaq diet. For this reason, even though most people who have tasted grey whale meat say

they enjoyed it, killing the animal would be wasteful. Perhaps curiosity as well as the availability of so much food motivated the rare takes of this animal. In any case, each kill seems to reconfirm the negative attitudes of Wainwrighters toward this whale as food. While even into the mid-1960s, the need to feed the dogs probably encouraged the taking of grey whales in lean years, such pressures no longer exist.

Another reason grey whales are not taken by Wainwrighters has to do with the character of the whales. Some hunters see the greys as more aggressive and dangerous than the beluga or bowhead. Each type of sea animal is in a definite relationship to man. Killer whales and sharks will attack and kill men who hunt them; bowheads and belugas will allow themselves to be taken. These qualities of the man/animal relationship are not transformed or superceded by mere technology. While there is not universal agreement among the hunters of Wainwright as to the character of grey whales (see, for example, Nelson, 1982:79), the fact that they are seen as dangerous when hunted by some may mean they should not be hunted. For both of these reasons, it is highly unlikely that Wainwrighters could ever use grey whales as a substitute for bowheads.

Killer Whale

Nelson writes, "that the walrus, killer whale, and harbor seal are the three kinds of animals which are most dangerous to man and should be treated most respectfully"

(Nelson, 1969,:223-224). To his list of animals considered dangerous to man should be added the polar bear, the shark, and perhaps, the grey whale.

Killer whales are fairly common to the ocean around Wainwright during the summer months as they feed on fish and other sea mammals. They are never hunted nor disturbed in any way. One could say that the only economic importance they have is when their ferocious attacks on beluga whales drive that animal in toward shore and even into lagoons. At such times, belugas can be taken easily.

Killer whales are left undisturbed by the hunters of Wainwright because they are viewed as extremely dangerous. Killer whales are believed to have good memories and to be able to communicate with their kindred at great distances. To attack one would endanger the boat and its crew for the whale would respond in kind. The whale would also tell others. When boats go out they will not carry men who have shot at killer whales because these animals will attack any boat which carries their enemies. Sharks which inhabit the waters around Wainwright are seen similarly.

Spencer states that, traditionally, killer whales were feared, never hunted, and when encountered they would be addressed formally (Spencer, 1959:275). He also writes, "If a man saw an ugruk being eaten or captured by the killer whale, he could call out, asking for half. The killer whale would leave the half of the carcass on the beach" (Spencer, 1959:276). In his latest Wainwright report, Nelson (1982:80)

makes a similar statement. He writes:

Killer whales may leave part of their catch uneaten, sometimes taking no more than the tongue. When the Inupiat see a beluga or other small whale being attacked by killer whales, they may shout: "Give us a share!" or "Leave us half!" Hearing this, their fellow predator will leave a big chunk of maktak floating on the sea, which they can retrieve with a boat afterward.

Other Marine Mammals

Twelve marine mammals have been reported as rare or uncommon resources of the Chukchi Sea (Morris, 1981:55). These include: narwhal, Monodon monoceros, rare; harbor porpoise, Phocoena phocoena, uncommon; fin whale, Balaenoptera physalus, uncommon; sei whale, Balaenoptera borealis, rare; minke whale, Balaenoptera acutorostrata, uncommon; blue whale, Balaenoptera musculus, rare; humpback whale, Megaptera novaeangliae, rare; Pacific right whale, Balaena gacialis, rare; Steller or northern fur seal, Callorhinus ursinus, rare; northern sea lion, Eumetopius jubatus, rare; harbor seal, Phoca vitulina richardii, uncommon; and ribbon seal, Phoca fasciata, uncommon.

Half of these mammals are excluded from a consideration of the portion of the Chukchi Sea used by Wainwright hunters. The Bering Sea or Bering Straits may be the northern limit of the sei whale, blue whale, Pacific right whale, northern sea lion, and harbor seal. Such limits are not absolutes. In favorable years, any of these species may appear in the southern Chukchi Sea. It would be much more unlikely that they would pass beyond Icy Cape, however. Harbor seals are excluded for an additional reason as well. This animal is

closely related to the spotted seal. Even among biologists a difference of opinion exists on whether or not they are subspecies (Burns, 1978:200). In any case, difficulties in distinguishing the two remain and, while an occasional harbor seal has been reported in the southern Chukchi, possibly even these are ribbon seals instead (Hanson, 1984).

All the marine mammals discussed below should be considered rarities in the areas exploited by Wainwrighters. The mammals include: narwhal, harbor porpoise, fin whale, minke whale, northern fur seal, and ribbon seal. Except for the narwhal, all these animals should be considered summer, openwater visitors. Except for the narwhal and harbor porpoise, all would be considerably north of their normal range if they rounded Icy Cape. Yet their occasional presence in these northerly waters is possible. In some years, warm ocean currents shift and move a "nutrient soup," composed of small organisms which live in the warmer waters of the Bering, up the arctic coasts. They travel until they meet the colder waters or the Beaufort Sea, die, and wash ashore in large windrows. In these years, many animals normally found near Point Hope or further south make their appearance in the eastern Chukchi.

Narwhal

Old narwhal tusks have been found at Wainwright but these whales are so rare in the Alaskan arctic they are known to Wainwright hunters primarily through oral tradition. Once these mammals were numerous and their distribution was

circumpolar. Presently they are common only to the waters of Greenland and Baffin Island where they are prized by the local Inuit for their ivory and maktak.

Charles Brower reported seeing only two narwhals in his 40 years residence at Barrow. He claimed the animal was so rare that the local inhabitants lacked a word for it (Reeves, 1978:108). There have been few sightings of narwhals in Alaskan waters. In 1928, a narwhal skull was found near the mouth of the Colville River; in 1929, a carcass was discovered near Atigaru Point east of Barrow; in 1957, one was discovered near Candle, Alaska, another reported in Nelson Lagoon on the Alaskan Penninsula; in 1971, one was found on the beach north of Point Hope; in 1973, another reported north of Barrow; and in 1976, one was reported observed with beluga west of Barrow (Newman, 1978:141; Reeves, 1978:108-109). On April 26, 1982, two narwhals were photographed near King Island. This is the first record of live narwhals in the offshore water of the Bering Sea (Ljungblad, et al., 1983:35,36). Not only are narwhals extremely rare around Wainwright, they stay mostly in areas of heavy broken ice. One biologist writes, "An encounter with this species in the northeastern Chukchi sea would be extremely unlikely" (Morris, 1981:85).

Harbor Porpoise

Harbor porpoise occur uncommonly along the arctic coast as far north as Elson Lagoon, east of Point Barrow (Bee and Hall, 1956:163). In the 1950s, they were hunted and eaten when the opportunity arose, by both people in Wainwright and

Barrow. Bee and Hall write, "Pete Sovalike and Adam Levitt, now (1952) living in Barrow, say that harbor porpoises have been seen every year at Point Barrow and at Wainwright as long as the Eskimos can recall; only five or six, however, are seen in any one season" (Bee and Hall, 1956:163). Nelson does not discuss them in his Wainwright report nor did anyone in the village mention them to us.

Fin Whale

Fin whales tend to be larger than minke whales although even experienced whalers have difficulty distinguishing these species (Mitchell, 1978:37). Fin whales are a fast, sleek, openwater species which became available to the whaling industry only after the introduction of modern catcher boats. Fin whales on rare occasion may appear in the area exploited by Wainwright hunters. In the past, they may also, rarely, have been taken by Wainwright hunters (see Nelson, 1982:79). This whale would not have been especially amenable to Eskimo whaling technology, however.

Minke Whale

Since the 1920s, minke whales have been sought with modern catcher boats. They are one of the few finner species still hunted (Mitchell, 1978:44-45). Like the fin whale, they are a fast, open water species not amenable to present-day Eskimo ice lead whaling techniques. Although little is known about their movements in the Chukchi Sea, they are probably present but uncommon, in the Wainwright area (Morris, 1981:85).

Nelson tentitively identifies them as a whale occasionally hunted by Wainwrighters in the past when the summer walrus catch was poor and a food shortage loomed.

Nelson (1982:79) writes:

They were not common, but if one could be found it was fairly easy to approach with a sail-powered umiaq. Coming upon the whale, hunters would try to drive it toward the beach by shooting into the water behind or beside it. Once it was pushed into the shallows it could be harpooned and lanced easily, but it might also turn aggressively on the boat.

Sails and lances have not been used by Wainwrighters for many years. Today these whales are never sought. They are not a preferred food; they are hard to find, hard to catch, and bhe baleen is not marketable (Nelson, 1982:79).

Northern Fur Seal

Rare reports of northern fur seals exist at Barrow and to the east (Bee and Hall, 1956:219-220). Presumably they would also make a rare appearance in the bays and lagoons hunted by Wainwrighters. However, they were not reported as present to us.

Ribbon Seal

Ribbon seals are uncommon at Wales and less common still to the north. However, on rare occasion they are encountered as far north and east as Barrow (Bailey and Hendee, 1926:17; Bee and Hall, 1956:225). In the Wainwright area, they appear with the ice floes in June and July. Nelson states that he found the ribbon seal so rare as to preclude discussion (Nelson, 1969:228). We found the same; nobody we talked to had killed one in the last few years.

Conclusions About Marine Mammals

The change from dog traction to the snow machine has decreased the economic importance of marine mammals, while increasing hunting costs because of petroleum and technological dependency. Since dogs do not have to be fed seals and walrus, those animals are hunted less. The changes that have taken place in recent years, however, have had less impact on the dietary importance of sea mammals to humans. Taken together, polar bear, the various seals, and walrus remain an important, if secondary, source of subsistence foods. As in the 1960s, beluga whale from Point Lay remains an important tie between these two settlements. Finally, in the face of international regulations, the bowhead whale continues to provide large amounts of meat and maktak--the most preferred of all subsistence foods. Moreover, the bowhead remains the centerpiece in the local community's religious relationships to animals, and it provides the reason for maintaining the most important inter- and intra-village sharing ceremony, the Nalukataq.

The ceremonial and religious position of the bowhead whale for the people of Wainwright is important. It appears that sea mammals in particular are crucial to the religious and social attitudes about people and animals. Put another way, at Wainwright sea mammals play a significant role in the cultural definition of man's relationship to nature, one that land mammals play only to a much more limited degree.

To a greater extent than with big game and fur bearers,

the Inupiat of Wainwright stress the personal and spiritual ties of hunter and hunted in their attitudes toward marine mammals. They draw an analogy between the polar bear as hunter and themselves; they do not do this with grizzly bears. They believe that the killer whale should be left undisturbed because of its particular personality or spirit. The shark, and possibly the grey whale are also animals which may have these attributes. There are no similar land animals. The walrus and the harbor seal are the two game animals taken by Wainwrighters which are seen as dangerous and as needing to be treated with respect. Finally, it is with the beluga and, more, with the bowhead that Wainwrighters stress the way animals allow themselves to be taken by men who have proper thoughts toward them. Coupled with these religious attitudes is the predominant role that marine mammals play in formalized sharing. The polar bear, walrus, and especially the bowhead, are important here.

CHAPTER XII

BIRDS

In general, the growth of wage-work and the switch to snow machines have tended to diminish hunting. This decrease is much more marked with marine mammals than with caribou. Moreover, effects on bird hunting have run counter to this general trend. Bird hunting is a more prominent part of Wainwright's subsistence economy in the 1980s than it was twenty years ago. This statement is probably true in an absolute sense; many villagers say more bird hunting is occurring today than previously and more birds are being taken.

Certainly, in relative terms bird hunting has grown in importance. In 1965, Nelson could write that, while Wainwrighters highly value waterfowl and expend energy and time pursuing it, "the actual volume of meat is miniscule compared to that of caribou or sea mammals..." (Nelson, 1969:153).

As in the past, today caribou remains the most often hunted and consumed meat in Wainwright. Moreover, whales are massive food sources; for example, in 1982 Wainwrighters took one bowhead weighing 60 tons and another weighing 45 tons. Clearly, the "actual volume" of bird meat brought into the village in 1982 could not equal other sources.

Yet, the importance of birds in the human diet of naturally occurring species may have grown since the 1960s. In

Wainwright in the 1960s, most of the walrus and seal meat was eaten by dogs. By the 1980s, villagers had fewer dogs and the villagers, too, consumed less naturally occurring meat on a per capita basis. Bowheads are a special issue. Large quantities of its meat and maktak are consumed within the village. In the 1980s probably much more of these foods were gifted outside of the village than was the case two decades earlier. On the other hand, one man and his wife shot 140 white-fronted geese and snow geese in the spring of 1982. One goose makes enough soup for a meal for their family. Even though this couple gave away substantial numbers of birds, they still had many goose soup meals. At home this household, and others like it, consume more bird meat than sea mammal meat and they feed their dogs mostly caribou. Moreover, while large quantities of maktak are gifted outside of the community, geese and ducks tend to be gifted within the village. Not all households eat as many birds but, all in all, the balance has changed.

Apparently, attitudes towards birds and bird hunting have changed little over the years. In the earliest of reports, birds were a highly valued food (see Murdock, 1885). In his ethnographic reconstruction of North Slope society, Spencer discusses the importance of the seabird harvest to coastal Inupiat (Spencer, 1959:35-36). Nelson, in both of his studies of Wainwright's subsistence, notes this preference for birds. For example, in his second book he writes, "Few traditional foods are more highly regarded than ducks and geese, and so the people make a strong effort to provide

at least a minimum supply for themselves each year" (Nelson, 1982:27. See also Nelson, 1969). We, like Nelson, found ducks and geese valued highly as food. Since these birds have been so desired for a long time, obviously recent changes in bird hunting patterns cannot be explained easily in terms of changes in tastes.

A man visiting Wainwright in 1956 made an interesting observation about bird hunting: he termed it a "prestige" activity (Taber, 1958:8,10). He meant that bird hunting was a way to demonstrate one's accomplishments as a hunter and to put a valued food on the table, both prestigious accomplishments on the North Slope. Bird hunting may be said to be prestigious in two other respects. First, it is a preferred food to give, particularly to old people. Second, it is prestigious the same way certain cuts of beef are prestigious in other parts of the United States; in the Arctic, birds have a high unit cost when compared to many other Native foods.

Pump-action and automatic shotguns are used for bird hunting. These are relatively expensive firearms and specialized as well. Since they cannot be used to hunt other types of game. Often transportation to and from the site is also expensive although, since some eider duck hunting occurs within walking distance of Wainwright, this is not always the case. Finally, shotgun shells cost money and great numbers are used. All these costs, added to the fact that birds are small compared to other game, make bird hunting expensive at

least in a relative sense.

Wainwrighters often attempt to take more than one bird with one shot. Such strategies lower hunting costs but only by small degrees. Nelson notes such shooting techniques in use in Wainwright during the 1960s. He writes that, in the case of many less preferred birds such as oldsquaws, often flocks were fired at only when there was a reasonable expectation that several birds would be bagged with each round (Nelson, 1969). In the 1980s, such strategies were employed on geese and ducks of all kinds but they were, according to Wainwrighters, particularly effective on eiders. Similar activities are evident in Barrow. In 1970, Johnson, (1971:32) described:

...the technique of firing several shots at the lead bird or cluster of birds in a flock. They, as the crescent-shaped flock, flying at the hunter's eye level, flew through the shot pattern, several birds would be brought down at one time. On one occasion I witnessed 13 birds killed and 7 crippled with 3 shots at a single flock by a lone hunter.

Finally, in the 1920s Bailey describes a similar technique used by Wainwrighters on black brants. Bailey (1948:157) writes:

The Eskimos hunt by building blinds of turf in favorable feeding spots, remaining hidden until a great band is massed sufficiently to make a real killing with a single shot. One of the boys of our party killed seventeen with two shots. The natives kill for food and cannot be blamed for being economical with their ammunition.

Two changes have promoted bird hunting. The most prominent of these has been the growth of the wage-work economy. Not only does wage-work solve the problem of the expense of bird hunting, bird hunting is a high status

activity which, to a large extent, can be successfully scheduled around the time constraints of a full time job. Birds can be hunted on the weekends or after work. Cash from wages may have encouraged bird hunting in another way. Birds are a preferred food but they provide little bulk. By allowing for the purchase of some imported foods from the store, cash gives the hunter more flexibility in choosing between hunting smaller amounts of a preferred meat and larger amounts of a less preferred one. The adoption of the snowmachine, an expensive imported item, also encouraged bird hunting, first by increasing the ease and speed with which an individual could move between the job and the hunt, and second by eliminating dogs and thus eliminating a compulsion to amass large amounts of meat.

The relationship between wage labor and bird hunting was noted in Barrow at least by 1970. Reporting on the observations of a long term local resident, one man writes that the population at duck camp increased as Native employment at N.A.R.L. grew. He continues, "Hence, with more Eskimos working during the day, there are more evening and weekend hunters at nearby duck camp. Summer eider hunting has, thus, increased in popularity" (Johnson, 1971:63).

EIDERS, BRANTS, AND WHITE-FRONTED GEESE

Today, three major groups of birds hunted: eider ducks, including the common, king, spectacled, and Stellar's, black

brants, and white-fronted geese. In general, eiders are hunted by boat in the ocean, along the ocean shore, and on waterways a few miles inland. Brants, like eiders, are hunted in the ocean, along the coast, and on waterways a few miles inland. White-fronted geese are hunted on inland waterways from a few miles inland all the way to the fish camps 50 to 60 miles up the Kuk. This is not hard and fast rule. White-fronted geese, for example, are often shot along the ocean coast. Moreover, other types of birds are encountered along with these major species. While these are never the primary objects of the hunt, some of them are shot as "targets of opportunity." Others are not. Many of these secondary species are discussed below. To make matters more complicated, sometimes the major waterfowl serve as secondary objects of the hunt. For example, eider ducks are often shot while hunting ringed and bearded seals.

With these facts in mind, bird hunting can be divided into three major types. Eider ducks are hunted from blinds along the ocean's coast and by boat. They are hunted intensely during the spring and sporadically during the summer and fall. Eider duck hunting often begins immediately after the end of whaling. For a short time, it may involve a whaling crew or part of a whaling crew. Nelson (1969) reports that, in the mid-1960s, a large portion of eider duck hunting was done by whaling crews. In a study of Barrow duck hunting in 1970, Johnson (1971:12) reports similar duck hunting activities occurring at whale camps. A decade later, in the early 1980s, waterfowl hunting still begins at whale

camp. After whaling crews return to shore, eider hunting from blinds along the ocean's coast and from smaller aluminum boats intensifies. Later still, eider ducks are taken by hunting crews out for seals and walrus.

In basic ways, the strategy for eider hunting and whaling conflict. Not only might noise from the shotguns scare off the much larger prey, the camps must be located to the best advantage for whaling. Location is tied to the shape of the ice lead on its shorefast side: best locations are in "bays" formed by irregularities in the ice edge (Sonnenfeld, 1957: Lowenstein, 1981:50-51; Nelson, 1982:85). On the other hand, eider ducks usually stay way out in the lead, often closer to the pack ice side. Generally, they come close to the shorefast side only when they pass the irregular ice points which form the bays. Thus, eiders tend to remain well out of shotgun range of the whalers. Johnson notes of Barrow whalers, "To get within range, the hunters had to position their boats in the lead; and they would not do this when whales were in the vicinity" (Johnson, 1971:13). The same problem exists for Wainwright whalers.

For this reason, eider hunting at whale camp has always been a supplemental activity, one inversely related to levels of whaling. At the beginning of the season, whaling activities are intense and duck hunting does not occur. Towards the end of whaling, eider hunting increases (Johnson, 1971:31). This inverse relationship has been noted in one of the earliest reports on North Slope bird hunting (see

Murdoch, 1885). It has also been noted for Wainwright in the mid-1960s (see Nelson, 1969).

Several of Wainwright's whale captains commented on another aspect of the relationship of duck hunting to whaling. They reported that, in the late 1950s and early 1960s during a long period of bad whaling conditions, their crews concentrated more and more on other sea mammals and birds to "get food for the village." Such a strategy, no doubt, has existed for a long time; it is also hinted at by material from Barrow (see Johnson, 1971:14). Finally, at Wainwright after a successful whaling season, crews or parts of crews often remained on the ice to hunt ducks (see Nelson, 1969). This also occurred in the early 1980s.

Apparently, recent changes have occurred in the relationship between eider duck hunting and whaling. For the most part, these changes relate to shifts in whaling strategies which resulted from the institutionalization of the bowhead quota. However, the rising cost of maintaining a whaling crew on the ice may be a contributing factor. In the late 1970s and early 1980s, whaling crews tended to depart for the ice later than they had in the past and to stay for a shorter period. This shift compressed the period of whaling, increased its temporal intensity, and thus, discouraged the hunting of seabirds and alternative marine mammals. At the same time, this shift tended to cut off the the tail end of the whaling season, the period in which crews tended to turn toward bird hunting. Major attitudinal reactions to the bowhead quota have been added to these effects. In the

1980s, meeting the quota was a burning issue, one which seemed to focus the efforts at whaling camp as never before. Several whaling captains indicated that the quota had made them more reticent than ever to forego a possible bowhead strike by seeking other species. A similar shift has been noted with regard to beluga hunting at Point Hope (Lowenstein, 1981).

In the 1980s, waterfowl hunting during lulls in bowhead whaling had decreased; while several crews remained on the ice to hunt ducks after the bowhead quota had been met, overall, the amount of duck hunting by whaling crews had probably decreased. By the same token, the importance of post-whaling eider hunting by smaller crews and shore-based hunters had increased. Usually, the boats hunt the polar side of the ice lead. No blind is used. When ducks are sighted, the men sit still until the birds are in range and then open fire. Bird calls are used to attempt to lure the birds within range. Many eiders, however, are taken by men hunting singly or in small groups from the shore. Again, bird calls are used. Men often sit behind driftwood or snow blinds or behind their snow machines and three-wheelers. However, eider ducks seem less responsive to stationary objects in their flight path than do geese. Birds are retrieved as they drift ashore. Because it is close to town and easily accessible, one popular shooting spot is near the mouth of the Kuk. To the north of Wainwright, areas around Atanik and Peard Bay are considered especially good.

Apparently, in the early 1980s hunting pressure is not strictly determined by periods of greatest bird movement. Wainwright hunters report that, even during periods of 24-hour sunlight, eiders begin to fly at "dusk" and fly more at "night" than during the day. Careful bird counts confirm this observation. Johnson, for example, reports eider movements to be heaviest between midnight and 6:00 a.m. and lightest between noon and 6:00 p.m. (Johnson, 1971:20). On the other hand, the on-shore hunting of eiders at Wainwright was heaviest from around 6:00 or 7:00 p.m. to 11:00 p.m. or midnight when it would trail off. The start of the evening's hunting was generally tied to job schedules and the need to eat dinner before such a long hunt. Similar trends have been noted in Barrow's hunting in the 1970s (Johnson, 1971:50).

Early in the season, many eiders can be taken in a single day. Forty is not an uncommon amount; in 1981 one whaling crew took sixty in a few hours. In boat hunting, the birds are divided equally among the crew members. On land, men take what they shoot. Eiders may be the most preferred of all game birds in Wainwright. For this reason, few are stored. They are consumed immediately or gifted, usually to close relatives.

Black brants begin appearing around Wainwright in mid-to late May and begin their fall migration in mid-August. By September, fairly large concentrations of them are assembled along the coasts where they eat seaweed that has washed ashore. Brant hunting takes place on the beach. Brants are the most common goose along the coast. While these birds are

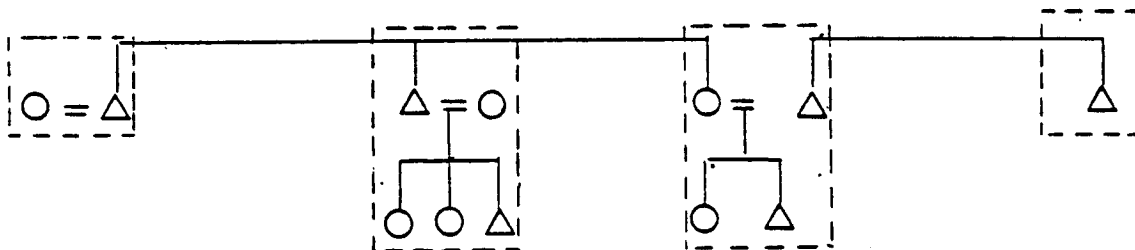
hunted during the spring, they are one of the few that are also hunted systematically during the fall. They appear to be more sensitive to objects in their flight path than are eiders. Often brush blinds are built along the beach at places where large numbers of brants normally pass. Store-bought goose calls are used to attract the geese, although many men do better just using their lips to make these cries. While, in the past, scarecrows were erected to funnel the birds to a certain spot, this is no longer done. Dead brants are propped up on the beach with pointed sticks to serve as decoys.

When there is snow on the ground, people travel to their hunting spots by snow machine; later, hunters use three-wheelers, and boats. Some good hunting spots are within a mile or two of Wainwright. Peard Bay is also a focus of brant hunting, but the best spots lie 20 miles or more to the south. Small groups of people--couples, nuclear families, siblings, hunting partners--usually go out together although men do go out alone. Large quantities of these birds can be shot by an individual, often forty or more in a day.

White-fronted geese are shot upriver. These often begin to arrive around the start of whaling. They first begin to congregate 50 or more miles inland and appear closer and closer to Wainwright as the snow begins to melt. These birds can be taken in especially large quantities--60 per day is not uncommon for a single person, and 140 per day is not unheard of. While snow remains on the ground, circular bird

blinds are often constructed from snow; brush blinds are also used. Sometimes people sit behind their snow machines or simply sit very still until the birds are within range. Wainwrighters say that white-fronted geese have especially acute eyesight. They are sensitive to objects in their flight path and react strongly to any movements on the ground. When shooting from blinds, dead birds are often staked up as decoys. Bird calls are also sometimes employed to attract geese.

Family camping groups usually go upriver to do this kind of hunting. Often, they meet with other households upriver for the same purpose. In this ad hoc manner, these camping groups can grow quite large and complex. Often these households camp together more or less habitually at well-known hunting sites. One such camping group is diagrammed below; tents are marked with dotted lines.



Culinary habits with regard to fowl have been slowly changing over time. At the turn of the century, the coastal Inupiat preserved ducks whole in oil and fat. Spencer reports that, "When needed, they were skinned rather than plucked and the fat eaten carefully" (Spencer, 1959:36). Geese, and perhaps ducks as well, were also stored frozen in ice cellars. Presently, oil and fat are not used to preserve fowl. Usually ducks and geese are hung or left on the ground

several days to age before they are stored in ice cellars or electric freezers. They are always stored whole, unplucked and ungutted.

At the turn of the century, geese were often boiled ungutted with their feathers on. This would retain much of the body fat and nutrients otherwise lost to the water. In the 1920s, Eva Richards records this practice as a still prevalent "old way" of preparing birds (Richards, 1941). In the 1950s, Spencer reports that geese were "sometimes roasted with their feathers on" but makes no mention of boiling them in that state (Spencer, 1959:375). Apparently, the practice was in decline. Presently, ducks and geese are always plucked or skinned before they are cooked. Often they are skinned but plucking is considered the better way because it preserves the bird's body fat. Plucking is also considered the old method. Fowl is also gutted before it is cooked. Usually the meat is swiftly cut from the carcass with an ulu, a semi-circular knife.

The prevalence of duck soup itself may represent a shift in cuisine. Soup-making aims at releasing fats and flavors into the water rather than retaining them in the bird. Several people stated that, in the old days, birds were boiled but not made into soup; others implied that soup was less prevalent in the past. Spencer describes soup recipes in the 1950s but mentions recent innovations. He writes, "Fowl are boiled, dipped in oil, and then a soup made from them. Two or three ducks might be cut up in a soup. Today,

rice...may be added to the soup" (Spencer, 1959:375). In 1970, Johnson also reported that waterfowl were most commonly prepared as soup. He writes that such soup consists of "two or three skinned and eviscerated ducks, rice, onions, salt, and water. When the soup is eaten, the bones are picked clean of all meat."

In the 1980s, in Wainwright, this was also the way waterfowl were prepared. "Duck soup," made from either ducks or geese, is one of the most favored Native dishes in Wainwright. The meat is boiled in salted water to make a rich broth. Flour is usually used as a thickener; rice is often added as well. Less commonly, noodles are included with or without the rice. Usually onions are added, fresh when available but otherwise dehydrated. A product called "Soup Starter," made from salt, dehydrated vegetables, and spices, is also fairly popular. Fresh vegetables are not used, perhaps because of their cost. We heard of no examples of dipping the bird in oil prior to making soup. Perhaps the addition of spices and other ingredients has supplanted this practice.

OTHER BIRDS

Below are discussed several other species found in the area exploited by the hunters of Wainwright. Some of these are hunted; others are not. Generally, these birds are taken incidentally, when some other animal is the primary object of the hunt.

Canada Geese

These geese arrive in the North rather late, in the last part of June, and they leave in August or early September. Like brants, they are found mostly along the coast or on waterways close to the coast. Like brants, too, they are hunted both as they arrive and when they depart. They are hunted more in the fall when there are new, young ones. One man said, "That way, we eat fresh ducks from the north instead of polluted ones from the south."

Canada geese are not as common as black brants or white-fronted geese. They are shot only rarely as targets of opportunity, usually by men hunting along the coast from driftwood blinds. Dead birds, held erect with a pointed stick threaded up the neck, are placed in front of the blinds to serve as decoys.

Emperor Goose

Occasionally, these birds wander into the Arctic area exploited by Wainwrighters but they are extremely rare. When they are encountered, they are reported to be mixed with the black brants along the ocean shore. When seen, they are shot as targets of opportunity.

Snow Goose

These birds are said to fly with the white-fronted geese during spring and fall migrations. Usually the two species are seen in separate formations although several hunters report that, sometimes, snow geese will lead formations of

white-fronted geese. Like white-fronted geese, snow geese are found much more upriver than along the coast. Nowhere in the area exploited by Wainwright hunters are they as common as the white-fronted variety, however. Apparently, most snow geese migrate well east of Barrow (Bailey, 1948:162). These birds are shot mostly in the spring, upriver, by men primarily hunting for white-fronted geese. Of the two, snow geese are probably the preferred bird by most of the hunters.

Swans, Cranes

Whistling swans are occasionally found upriver but not along the ocean coasts. They nest on lakes and along the rivers. They begin to arrive upriver with the white-fronted geese in the first part of May and start leaving the area in late August or early September, just before freeze-up. Swans are taken in the spring, upriver. They are shot as a target of opportunity by men hunting for white-fronted geese. While these swans are not specifically hunted, they are shot whenever possible. Many Wainwrighters esteem them highly. They are eaten roasted or boiled into soup. They are considered birds that keep well in the ice cellar. Since very few swans are shot, they are seen as somewhat special. One man stated that they are sometimes served for Thanksgiving dinner.

Sandhill cranes breed on the tundra during the summer and are fairly common. Occasionally, they are shot when encountered; their meat is considered tender and tasty. People stated that, in the past, this bird was hunted a great deal more than it is today. According to several men, this

decline occurred in the 1920s and 1930s. The tundra subspecies of the sandhill crane is smaller than its more southerly relative and is sometimes known as the "little brown crane."

Ptarmigan

Ptarmigan are found near Wainwright except during the heart of winter. Upriver, at the fish camps, they are available year round. In the foothills and passes of the Brooks Range, these birds are still more numerous. Two species of ptarmigan are prevalent across the Arctic Slope although others are reported to be present (see Spencer, 1959:35). Willow ptarmigan are most common. They are found in the mountain foothills and, in fewer numbers, on the coastal plain especially along water courses. Rock ptarmigan usually inhabit alpine tundra and the more barren areas of the Brooks Range although they are also reported as the most common ptarmigan near Wainwright. White-tailed ptarmigan (Lagopus leucurus), spruce grouse (Canachites canadensis), and possibly others are also reported as present in parts of the territory exploited by Wainwright's hunters. We did not confirm this, however.

Spencer reports that, while the coastal tigiumiut focused on waterfowl, the inland nunamiut concentrated on ptarmigan (Spencer, 1959:35). To a lesser degree, this same distinction may hold true today. Ptarmigan may be a more significant secondary food resource inland at Anaktuvuk Pass than along the Arctic Coast. In a recent report, Nelson

describes the ptarmigan as "much-hunted" and writes that, along with geese and ducks, "ptarmigan make up a high percentage of the birds taken for food by Wainwright hunters..." (Nelson, 1982:27). We also found ptarmigan among this triad of desired birds but it played a very distant third. At Wainwright, this bird is hunted but, generally, not with the intensity given to geese and ducks. None of the people with whom we discussed bird hunting had harvested as many as 20 ptarmigan in 1981; most shot between 6 and 12 while several active hunters took none.

Ptarmigan are usually the earliest source of fresh meat. They appear around Wainwright in the spring, several weeks before whaling season begins. At this time, people exhibit considerable interest in looking for ptarmigan signs. Individuals will leave the village on foot to hunt nearby. Also, individuals and small groups will ride snow machines looking for these birds. Often, such trips loop out from Wainwright for considerable distances, 10 or 20 miles. With the start of whaling, eider duck hunting, and upriver goose hunting, interest in ptarmigan declines. However, when geese are not flying upriver hunters will sometimes turn to ptarmigan. At this time, ptarmigan are paired up but not yet nesting. When the two birds flush, Wainwrighters look for the female and shoot it first. They say that if one shoots the male first, the female will fly away but if one first shoots the female, "the male will hang around, he never flies far."

Throughout the summer, fall, and early winter, ptarmigan are sought upon occasion. In the past, during the summer at fish camp, families often searched for brooding hens. They would chase down the fledglings and kill them with sticks. These young birds are said to be extremely tender and tasty. However, in the 1980s, this practice was not common.

Snowy Owls

Like many arctic animals, the snowy owl population exhibits strong cyclic variations. Although owls were common in 1980, their numbers were low during the next three years. In the past, snowy owls were eaten and they may once have been important in the diet. One of the two original villages at Point Barrow, Utqiagvik, means "the place of snowy owls;" it may refer to a hunting place (Pederson, et al., 1979:72). Owl was eaten boiled; its fat was used in cooking. Spencer notes also that, "Owl wings were used for sweeping and dusting, for arrow fletching, and for costume trimming" (Spencer, 1959:375). In the 1980s, these birds were not a significant part of Wainwright's diet nor had they been for many years. They were still shot upon occasion and they may have been used in Eskimo dance costumes.

Even by the 1950s, the owl's importance in the local diet had declined. Spencer remarks, "The owl was formerly used for cooking. The owl may at one time have been popular as food, but it is no longer so" (Spencer, 1959:375). This disappearance from the diet may not have been as absolute as Spencer implies, however. The use of snowy owls in Barrow in

the 1960s and early 1970s has been described as "occasional" (Pederson, et al., 1979:72). The use of owls in Wainwright in the late 1970s and early 1980s may be described as rare. Snowy owls are viewed as a food enjoyed, or once enjoyed, by "old people." They are said to be very tough and need to be boiled a long time. Several elders mentioned wanting a "taste" of owl or having a taste of it during this period. So did one man in his mid-40s. However, most people living in town had never eaten it.

Hawks, Eagles, Falcons

Several kinds of hawks, eagles, and falcons are at least occasional visitors to the tundra regions exploited by Wainwright hunters. Except perhaps for the rough-legged hawk, the golden eagle, and the gyrfalcon, these birds are seen rarely as occasional visitors. Eagles are often encountered on caribou carcasses (Bee and Hall, 1956). Hawks, eagles, and falcons are usually encountered upriver and are seen more often in the area around Icy Cape than near Wainwright.

In the past, the eagles and larger hawks were occasionally killed for their feathers which are used in headdresses for kimo dances. Today, an occasional eagle is still taken for this reason. In the past as well, eagles, hawks, and falcons were sometimes eaten, usually after being boiled into soup. "In the old days," one man said, "we ate everything. I would bring a bird home and my mother would cook it." Still today, the larger of these birds are

occasionally eaten. This is rare, however.

These birds are listed below:

Goshawk Accipiter gentilis
Sharp-shinned Hawk Accipiter striatus, rare
Rough-legged Hawk Buleo lagopus
Golden Eagle Aquila chrysaetos
Bald Eagle Haliaeetus leucocephalus
Gryfalcon Falco rusticolus
Peregrine Falcon Falco peregrinus, rare
Merlin/pigeon Hawk Falco columbarius, upriver

Guillemot and Murres

Black guillemots are common to the Wainwright area, particularly during the winter. In the past they were taken in nets placed underwater in open leads, but this has not been done for many, many years. Also in the past, they may have been shot. Nelson reports that, in the 1960s, these birds were not hunted; they were not hunted in the 1980s. Visitors to the Arctic have often been amazed by the ability of the guillemot, an open water bird, to thrive under winter conditions. For example, Nelson (1969:170) writes of these birds:

Along this coast, at least in the region between Wainwright and Barrow, and perhaps further south, one species of bird is seen in open leads during midwinter...Guillemots are resident in the far north throughout the year but are most common in the winter. Somehow they manage to find open water through the coldest months.

In the 1920s Bailey (1948:259) reports from Barrow:

The seal hunters encounter them in winter far offshore, around the open pot holes and leads and they claim that the birds live under the ice like the seals, taking refuge and securing air in the crevices of the great walls formed by pressure ridges. This is entirely possible. Brower on one occasion was hunting seals at a small pot hole, with no other open water for miles around,

apparently, when he was surprised to see a guillemot bob to the surface.

Thick-billed murre arrive in large quantities in mid-to late May. They remain throughout the summer, but in July become less and less common. In the past, they were hunted for food. Presently, they are not eaten. Their meat is considered tough and not particularly good. In the past, as well, they went into the soup to be fed to the dogs. They were also used in the construction of footwear; their thick skins were considered good material for the insoles of mukluks.

Nelson reports that, in the 1960s, Wainwrighters seldom ate murre; their only important use was as dog food. They were hunted as targets of opportunity only when easily shot. He writes, "When there are ducks or seals around, the Eskimos do not bother to hunt murre, but sometimes, especially when they are very abundant, they are shot for dog food" (Nelson, 1969:169).

Upon occasion, men will still take pot-shots at murre, but they are no longer hunted systematically and, if hit, they are not taken home as food. The thick-billed murre is an example of a marginal resource which has virtually disappeared from the food inventory once the demands of the sled dogs no longer had to be met and once desires for dietary variation could be met in other ways. People now have more choice about the animals they exploit.

The common murre (Uria aale) is also reported as frequenting the Wainwright area. This bird, too, is reported as

having once been eaten, fed to the dogs, and used for the insoles of mukluks. It also is no longer hunted.

Gulls, Kittiwakes

Seagulls are very common in the Wainwright area during the spring, summer, and fall. They are more common along the coast, but are frequently encountered at fish camp, 50 miles upriver or more. Several species of gulls frequent the Wainwright area at various times of the year. While these birds never provided a significant amount of meat, they were fed to the dogs—usually in the form of "dog soup"—and they were eaten occasion and enjoyed by "old people" (see Nelson, 1969:165). Today, people still take an occasional pot-shot at seagulls while out hunting other animals. Pot-shots are taken with .22 rifles or pistols while boat hunting or even with shotguns while duck hunting.

In the spring of 1982, for example, during a time a whale was being pulled in, several people entertained themselves by shooting at flying gulls with a .357 magnum pistol. None were hit. Since few dogs remain in Wainwright, people no longer bring gulls home for "dog soup." Occasionally, a person will still want to "taste" traditional seagull soup, but this is hardly a common occurrence. Several people we asked had eaten it within the last five years; on the other hand, the people under 30 years of age whom we asked had never tasted it.

The glaucous gull is the most common in the Wainwright area. Nelson reports that, in the 1960s, these birds were

actively hunted with shotguns from late September through October as they migrated southward (Nelson, 1969:164; 1982:28). Wainwright hunters no longer systematically pursue these gulls. Nelson also reports that in the past, men sometimes used a line and baited hook to "fish" for gulls (Nelson, 1969:165). Mew gulls, called "walrus birds" because they seem to be attracted to the walrus herds, are most common from middle to late summer (see Nelson, 1969:165). Nelson reports that these, too, were taken for dog food. Sabine's gulls are commonly found in the Wainwright area during the summer from late May or June on. As with other species of gulls, men often take pot-shots at these birds. If hit, they are not picked up. Nelson reports this as the case in 1965 as well. He writes that, since Sabine's gulls are smaller than other common gulls, they "are of little value as human or dog food" (Nelson, 1969:166). Similarly, the black-legged kittiwake, another small gull found in the Wainwright area, is occasionally fired at but is never hunted or picked up when hit.

Nelson reports two other species of gulls as occurring in the Wainwright area, but less commonly: the ivory gull and Ross's gull (Nelson, 1969:166. See also Nelson, 1982:28). To this list should be added the herring gull (Larus argentatus) and, possibly, Bonaparte's gull (Larus philadelphia).

Loons

Four species of loon appear in the Wainwright area

during the summer: the common loon, the yellow-billed loon, the arctic loon, and the red-throated loon. The arctic and red-throated loon are sometimes called by the same name, although their differences are recognized. As noted by Nelson, loons arrive in late spring after there is plenty of open water and they are abundant until the sea ice leaves. During this period, they are often encountered in small flocks. After the sea ice breaks up and withdraws, loons are still to be found around Wainwright, but they are encountered in smaller numbers (see Nelson, 1969:163). Some nest locally.

Common loons are large birds, about the size of Canada geese. Nelson writes, "Common loons are very large birds indeed, so the Eskimos always try to shoot them if possible" (Nelson, 1969:163). Common loons are rarely seen on or over the ocean and seem to prefer areas like the Kuk River (Nelson, 1969:163).

Yellow-billed loons are the biggest of the loons. In Wainwright they are called "king loons" because of their size. Yellow-billed loons are common all along the coast and nest anywhere, even on the river. They are shot upon occasion.

Arctic loons are smaller and are the most common in the Wainwright area. Like the yellow-billed loons, these nest anywhere--in the tundra and along the coast. They are shot upon occasion.

Red-throated loons are the smallest of the loons. They

often gather in flocks of several dozen and they nest in lakes and upriver. Although they are hardly taken today, they are occasionally hunted during the summer in the ocean and upriver. These loons are "good eating but tough" and have to be cooked a long time "just like walrus." They can be boiled or made into soup. Today, they are rarely eaten; "only when somebody feels like tasting them."

Red-throated loons have sharp beaks that, it is said, can kill a man. They will attack "if somebody messes around their nest." In the past, loon eggs were sought after. When collecting them, people would drive the birds off with sticks. Such dangers were not limited to the red-throated loon. For example, Nelson reports, "The Eskimo warn that the common loon can be very dangerous in such a situation [i.e. when injured], because it attacks with its sharp-pointed beak. Tradition has it that kayakers have been killed by such attacks" (Nelson, 1969:164). One such folktale takes place on a lake upriver from Wainwright.

Even in the past, loons never provided the primary object of a hunt; rather, they were shot as targets of opportunity. This holds true today. Most opportunities occur during two periods. During the spring and early summer, brants, geese, and eider ducks are hunted from blinds along the ocean coast and eiders from boats near the offshore ice. At this time, loons are taken the same way as are the other birds: they are shot with 12 gauge, 16 gauge, and, occasionally, 410 gauge shotguns as they fly overhead. As in the case of geese and ducks, hunters will often attempt to

attract loons by imitating their calls. Nelson reports that the majority of loons are taken during this period (Nelson, 1969:163).

Later, during boat hunting in July, loons are also taken. At this time they are shot--or more often shot at--with .22 rifles and pistols as they fly past or swim near the boat. Again, hunters imitate their cries to attract them. During this period, the primary object of the hunt is usually marine mammals: ringed seal, spotted seal, bearded seal, and walrus.

Nelson observes, "Loons are not valued as food, except by the old people. They are usually given to the dogs. It is a bit surprising in view of this that some effort goes into shooting them" (Nelson, 1969:163). The people referred to as "old" in 1965 would be very old in the 1980s. "The old people like such-and-such" is a phrase that one often hears from the mouths of people in their 60's and 70's. Nevertheless, upon rare occasion, people in Wainwright still do eat loon soup.

Three people mentioned to us eating it in the late 1970s. The eating of loon soup is but one example of someone getting an urge to "taste" a particular traditional food and then satisfying this desire. One must remember that, in Wainwright, a "preferred food" is one that people like to eat most often, not one that they would necessarily eat to the exclusion of all "non-preferred" foods. In fact, Wainwrighters exhibit a basic food preference for a varied

diet. Change, people believe, is a key to health. This belief, plus the desire of many have on occasion to "taste" various traditional dishes, means that such off-species as loons may be hunted for food for a long time to come.

The heads, wings and tail feathers of all the loons are used in headdresses for the Eskimo dances. When we asked a man active in the Wainwright Dancers about the last time he shot a loon, he reported taking a red-throated one in 1981 specifically for this purpose. Loon skins are tough and waterproof. "The skins were used as a seat when hunting in the old days." Spencer reports that, while loons were eaten aboriginally, "they were hunted more for masks, made from the loon bills, than for the flesh. Rain parkas were made from loon and duck skins" (Spencer, 1959:375).

While we have no way of comparing the loon hunting of the 1960's to loon hunting of the 1980s, we did not see the same level of effort expended on shooting them as Nelson describes. They are still being shot, but most likely in fewer numbers. Also, probably a higher percentage are left where they fall since there are few dogs to feed. Five issues were salient motives for hunting loons in the past: the need for huge quantities of meat to feed the dogs; the use of skins and feathers as rain parkas and as comfortable, waterproof seat cushions for hunters; the expression of generosity of the hunter by doing something for "old people"; the demonstration, on the part of the hunter, of his ability to call and shoot birds; and finally, the use of their beaks and feathers for masks and headdresses. The first two

reasons are no longer relevant; the third remains but, perhaps, to a reduced degree; the third and fourth and fifth reasons persist.

Fulmars, Petrels, and Cormorants

These include three species that appear in the Wainwright area during the summer; the fulmar, the fork-tailed petrel, and the double-crested cormorant. Of these, the last two birds are reported as taken on rare occasion. Neither species have ever contributed significantly to the diet nor do people discuss them even to the degree that they talk about loons. Although cormorants are shot along with eiders during ocean duck hunting, Nelson lists them only in passing (Nelson, 1969:151). Apparently, petrels and cormorants are off-species which, like loons, appear rarely in the diet nowadays. Fulmars "are common but are not shot. They have soft meat but are not eaten much."

Fork-tailed petrels arrive in the Wainwright area in the fall from the north. They appear in "great quantities," in flocks perhaps of one hundred. They are found over water. Fork-tailed petrels are eaten on occasion. "They are fatter than seagulls and better. They come from the north so they are good and fat. They haven't been eating all those polluted things from down south. They are good for you." They are shot rarely during the fall brant season.

Double-crested cormorants are large, goose-sized birds which, during the summer, are common in the Wainwright area. They arrive in the latter part of June along with spectacled

eider ducks. People say that cormorants "mix with the eider ducks." They leave with these ducks in late August or early September. "They are good eating; they have real soft meat. They look like relatives to loons but are a different clan."

Cormorants are taken mostly with 12 and 16 gauge shot-guns. They are shot as targets of opportunity during ocean eider hunting. After the ice goes out from the shore, eider ducks and, presumably, cormorants, tend to fly on the ice side of open water rather than the land side. At this time they are hunted by boat. No blind or cover is used; when the birds are spotted, people simply sit absolutely still and wait until the birds are in range. Cormorants fly with the eiders. "We shoot them if we see them with the ducks. They are hunted on the ocean; they follow the ocean."

Apparently pelagic cormorants (Phalacrocorax pelagicus) occur rarely in the area. No one identified them as present to us and Nelson makes no mention of them. However, a few historical sightings of them in the area do exist. For example, Bailey reports collecting one in 1922 that was found frozen 50 miles up the Kuk River. Bailey (1948:147) also reports:

...Brower killed one [pelagic cormorant] about 1903 which was such a curiosity to the natives that they traded a white fox for the skin, that they might use the feathers for charms.

Arctic Terns

These birds are called "without needle"--mitkutailak-- because of their sharp beak. (This word may also mean

"without feathers.") They will attack people when disturbed and can draw blood. One man said, "It can knock you out if you are not careful. Kids have been attacked when they play with these birds too much; old people have stories about being knocked out by them." These birds occur in large flocks and one large nesting area lies across the Kuk Inlet from Wainwright. This is a favorite place to gather these birds' eggs. Although eggs are still gathered, people in town agree that this practice has declined sharply since chicken eggs have become common in the store. "In the past, people were hungry for eggs. Now they can have them all the time."

Puffins, Murrelets, and Auklets

Common puffins are reported to pass by Wainwright northward during their spring migration and, again, southward in the fall. Few nest in the Wainwright area, however. These birds are neither hunted nor eaten. The tufted puffin is also reported to pass by Wainwright during the spring and fall and it, too, is not shot. Both birds, although recognized as distinct, are called qaluyak which means "funny-looking bird."

Ancient murrelets are seen along with eider ducks during spring bowhead whale hunting. "They are called 'whale birds' because they like to hang around whales." Occasionally these birds are shot as targets of opportunity when crews are hunting eiders. More rarely, they are eaten.

Both parakeet and crested auklets are also encountered

around Wainwright. Parakeet auklets are most abundant in the Bering Straits area. Several people stated that they are sometimes seen during the spring, at sea, along with eider ducks and are known for the loud calls. They are reported as not hunted or eaten because of their small size. "They are the smallest duck there is."

Crested auklets are common in the Bering Straits area where they are harvested by Natives. Bailey reports that, in the 1920s, strings of them were often sold to passing vessels as "Sea Quail" (Bailey, 1948:259). Crested auklets are reported in the Wainwright area and were noted by Nelson as well (see Nelson, 1969:152). They are small, uncommon in the area, and are not hunted.

Sparrow and Longspurs

Savannah sparrows are more common inland than in Wainwright. When they do appear in the village during the summer they are assiduously hunted by boys and a few girls with bow and arrow and BB gun. These, like most of the small brown birds in town, are generally referred to as kupaluk, "brown birds."

Fox sparrows are more common toward the foothills of the Brooks Range than in Wainwright. Like the savannah sparrow, they are often referred to as kupaluk, "brown birds." These too are hunted during the summer by boys and a few girls with bow and arrow and BB gun.

Lapland longspurs may be the most common of the "brown birds" found within the town of Wainwright during the summer.

They remain in great numbers well into September. The children hunt these with bows and arrows and with BB guns. This hunting for birds, mice, and lemmings is a major pastime for children as the snow begins to melt off. In the old days, these birds were made into soup. Their heads were removed, they were plucked and gutted, and their breasts, wings, backs, gizzard, heart, and liver were used in the soup. "You needed a lot of them to eat." Such soup is rarely made today. We heard of it being made only once in Wainwright in 1982.

Smith's longspurs are another of the small "brown birds" found in Wainwright and hunted by the children with bows and arrows and BB guns.

Buntings

There is a saying in Wainwright that, "When you see the first 'snow bird,' a whale is here already." Snow buntings are the first song birds to arrive in the village in the spring and, after the soundlessness of winter, their cheerful song is immediately noted. Adults and children greet their appearance happily as the harbinger of the new season. These are the only birds for which people put up bird houses. These bird houses can be seen on almost all the older houses but on few of the newer ones. The snow bunting is called "God's bird." We asked several older people for the story behind this phrase, but all anybody could say is that their parents always told them that it is God's bird. Snow buntings are not hunted by the children. If a child should

kill one, adults will comment on it. For example, when one young man got into a bit of trouble with the police in 1982, his grandfather commented that, as a child, that boy was caught several times killing snowbirds.

McKay's buntings are somewhat larger than snow buntings with slightly different markings. We were told that this bird occasionally is seen in the area in the spring. Although people in Wainwright recognize the differences between the two birds, the McKay's bunting is called by the same name as is the snow bunting. Neither is hunted by the children.

Oldsquaw

These ducks arrive early in the spring and stay until just before freeze-up in the fall. This bird is one of the most abundant birds in the area, certainly the most common duck. It is found both upriver and along the coast and ice leads. It is most abundant in the spring, congregating in the thousands, and in the fall. In the 1920s, Bailey reported that large groups of oldsquaws often congregated at the mouth of the Kuk to moult (Bailey, 1948:168). Hunters report that fewer did this in the 1960s, 1970s, and 1980s.

Oldsquaws are hunted in the spring with shotguns as targets of opportunity. They are not a preferred duck. Moreover, since they are small, fast, and unusually high flying, they are hard to hit. Wainwrighters will shoot at them when they are close and there are no more desirable bird species in the area. Wainwrighters tend to shoot at them

more if the hunting has been bad. This is true both in ocean hunting for eiders and brant or upriver hunting for white-fronted geese. Occasionally, especially during hunting lulls, some individuals will shoot at oldsquaws for fun and target practice and not bother to pick up the birds. During boat hunting in the summer, people will occasionally shoot at an oldsquaw duck with .22 rifles.

Nelson describes the attitude towards oldsquaw during eider duck hunting, but it holds true for other situations as well. He writes: (Nelson, 1969:161)

Eskimos do not like to shoot at them in the course of eider duck hunting unless a large flock flies very close by so there is a good chance of getting several with one shot. They do not taste especially good, though people will eat them. Eskimos would rather save their shots for easier-to-hit and tastier eiders or geese. Old squaws are also very hardy birds, so they are difficult to catch when wounded.

The local Inupiat name for oldsquaw duck is ahaaliq, which is supposed to imitate the cry that the bird makes almost incessantly. People in Wainwright enjoy repeating a story about this bird. There was a white man in Barrow who got very drunk and was stumbling along the beach. An old squaw duck flew by calling "a-haa-lik, a-haa-lik." This man heard it and thought the bird was saying to him, "alcoholic, alcoholic." The man got very mad, but he never drank again.

Surf scoter

These birds are not especially numerous near Wainwright. However, during the summer and fall they are encountered in great numbers when boating for bearded seals to the south

near Icy Cape. These birds migrate south just before freeze-up; "they are one of the last to leave." One man said of surf scoters, "They are fat and very good tasting. We hunt them from boats." In the old days, ducks would be snared on the edge of the beach when they were molting.

Red-Breasted Merganser

These ducks are reported as fairly common. They arrive "early, when the ice goes away." They are shot with 12 and 16 gauge shotguns as a target of opportunity by boat crews during eider duck hunting.

Mallard

Mallards are reported as occasionally present in some upriver locations. They arrive in early June and migrate south in early August. They lay their eggs in July. These can be eaten. Mallards are encountered upriver during spring white-fronted goose hunting, are considered good tasting, and are shot when the opportunity arises. Such encounters must be rare on the Arctic Slope, however. Mallard bones are "abundantly represented in archaeological sites" but reports of these birds have been few in the 20th century north of Wales (Bailey, 1948:162).

Plovers and Snipe

American golden plovers are common in the area exploited by Wainwrights. They are sometimes referred to locally as "whistlers" or "whistler ducks." During spring white-fronted goose hunting upriver, these plovers may be shot as targets

of opportunity but this is uncommon. Since the birds are mating at this time, they are generally shot in pairs. Although they are small, they are considered good tasting, especially when made into soup. Small birds such as these seem to be hunted most when the shooting of the real objects of the hunt has not gone well. At such times, the hunters look about for other things to keep themselves occupied, and other birds to take home.

Apparently, black-bellied plovers are more numerous in the area today than in the past (see Bailey, 1948:202). These are common in the Wainwright area, especially upriver. They are shot, although rarely, as targets of opportunity during white-fronted goose hunting.

Semipalmated plovers are also reported as common in the territory exploited by Wainwright. Since they are small, even when compared to American golden and black-bellied plovers, they are not shot as targets of opportunity by upriver hunters.

Common snipe are numerous, particularly upriver. Occasionally they are shot as a target of opportunity during spring upriver goose hunting. At this time, they appear in small flocks of six to ten.

Other Birds

The following is a list of some of the shore birds that occur in the Wainwright area during the spring and summer. Many of these can be found upriver as well. None of these listed are hunted since they are too small. They are hunted

by youngsters with BB guns and bow and arrow if the birds
venture into town.

Whimbrel Numenius phaeopus
Bar-tailed Godwit Limosa lapponica
Spotted Sandpiper Actitis macularia
Long-billed Dowitcher Limnodromus scolopaceus
Ruddy Turnstone Arenaria interpres
Black Turnstone Arenaria melanocephala
Pectoral Sandpiper Erolia melanotos
Red Knot Calidris canutus
Dunlin Erolia alpina
Sanderling Crocethis alba
Baird's Sandpiper Calidris bairdii
Least Sandpiper Calidris minutilla
Semipalmated Sandpiper Ereunetes pusillus
Rufous-necked Sandpiper Erolia ruficollis
Western Sandpiper Ereunetes mauri
Water Pipit Anthus spinoletta
Red Phalarope Phalaropus fulicarius
Northern Phalarope Lobipes lobatus
Dotterel Eudromias morinellus

CHAPTER XIII

FISH, INVERTEBRATES, PLANTS, AND MINERALS

FISH

While the Arctic Slope has fewer fish species than areas to the south, an unusually high percentage of them are, or have been, utilized. Making this point Wilimovsky writes, "For example, the food fishes of British Columbia constitute approximately 24 percent of the total fish fauna of the area; in Arctic Alaska the figure is over 40 percent" (Wilimovsky, 1956:3). Populations tend to be small, particularly in the area around Wainwright. A review of recent North Slope fish studies concludes that rivers which flow into the northeast Chukchi Sea "appear to be less, not more, productive than Beaufort Sea drainages." Comparing it to the Beaufort the authors conclude, "the apparently abundant anadromous fish in coastal waters of the northeast Chukchi Sea...may well be a result of northward migration of fishes originating from streams draining into the southern Chukchi Sea" (Craig and Skovorc, 1982:18).

The extent of aboriginal exploitation of the area's fish resources is unclear. Spencer calls fish, "part of the secondary diet of the peoples of the area." He argues that fish could only "supplement the diet of meat" because fish "lacked reserves of fat" (Spencer, 1959:36). According to Spencer, both the inland nunamiut and the coastal tagiumiut

oriented their fishing toward freshwater lakes and streams. Both groups concentrated in the same general area, the Arctic plains and Brooks Range foothills. The tigiumiut often built semi-permanent dwellings and dug ice cellars at fish camp; they stored fish by freezing and fished only during the summer months. The inland nunamiut did not build houses; they stored fish by drying and they fished both summer and winter (Spencer, 1959:36-38).

On the other hand, in an eyewitness report from Barrow in 1883, John Murdock writes, "Fish forms an important article of their [ie. the Pt. Barrow Esquimaux] diet...and occasionally becomes their chief dependence" (Murdock, 1884:111-112). Jigging for oceangoing tom-cod was especially important in January "because just at this season of the year they are apt to be pinched for food, as no deer [ie. caribou] are to be had, and if the ice happens to be unfavorable seals are very scarce." Apparently, such situations were not rare. Tom-cod, Murdock continues, "practically afforded a living to most of the people in the village during the season of 1883, because that year the ice was very unfavorable for sealing, and food was pretty scarce in the village" (Murdock, 1884:113). Thus, Spencer could not mean "insignificant" when he calls fish a secondary part of the diet. Moreover, according to Murdock the focus of fishing may have been inland but saltwater tom-cod were obviously important. In passing, Murdock also notes summer gill netting for ocean-going whitefish, salmon, and char (Murdock, 1884:115).

Summarizing what knowledge existed in the 1950s about North Slope aboriginal fishing, Wilimovsky writes:
(Wilimovsky, 1956:4)

An aboriginal maritime or whaling culture extended from Tigara [eg. Pt. Hope] to Barrow, and the inland Eskimo (Nunamiut) inhabited the region to the east of Barrow (as far as Herschel Island) and south to the Brooks Range. Sea fishing was only slightly developed by the whaling people, it largely being limited to smelt and cod fishing through the ice by means of hand lines. The more extensive fishing inland and along the lagoons took place at more or less permanent sites or "fishing camps" located within a small radius of any one settlement... Fishing (primarily by gill-nets) at these sites was pursued during the summer for a short time and in the fall and early winter immediately after the freeze-up. Hand line fishing in mid-winter (January through March) for smelt took place in some river estuaries. These periods of fishing occurred between the important seasons of sea-mammal hunting and were secondary activities of the culture. Fishing was, and is, not a highly regarded art, so many of its labors fall to women.

Of course, none of this ultimately answers the question about levels of aboriginal fish utilization in the Wainwright area. In Spencer's terms, fishing must have been a secondary subsistence activity. Nevertheless, fish must have been a significant part of the diet during regular periods each year and, literally, the difference between life and death in some years. The identity among the economic systems in the area between Point Barrow and Point Hope was not absolute; Spencer's distinction between coastal tigiumiut and inland nunamiut does not capture these differences. Wainwright's original settlers came from several groups, particularly the kuukmiut and utuqqaqmiut. Each of these focused to varying degrees on coastal and inland resources; presumably, each exploited fish resources to varying degrees.

We shall describe several kinds of fishing before focusing on certain fish species. Fishing may be divided into four kinds: ocean netting, upriver netting and jigging, "smelting," and spin fishing. Smelting will be discussed under "smelt" below.

Spin Fishing

Spin fishing is done in the ocean, in the Kuk Lagoon, and upriver. Fishermen take salmon and char in the ocean and lagoon along with an occasional flounder and burbot (ling cod). Upriver they take mostly grayling and whitefish. Bane describes a version of rod, hook, and line fishing which was done before the introduction of spinning gear. In the 1960s, it was done only upriver. Bane writes: (Bane, n.d.: XII-9)

Prior to freeze-up, Wainwright fishermen occasionally employ "cane pole and line" technique to catch grayling and whitefish. This device, known as a kulannuak, consists of a long, slender willow pole with a three-foot length of [monofilament] line at the tapered end holding a small, barbless hook... The hook made of copper was approximately 1-1/2 inches long, resembling a tear-drop in shape. A short, thin nail protruding upward from the rounded end of the copper piece completed the hook. A tiny piece of red cloth is placed on the hook to attract fish.

The hook described is very like the jigging hooks used in the 1960s. The rod technique used is more like jigging than spin fishing as well.

Around the mid-1970s, people in Wainwright began using commercially made spinning rods and reels. Today, they also use commercial lures--small ones upriver and larger ones in the lagoon and ocean. Upriver and in the ocean, people fish

from the shore, casting outward. In the lagoon this is done also, but people also cast and troll from boats.

Gill nets are much more productive than hook and line. For this reason Bane believed that pole fishing served more as recreational or "sport" fishing than as practical fishing (Bane, n.d.:XII-10). The same holds true today in the case of spin fishing. Upriver, a person might put in a net and spin fish to pass the time of day. Spin fishing is very popular; many lures can be purchased in the stores.

Ocean Netting

Traditionally, Inupiat in the area around Wainwright exploited few fish in the ocean. Spencer reports only two writing that other species, "could not be obtained in sufficient quantity to be of economic importance." In the summer, eulachon (candlefish) were seined. These were probably capelin. In the winter, tom-cod were taken with hook and line from cracks in the ocean ice (Spencer, 1959:36). The former practice continues in Wainwright but less intensely than in the past. Tom-cod fishing through the ice continues at Barrow; at Wainwright it is entirely associated with lagoon smelt fishing. However, even with these changes, in the 1980s Wainwrighters were exploiting ocean fish more than ever before.

Today, many Wainwrighters use gill nets for oceangoing fish. These nets are set in front of Wainwright's beach and at other places along the coast where the water is deep enough close to shore. Other favored places are at or near

the mouths of streams and rivers entering the ocean, especially at the mouth of the Kuk Lagoon. Nets are also sometimes placed on the south shore of the lagoon as much as three or four miles from the ocean. When near Wainwright, the nets are usually serviced from town. But even when they are as far away as the Kuk Lagoon, four or five miles from the village, many people prefer to camp near their nets. Actually, many, if not all, families in Wainwright like to leave town and go camping for at least some portion of the summer and fall.

Netting in the ocean has become popular only since the late 1970s. Still relatively few households put them in. Two reasons for the increased popularity of ocean netting are given. First, ocean netting brings in little return when compared to the upriver variety and nets are expensive. Until the influx of jobs, few people could afford to invest the \$200 plus dollars needed for an ocean net. The cost of these nets is still given by several people as the reason they do not "bother" about salmon. In 1982, one man was planning to borrow a net from his brother to try ocean fishing.

Several people have given another reason for growing interest in ocean netting. Netting in the ocean is primarily for salmon and these people claim that, until about 1976 or 1977, salmon were found only rarely in the waters around Wainwright. In 1978 runs were first reported as "abnormally strong" (NPR-A Task Force, 1978). Everybody seems to agree that salmon, along with arctic char, have been found in

increasing numbers of late. One man talked about catching king salmon the first time in 1979. He got three in front of Wainwright. People reported that the summer of 1982 was the first in which dog (chum) and humpback (pink) salmon ran up the Kuk and Kungok Rivers in any numbers. This run appears to be strongest on even numbered years. In 1983, the salmon run up the Kuk was almost nonexistent but in 1984 it was strong again.

Various reasons are given for the area's increasing salmon stocks. Some people see the growing number of fish as due to a general warming trend on the North Slope. Others say that it is due to disturbances in the south brought on by economic development. They believe these developments have driven the fish further north. In all likelihood, the imposition of the 200-mile territorial water limit, which forced foreign fishing boats from U.S. territorial waters, has played a part.

Ocean and inlet netting is not especially productive when compared to salmon netting in more southerly parts of Alaska. For that matter, compared to upriver netting it is not productive. Ocean and inlet netting has four advantages: one, it can be done in the latter part of July and early August before upriver netting and caribou hunting begins in earnest; two, it can be done along the coast at a time when the mosquitoes inland are quite intolerable; three, since it takes little time, can be scheduled, and can be done from Wainwright, it is easily balanced with wage-work; and four,

salmon is a preferred fish.

When the fish are not running in large numbers, people usually check their net once a day and leave it out to dry. A typical catch in late June would include 10 to 18 fish. These would be made up of dog and humpback salmon--usually more humpbacks--and a few arctic char. Sometimes grayling, smelt, and a rare arctic flounder or tom-cod are also brought up. Occasionally, the fish will be running and people will tend their nets continuously. On one such day in the summer of 1982, two nets were out when dog salmon--often called "silver salmon" in Wainwright--were running. One married couple, camping with their family near the mouth of the Kuk, took 69 dogs in one day. This was considered a surprisingly good catch. Two sisters tending a net about five miles north of town took about 50 dog salmon.

Except for king salmon, the take is not differentiated by species. Humpback are the most common taken, followed closely by dogs. The take is measured in "sacks" which weigh between 40 and 50 pounds. Five sacks was considered a good catch for the summer of 1981, ten sacks was considered excellent. King salmon are relatively rare and much desired. They are "counted in numbers." A good take in 1981 was five; one man reported taking seven.

Salmon taken are split and dried, boiled into soup, and baked, often in aluminum foil. Since salmon are a preferred fish, they are often shared. Gifts occur in small amounts, one fish for a meal. Usually they are made to close relatives, but fish are also given to friends and neighbors.

Task groups for salmon netting can be quite simple, a single male, one or two couples, siblings, or parents and children. Sometimes the whole family will travel by boat to tend the net or go camping and put one out.

Upriver Fishing

Upriver netting begins in late August with the onset of nightfall because darkness hides the net from the fish. It continues until freeze-up. After freeze-up, people jig for fish, especially grayling and ling cod (burbot). Occasionally, a family will use nets designed to be placed under the ice. Char, grayling, an occasional ling cod, and two varieties of whitefish are taken in the nets. Grayling and least cisco are taken most commonly and provide the bulk of the fish harvested from the Kuk River and its tributaries. These are followed by other cisco, the whitefish, and dolly varden. All these fish are generally measured in "sacks" and not differentiated by species.

More Dolly Varden have been caught recently than in the past. This was explained variously as due to a general warming trend in the area or to "disturbances" in southwest Alaska which caused the fish to migrate northward. On the other hand, ling cod were scarce in the late 1970s and early 1980s in the Kuk River system and all fishing has been bad on the Utukok River. Natives have blamed these changes on oil exploration in the area--particularly on the use of explosives in or near rivers and lakes for seismographic tests.

Spencer writes that in the 1950s a "woman bringing back

as much as 1,500 pounds of fish to the community for storage was not uncommon" (Spencer, 1959:367). Wilimovsky writes that 1,500 pounds was the average summer take "per fishing group (a family with sled and/or boat and two to five nets.)" The fall or winter catch was "somewhat higher" (Wilimovsky, 1956:5). Fish are more reliable sources of meat than either caribou or walrus. For this reason, in the past, during the days of dog traction, upriver netting was a central part of Wainwright's subsistence economy. People would leave the village in mid-August and travel upriver by umiaq. Often the boat was propelled by two or three dogs in harness walking along the shore. People often built sod houses at their fish camps. In fact, many of the traditional upriver settlements were semi-permanent fish camps.

This yearly movement encouraged the division of labor by sex and age groups. Spencer writes that, in the 1950s at Barrow, upriver summer fishing was usually, "relegated to women, a woman, with her children, leaving her husband at home in the community while she engages in this activity" (Spencer, 1959:367). People report the same age-sex divisions at Wainwright but the patterns of movement differed from Barrow's. The women and children would stay at the camps to net and jig for fish while the men traveled further into the foothills to hunt caribou. While fish were taken for human consumption most fed the dogs. One elder in Wainwright recalled:

We fished mostly to feed the dogs. We needed two, three, or four thousand fish to feed the dogs. The

fish were hung up on the racks and then I would pick up 2 or 3 sackfuls when I was upriver trapping. The fish never spoiled that way. When we got them back to Wainwright, we put them in the ice house. We always had 4 or 5 sacks of grayling for us to eat. Grayling is the best tasting species. We usually ate it frozen or fried. We often dipped it in seal oil.

Fish is still eaten in these ways in Wainwright. Most is eaten frozen, often dipped in seal oil. Some is fried or boiled into soup. Many people prefer whitefish to grayling. While fishing upriver is, today, less intense than in the 1920s, it is still done in much the same way and with a high degree of productivity.

Actually, fishing upriver recently went through a resurgence. In the 1960s, during the time of Nelson's and Bane's work, many people seldom fished upriver and had let their sod houses go to ruin. The reasons for this are complicated. Transportation in the arctic is time consuming and costly. Time efficient transportation costs a great deal of money. By the 1960s, the North Slope Inupiat were concentrated into their larger villages. The market for arctic furs, once a good source of income as well as a great incentive for periodic population dispersal, was weak. Wage work in Wainwright was scarce; large government subsidies and outreach programs such as Vista and Headstart had not yet begun to bolster the North Slope economy. Essentially, Wainwright's economy was depressed and only a few families were well enough off to afford much upriver travel.

The ANCSA settlement and the formation of the North Slope Borough changed this situation, however. Access to oil

tax revenues made aluminum boats and highpowered outboard motors generally available. Today, people can easily get upriver on a weekend. Thus, they can organize such fishing trips around the constraints of their wage work. The Kuk and its tributaries remain the primary focus of Wainwright's upriver fishing activities. We, like Nelson, found that people were reestablishing old fishing sites throughout the area including on the Utuqqaq River (see Nelson, 1982:19). In the fall, before freezup, airplanes were sometimes chartered to move people to the more distant camp sites.

Today, upriver fish provide Wainwrighters with significant quantities of food. These fish are also important in gifting, especially at the Thanksgiving and Christmas feasts. Below are listed the amounts taken and given by six households in 1981. These households habitually fish upriver. Sacks weigh between 40 and 50 pounds and are made up primarily of the fish listed:

Household 1: Two people fished upriver on the Kuk. They netted four sacks of whitefish, jigged four sacks of grayling, and took two ling cod. They gave a total of 1-1/2 sacks each of whitefish and grayling to the Thanksgiving and Christmas feasts and gave small amounts of fish to "old people" and their daughter.

Households 2 and 3: Two small households which fish together on the Meade River "because the whitefish are bigger there." They collected eight sacks of grayling and whitefish and split the take, giving some to "old

people."

Household 4: This household fishes about 50 miles up the Kuk. The family netted five to six sacks of whitefish and Dolly Varden and jigged four to five sacks of grayling. They took only "a few" ling cod. They gave fish to the Christmas and Thanksgiving Feasts and four sacks to whaling crews.

Household 5: Two people took four to five sacks of whitefish and grayling in three trips up the Ivisaruk River. They gave two sacks to whale camp.

Household 6: Two people netted and jigged 15 sacks of grayling on the Kuk River. They gave four sacks to the Thanksgiving feast and two sacks to the Christmas feast, one sack each to three "old people" including the wife's father, and about two sacks to their married son. This left four sacks for household consumption and for smaller gifts.

These figures demonstrate the productivity of upriver fishing. On a good day, two to three hundred or more fish might be caught; on a bad day, 30 to 70. These figures also show the significance of upriver fish to the diet of the people of Wainwright and to their traditional systems of sharing. The importance of fish in giving may be illustrated in another way. Sheefish are not found at Wainwright yet some people in town enjoy their flavor and the variety they

offer to the local diet. Several families receive gifts of this fish from friends in Kotzebue.

Fishing upriver is usually done by households and by couples. Yet usually several households camp nearby so if camping groups are included, these upriver task groups may be fairly large and complex. Camping groups tend to be closely related, but are not necessarily so. Since people have been returning to some of the same spots for many generations, the kinship, partnership, and friendship relations involved in camping groups may extend back many years.

Other Species of Fish

Blackfish

Blackfish, relatives of the pike, range from between five and eight inches long. Their distribution is imperfectly known but they have been collected from as far north as the Ikipkuk River east of Barrow. They are found in Siberia. In some more southerly areas of Alaska, particularly in the Yukon-Kuskokwim Delta where the fish is extremely abundant, blackfish once were central to the diet. E.W. Nelson reports that, in the 1880s, blackfish were the most abundant and reliable food in the Delta. He estimates that, between October and November, that region's take was approximately 103.5 tons (Nelson, 1900). Today, in the Delta, blackfish are still eaten and used for dogfood (Wolfe, 1981).

Further north, where blackfish are less abundant, they have never served as an important food resource. Although

they are found between Point Hope and Barrow and are common in the ponds and tributaries of the Kuk Lagoon, this small fish is not utilized by the people of Wainwright. In the 1970s, they were reported used occasionally for dogfood in the Colville area (NPR-A Task Force, 1978:6-161).

Northern Pike

Northern pike inhabit some areas exploited by Wainwrighters including several lakes and parts of the Meade River drainage. They may also occur in the Kuk. People at Wainwright do not fish for northern pike, either in the lakes or the rivers. On rare occasion, these fish are caught in gill nets set upriver. Pike tend to tear up the nets and escape. If caught they are eaten.

While these fish are of no real economic consequence to the people of Wainwright, pike-like creatures do appear in some of the North Slope Inupiat tales about geographical localities. Giant fish also had the form of grayling and lake trout. Burch, working in 1969 and 1970, assembled stories by individuals who reported actually experiencing such phenomena. Most of these reports came from elders but several were told by men in their 40s and 50s (Burch, 1971:156, 162). Burch (1971:56) writes:

Such creatures are capable of swallowing adult caribou whole and pose a serious threat to humans. Reportedly, they are able to swallow a man in a kayak in one bite...Several of my informants had seen such fish in lakes where they had not previously known them to be present, although in each case a check with older people revealed that the creatures had been there for some time. In two cases, informants had not believed stories about giant fish, so they subjected the stories to an ostensibly empirical test by baiting extremely

strong lines with a half or a whole caribou, throwing the carcass into the lake. Each time the bait was taken in a single gulp...

Sculpin (Cottidae)

Sculpins are occasionally caught in the winter by people jigging for smelt. They are also caught during the summer in Kuk Inlet and in the ocean by people netting for salmon and char. Presently, they are considered somewhat of a nuisance since dozens of sculpins can find their way into the net and, because of their boney horns, it takes time to untangle them. Sculpins are generally thrown out on the bank to die.

Although sculpins were never a preferred fish, in the past they were eaten boiled. Several people claimed they were cooked with their heads on; others said their heads were removed before boiling. Nelson reports for the early 1960s, "During October through December, these less favored fish, called kankick, may be specifically fished for" (Nelson, 1969:149). In the early 1980s, only children fished for sculpin. This activity was a summer equivalent of spring brown bird hunting but less popular. Young boys not yet in their teens would stand with their friends on the beach in front of town and cast into the ocean with spinning rods.

In the 1980s, sculpin was an example of a once-marginal food--both in terms of preference and in amount contributed to the diet--which had essentially dropped from the dietary repertoire. Several people mentioned eating it within the last few years because they wanted to "taste" it again. Many people, some only in their 30s, remembered eating boiled sculpin in their childhood. Many children in their teens and

younger did not know that their elders had ever eaten sculpin.

Shark

Although some disagreement exists among the hunters of Wainwright, apparently a small, white variety of shark sometimes appears in the waters off shore around mid-summer. The view of sharks is more or less identical to that towards killer whales. Sharks are never hunted or shot at because they are considered knowledgeable and dangerous. One man stated, "We don't hunt sharks because a shark has a long memory and will come after the hunter. They'll eat people." Sharks are believed able to recognize specific individuals who have offended them. Sharks will swim around the boat, looking in it. If they see the crew includes such a person, they will attack the boat. "Sharks know everything. They have a way of communicating." Sharks, like whales and walrus, are believed able to communicate at great distances.

Smelt

A sweet-tasting rainbow smelt is taken by Wainwrighters in the Kuk Lagoon. The fish is rather large, running as big as eight inches. These fish enter the lagoon from the ocean around January and remain through March. Actually, a few stay longer, but after March they are no longer considered "prime." A few are also caught in nets set along the ocean beach near the mouth of the Kuk, but during the warm months, they are not sought. During the winter, fish freeze almost immediately after being ught up onto the ice and this is

considered important in preserving the smelt's flavor.

In the 1980s, people jigged for smelt in almost exactly the same manner as described by Nelson in the 1960s (1969:148-149). They usually travel the three or so miles from town by snow machine and sled. Often, they fish standing or sitting on their sled or snow machine. This is done in January, February, and March, the coldest months of the year. Thus, warm cloths are a necessity. Skin and down parkas are in evidence; people dress in snow machine suits and down pants. Mukluks are worn as are store-bought "bunny boots," an air insulated military boot for arctic survival. Every group brings a thermos or two of tea or coffee; snow block windbreaks are still built.

The equipment used for jigging has changed slightly since the 1960s. Some people still have a tuakpok, an iron pointed wooden pole, to cut the necessary holes in the ice but steel spuds are used more often. Several families that take smelt jigging seriously own gasoline powered ice augers. Homemade jigs and sinkers made out of walrus teeth, pieces of ivory, and dogs' teeth are still used (see Nelson, 1969:149). In fact, many people will display such handiwork proudly. However, there has been a turn to store-bought lures. Such machine-made tackle is cheap and has little intrinsic or market value if lost.

Nelson writes, "There are many subtle influences of the current which must be taken into account when fishing for smelt, because they move in schools following the direction of the current. Most important, the rising tide before and

during a south wind brings them into the lagoon in large numbers" (Nelson, 1969:149). People do not seek smelt when the weather is bad. They go when the winds are favorable, but weather alone is not a reasonable prediction of success because of the unpredictability of the whereabouts of the fish.

During some outings, people catch nothing; on others, a jigger might get 300 fish or more. Smelt often start or stop biting suddenly. One family which jigs for smelt persistently and successfully is said to "specialize" in them. People have claimed that the head of this household has "a special magic for smelt." Typically, the husband and wife helped minimally by their teenaged children got two sacks of smelt in two good days of fishing in February of 1982. Sculpins and, occasionally, tom-cod are also caught while jigging for smelt. The sculpins are thrown away on the ice; the tom-cods, caught relatively rarely, are seen as a treat by many Wainwrighters.

Nelson reports, "In early years, the Kuugmiut sometimes relied on smelt to get themselves through lean periods between January and March" (Nelson, 1982:22). It may have become less important by the 1960s. Nelson notes that in this decade, smelt fishing was done mostly by women and old men and that active hunters did it "only when there is nothing else to do" (Nelson, 1969:148). With the new time pressures of jobs and the lessening of hunting pressures, the situation Nelson described seems to have changed again.

Indeed, some of the more active hunters were actively involved in smelt fishing as well. This they often did with their families. Jigging for smelt is a subsistence pursuit that can quickly be fitted in between jobs and other responsibilities when the weather turns good.

Not every able-bodied person in Wainwright sought smelt within the last year. However, although some of the younger adults say they find this pursuit boring, most able-bodied people in the village have jigged smelt within the last three years. It seems, on the whole, to be a relatively popular pastime. Individuals, couples, a parent, or parents and children, siblings, nephews, nieces, aunts and uncles, grandparents, and friends make up such groups.

Smelt are often given away. Usually this occurs within a narrow group of relatives--between parents and children, aunts, uncles and nieces and nephews, between cousins--but we have seen examples of people giving smelt to "just friends" and even to itinerant construction workers with whom they work. The amounts given are generally small, anywhere from enough for a meal to four or five pounds. Smelt are sometimes boxed and sent by air to friends and relatives as far away as Anchorage.

In the 1980s, smelt had the distinction of being the only species of animal or plant that was regularly bought and sold in Wainwright. The going price in town in 1982 was one dollar per pound, although it could be had for eighty cents. At one time, smelt was sold to the cooperative store and then resold, but this is no longer the case. Today, people adver-

tise in notices put up on the store's bulletin board and sell to customers directly. Two households were involved in this trade in 1982, one particularly so. All along the North Slope, Wainwright is noted for its particularly sweet tasting smelt.

Most of the smelt trade in Wainwright is done with people ordering direct from Barrow. However, it is sold in Wainwright as well. In only two of the ten households with whom we discussed this subject were smelt purchased. In one, the household head--an older male--worked during the week at a regular job and on the weekends went upriver. He bought about 40 pounds of smelt for his family of four. The other included a mother with two young children. She bought ten pounds.

Tom-cod

Nelson reports that, on the North Slope in the 1960s, the only significant fishing done on sea ice was for tom-cod. He describes how it was done at Point Hope but notes that such tom-cod fishing was not occurring at Wainwright. These people were concentrating on the richer fish resources of the Kuk River (Nelson, 1969:147-148). At Wainwright in the early 1980s, people did not fish for tom-cod on the ocean ice. However, this fish was occasionally be taken by people jigging for smelt. A man who caught over 200 smelt and eight tom-cod one day expressed happiness for the tom-cod. This was in late March; he said he had not gotten any tom-cod all year. Some people who fish for smelt have not caught tom-cod

for several years. An occasional tom-cod was also caught during the summer in salmon nets set at the mouth of the Kuk and along the ocean shore. In the summer, tom-cod does not appear to be as favored.

While some people find tom-cod "too boney," many highly prize it. Today, the fish is usually made into soup. Spencer reports that, traditionally, tom-cods were taken for their liver. He writes, "A 'bonehead' liver is set in a vessel until it dissolves into oil, and this is drunk with no other food" (Spencer, 1959:135). While we have not witnessed tom-cod prepared in this fashion, the fish is still highly prized for its liver.

Capelin

Spencer reports that two major species of fish were taken in the ocean in aboriginal times on the North Slope. Tom-cod were taken in the winter and eulachon in the summer (Spencer, 1959:36). Although we were not able to observe them, a small fish--called "minnows" locally and panmakraq in Inupik--spawn in the surf in front of Wainwright. Usually they spawn in great numbers in August and can be taken with homemade seine nets. We first thought these were the eulachon Spencer reported but now believe they are capelin--a member of the smelt family (mallopus villosus). These fish are boiled or fried when they are fresh. They are also dried. On a good day, one person might seine a sack or two of panmakraq--up to eighty pounds or so wet weight--from the water.

Invertebrates

Clams

Nelson makes no mention of clams in his first Wainwright report but does note their use in his second (Nelson, 1969; 1982). People in Wainwright report that, in "the old days," clams were gathered on the beach and eaten. Clams were collected after the strong fall storms, which normally begin in mid-August, washed them ashore in great numbers. They were usually eaten raw; a few people in their mid-thirties remember eating them as children. In the early 1980s, the only signs of these clamming activities in Wainwright were the empty shells which decorated some of the frames of old pictures hanging on living room walls. When asked about clams many of the elders remembered liking them. These elders used clams as an example of how the Inupiat "had to eat everything before white man's food."

Crabs

Nelson reports that, in the 1960s, tanner crabs were still sometimes trapped at the edges of open leads. However, from his book one gets the impression that this was not occurring at Wainwright. His description of the process comes from Van Stone who saw it at Point Hope. Crab fishing was done during the whaling season. "They were caught by sinking a small wire grid through a hole from the lead edge." This was pulled up after 10 to 20 minutes "often bringing with it a dozen or more crabs that were feeding on the bait" (Nelson, 1969:145). Crabs were also gathered on the beach in front of Wainwright after strong fall storms washed them ashore.

In 1982, people in Wainwright reported that they did not trap crabs and they had not done so for many years.

Everyone's reason was the same; people said the crabs around Wainwright were "too small to eat." One man reported trying them about five years before and being disappointed by their size. Wainwrighters had taken crabs in the past; elders recall eating them "in the old days." One woman now in her 30s remembered that, as a child, she was fed boiled crabs by her grandfather when they were camping north of Atanik on Peard Bay. She remembered the crabs there as larger.

In any case, in 1982 everyone in Wainwright we spoke to agreed that the crabs in the immediate vicinity were too small to utilize. However, after a large storm in the fall of that year, at least three families gathered the crabs that were washed up on the beach. Several people involved were ones who had said earlier that the local crabs were too small. When asked about this change they answered that crabs had always been gathered in front of Wainwright after strong fall storms. They stated that, for many years, these storms had not been severe enough to wash the crabs ashore. A white schoolteacher had also become interested in crabs that fall. He planned to put crab pots in at Peard Bay where these invertebrates were said to be larger than those in front of the village.

Besides the rather post facto explanation offered, other factors may be part of the villager's renewed interest. That fall was a slack period for CIP projects; people had time for

the less productive types of subsistence pursuits. Also, on the North Slope, the eating and sharing of traditional foods has always been an important cultural expression of individual and community health. Moreover, during the 1970s, subsistence foods and subsistence pursuits seemed to have emerged as an important expression of cultural solidarity. Bowhead whaling is a more spectacular example of this movement. Perhaps the renewed interest some Wainwright families exhibited in crabbing the fall of 1982 and in sealing the winter of 1982 are less spectacular examples of this same trend.

One elder reminisced that, when he was young, king crab were caught on rare occasion when people were fishing for tanner crab. These he remembered as a great delicacy; much better than the frozen crab legs occasionally available in the village corporation store today. We had no opportunity to confirm this observation.

Starfish

Several people reported that, in the old days, an unidentified type of starfish was gathered along with the clams which washed ashore during fall storms. A part of the starfish was eaten boiled. Only elders remembered eating this and they did so as youngsters. This was given as another example of how, before whiteman's food, people had to "eat everything." Starfish have not been gathered and eaten recently (see also Nelson, 1982:25).

Sea Worms

Nelson notes that, at one time, an unidentified

"wormlike creature" was eaten. "It is said to be about a foot long, filled with water, and with shiny brass-colored ends. The ends were cut off and the water drained from inside, and then the rest of the animal was boiled for eating" (Nelson, 1982:25). We can add nothing to this report.

Shrimp

Nelson writes that, during his fieldwork, "no use of shrimp was seen at Wainwright or Point Hope." However, he notes that shrimp sometimes occur in abundance in the spring in the openings in the ice and that the Eskimo report having netted them during spring whaling season and used them for "soup" (Nelson, 1969:145-46). Nelson (1969:146) also reports:

In the fall of 1963 a tremendous storm washed long windrows of shrimp onto the strand. The local B.I.A. school teacher [ie. G. Ray Bane], and perhaps some of the Eskimos, gathered them in buckets and bags in such quantities that they were used for dog food through much of the winter.

Although older people in Wainwright still remember "shrimp soup," it appears that this resource has not been utilized since the 1960s. Moreover, since the switch to snow machines, few dogs have been kept in Wainwright so "windfalls," like that reported in 1963, would no longer be needed as dog food. A real disturbance in the shrimp population, however, would still have an important effect on Wainwright's subsistence economy. As reported by Nelson in the 1960s, these animals are often referred to as "whale food." They are an important part of the diet of many of the

marine mammals that the people on the North Slope continue to hunt.

Summary, Invertebrates

Apparently, maritime invertebrates have never been of much consequence to the people of Wainwright as a direct food source. At present, only crabs are collected and they are extremely marginal to the diet. Several could provide a source of food in an emergency or for dietary variety when incomes are low. More important, however, is that the invertebrates constitute a link in the food chain of the mammals that Wainwrighters hunt, eat, use, and revere. As a principal food of walrus and some whales, invertebrates are crucial.

Plants

Spencer argues that, in aboriginal times, North Slope Inupiat concentrated on hunting and fishing to the neglect of the area's flora. He writes: (Spencer, 1959:23)

One result of the primary orientation toward meat was the neglect of almost all plant foods and the restriction of their use chiefly to cases of dire emergency. Plants were used more to meet certain utilitarian needs than as food. The attention to plant foods was indirect, in that the partially digested stomach contents of the various kinds of herbivorous game was frequently eaten...But in terms of actual use, the flora of the region yields a small inventory only.

The inland nunamiut "made far greater use of the available plant life" than did the coastal peoples although theirs, too, was not extensive. Particularly berries were eaten, either mixed with caribou fat, soaked in seal oil, or

pounded with meat into pemmican. In these forms, berries were important trade items with the coast. A knotweed "faintly resembling a parsnip," "a kind of rhubarb," willow shoots, and "a dozen other plants, including roots and grasses" were also eaten to some degree by the nunamiut. Seaweeds, important to Eskimo diets to the south, apparently were not gathered north of Point Hope. However, they were traded inland along the Kobuk and Noatak Rivers (Spencer, 1959:23-24).

Wainwright's present-day use of plants for food is hardly extensive, but it is greater than Spencer reported for coastal peoples in the past. Perhaps the larger inventory reflects the blend of inland and coastal peoples who eventually settled in the village. The North Slope Borough Contract Staff, in its study of subsistence land use in the area in the 1960s and 1970s, lists four types of berries and ten types of greens and roots used by natives in the Barrow-Wainwright region. These include: blueberries, cloudberry, cranberries, wild chives, willow leaves, sour dock, grass roots (unspecified), Hudson's Bay tea, swamp grass (unspecified), wild celery, wild spinach, wild potato, and wild rhubarb (NSB Contract Staff, 1979:12). We shall add to this report only some detail about plant use in Wainwright.

Fruits, greens, and grasses are still collected and eaten by the people of Wainwright. Many can be gathered very near the village. The bluff running along the Kuk Lagoon between the airport and Thomas Point is considered a good place to gather sour dock; an area near Thomas Point is good

for cloudberries. (See Ivie and Schneider, n.d., for statements of other locations considered good for berrying.)

Berries are eaten in several ways: fresh as collected, frozen, with sugar, with cereal, and in pies. Berries are sometimes preserved in seal oil. Many older people prefer to eat berries this "old way," soaked in oil in which they were stored and eaten with meat. Greens such as sour dock, wild spinach, and wild rhubarb are utilized in various ways. They are eaten raw, as is; they are eaten raw as a salad, mixed with other greens; occasionally they are used in soups; they are cooked in a pot as greens; they are soaked in seal oil and eaten raw; and, they are drenched in flour and fried in a skillet with oil. When young, the stems as well as the leaves of these plants are eaten. When more developed, only the leaves are utilized. Young willow shoots are utilized much like other greens. These are eaten raw; drenched in oil and eaten; drenched in flour and fried; cooked as greens; and sometimes made into soups. The stem of a water grass is cut off and eaten raw. When men are hunting they will sometimes chew caribou moss to allay feelings of hunger.

The "indirect" usages of plants to which Spencer refers are still fairly popular as well. Particularly older people in town enjoy eating seal and caribou stomachs along with their contents. The contents of bird crops are also consumed. This, often referred to as "Eskimo salad," appears to be more widely practiced among age groups than is the eating of stomach contents. Ptarmigan seem a preferred

source of Eskimo salad.

More study should be done on plant use in the Barrow-Wainwright area. Clearly, not all the flora used have been identified. When traveling on the tundra, people will sometimes collect a few springs of a plant they burn as incense when at home or camp. One man told of a small nut or seed called pekenuk that is eaten. "It is about-1 1/2 inches long and covered like a coconut, only small and sweet." This nut is sometimes gathered upriver by raiding the caches made by ground squirrels in gullies and crevices. Spencer reports the practice of children digging out burrows of various rodents for seeds as aboriginal and as, "the only native vegetable food known to the Eskimo of Barrow and adjacent regions" (Spencer, 1959:27).

Finally, this same man told of two edible varieties of mushrooms found in the Wainwright area. One he called putoguknut which we identified as a meadow mushroom. His family cooked this mushroom in a skillet with a small amount of oil or butter. However, mushrooms are unlikely to have been used in most Wainwright households. Several people stated their belief that all mushrooms are poisonous. A parent of the particular man in question is from Teller, an area where the traditional use of flora was more extensive. Spencer reports that mushrooms were feared on the North Slope in the 1950s (Spencer, 1959:375).

When in season, berries and certain greens are relished, yet there seems to be little concentration on the extraction of wild plants. While tasks have never been rigidly sepa-

rated by sex, formerly the gathering of plants was primarily a female activity. Yet, today, few younger women in Wainwright seem to know much about plants. When asked about the gathering and cooking of indigenous plants, most women 20 to 30 years of age referred the questions to their mothers or grandmothers or older aunts. Only time will tell whether younger women lack knowledge of plant extraction and preparation. Young women may simply be deferring to older women in such discussions.

Whatever the case may be, some store-bought products undoubtedly substitute for native plants. The mosses used to diaper babies have long since been replaced by cloth diapers and, lately, by "Pampers." The sphagnum moss once used to line the interior of boots has been replaced by wool felt and wool socks. The barks, fungi, and grasses once mixed with tobacco have been replaced with pure tobacco (see Spencer, 1959:24-25). These important uses of flora have long since changed.

More significant, throughout the late 1970s and early 1980s the consumption of imported store-bought produce has been an increasing. Like wild flora, it is relished. When available onions, potatoes, carrots, and celery are often used in soups and stews. For many, onions are almost an essential ingredient of some traditional dishes. Fruits such as oranges, apples, bananas, and peaches are universally desired. Fruit is only sporadically available in the stores and it is often in poor shape when it arrives in Wainwright,

yet it is sought year-round. Salad makings, such as lettuce and tomatoes, are occasionally available and eaten. Less often, one finds green vegetables in the stores. On rarer occasions, watermelon and pineapple show up in the stores, disappearing almost as soon as they are unloaded. We met nobody that did not like store-bought fruit; many enjoyed the vegetables as well. Several people mentioned that they look forward to trips to Barrow and beyond because it offers an opportunity to purchase large amounts of quality produce.

Minerals

Sand and Gravel

Today in the arctic, sand and gravel are primary building materials for all structures not placed on pillings. This includes the construction of roads, air fields, water tanks, and fuel tanks as well as some buildings. If structures are not placed either on gravel pads or pillings their heat melts the permafrost beneath them. This, in turn, causes the structure to sink. In the case of roads, fuel tanks, and airfields solar heat warms the structure and melts the permafrost. In 1982, all buildings under construction except one were set on pilings. The exception was a house being built by its native owner mostly from scrap lumber; it sat on a gravel pad. In 1983, the North Slope Borough put down a gravel pad for a heavy equipment building and used huge quantities for a new airstrip. The recent construction of roads in Wainwright created another use for sand. Presently each spring, run-off water backs up behind road

embankments and stands in shallow puddles. Some villagers attack this problem by filling the low spots in front of their houses with sand.

Enormous quantities of sand and gravel are needed in construction, particularly for structures like roadways, airfields, and pads for oil rigs and pump stations. The mining of sand and gravel is licensed by the North Slope Borough as part of its attempt to regulate development on the Arctic Slope. At present, the sand and gravel used in construction in Wainwright comes from a dredge site on the Kuk Lagoon just east of the DEW line installation. This site was chosen after an impact study indicated that operations there would have little effect on subsistence activities or the environment. In the summer of 1982, men at the site were working 12-hour shifts, seven days a week during the three months or so that the weather permits dredging operations. The plan was to stockpile gravel for the construction activities planned in Wainwright in 1983 and 1984.

Clay

A high grade clay exists around Wainwright. The only use of it we saw in 1982 and 1983 was in construction, where it was used as binder in surfacing the gravel roads being built. This clay was mined at the dredge site south of the DEW line in a lake near the Kuk Lagoon.

Driftwood

In spite on the fact that Wainwright lies on a treeless plain, driftwood is common on the ocean beach and along the shores of the rivers and lagoons. Within the village of

Wainwright nobody uses driftwood for fuel even though the new North Slope Borough houses come equipped with wood and coal burning stoves. Driftwood is not abundant enough to serve as a reliable fuel source. It is used incidentally while camping and hunting. It is burned in campfires, small pieces are used as tent stakes, and the like. Small pieces are also carved into stakes used to hold dead birds in place to serve as decoys. Large pieces are piled up to serve as duck blinds. Previously, driftwood was used to build the framework of umiak and other boats.

Coal

Since Wainwright lies on a treeless plain, wood is too scarce to serve as a primary fuel source. The archaeological record indicates that before contact, the North Slope Inupiat used seal oil as their major fuel source for both heat and light. After the introduction of iron and steel, a major shift occurred to the use of coal for heat. A soft, lowgrade coal with a high sulfur content exists in great abundance in the Wainwright area. In many places near the town, it is found in large outcroppings, in others it is covered by a foot or so of soil or sand. Summer storms wash large piles of it up on the beaches in front of Wainwright where it can be gathered by the shovelful.

At one time, coal was very important to the village economy. People say that the large coal outcroppings on the Kuk River provided one of the important reasons for Wainwright's present location. The Kuk was a coaling station

for the steam-powered whaling vessels at the turn-of-the-century; in fact, mining and selling it was probably a source of revenue for the local Inupiaq population even before the establishment of the village in 1904. Later, men made money selling coal to the BIA school established at Wainwright. Several men remembered that, during the depression, mining coal for the school and stores was the only source of cash.

Coal was also a factor in Wainwright's subsistence economy. In the 1950s and 1960s, all the houses in the village used a combination of coal and driftwood for cooking and heat. Of these fuel sources, coal was the most important (Nelson, 1969:216). It was gathered by individual households along the beach and also taken from three mines along the Kuk. The closest and most important of these is Coal Mine Number One, located at Iklukpaurak, about 12 miles from Wainwright. Coal Mine Number Two is located at Ahmaktikvak and Coal Mine Number Three at Aluakpuk and Ivisaat. In a spot about one mile east of town, coal can be found about one foot under the surface. This coal was sometimes mined by the "old people," especially during the summer. They would carry it home on their backs.

After the coal was mined or gathered, it was put in gunny sacks and brought back to town. Before freeze-up, it was usually carried by boat; after freeze-up, by dog sled. While coal was often gathered by individual households, this was not always the case. Sometimes hunting partners worked together and divided the proceeds. Two men recounted an incident in which many of the able-bodied men and boys worked

together. A bad winter storm had closed the mines for two days and people were in desperate need of fuel. When the mine could be reopened, a group of men went out and worked it for three days straight. People who needed fuel would bring out sacks and the men would fill them at no charge. They claim to have loaded 2,000 sacks in three days.

Such coal mining fit well into the social task groups involved in subsistence hunting. It also fit well with the view of what made good hunters, men working hard for the benefit of the community. According to Nelson, the coal mining at Wainwright articulated well with the subsistence economy in another respect. Of the 1960s he writes:

(Nelson, 1969:5)

The presence of coal enables the Wainwright people to save much of the money they earn by summer employment or by the sale of goods such as skins or walrus ivory, or which is given to them in the form of monthly unemployment or welfare checks. They can use the money for purchasing clothing, hunting equipment, and food. They have become heavily dependent upon such goods...

In Wainwright during the 1950s, people began to switch from a reliance on coal to one on petroleum-based fuels. According to Bane, in 1955 all but four households in the village heated with coal. Those four exceptions burned fuel oil. Also in 1955, four houses ran their own gasoline-powered electric generator to provide lighting. The rest depended on kerosene lanterns, Coleman lanterns, and candles.

In Wainwright in 1982, this switch to petroleum-based fuels was almost complete. All the houses in the village used fuel oil stoves or furnaces as their major source of

heat. Some also employed electric or gas space heaters as secondary and emergency sources of heat. Although many of the newer North Slope Borough houses were built with wood and coal burning stoves installed, most households used them seldom if ever. Some had even been removed by the occupants. Although there may be more, we know of only two houses in town which, in 1981-82, used coal for heat or for cooking with any regularity. Both of these were older houses. Although almost all households in Wainwright owned Coleman lanterns, these were used for camping, not in town. In Wainwright, people were no longer dependent on their own electric generators, although all households used electricity for lighting. The North Slope Borough operates an electrical generating plant which supplies the entire village. This plant depends on oil for fuel. The oil is shipped to Wainwright by barge.

The situation is somewhat different when people leave the village of Wainwright to go camping or to their cabins. When camping, people are usually largely dependent on petroleum-based fuels. Coleman stoves are used for cooking and for heat, sometimes space heaters are also brought for heat, and Coleman lanterns are used for light. Where available, coal is sometimes employed as a secondary fuel for heating and cooking.

Many of the upriver cabins, on the other hand, use coal as their primary source of heat. These cabins often contain small, store-bought iron coal stoves which were brought from

Wainwright by snowmobile and sled. Coal is usually mined from nearby outcroppings and stored in burlap bags next to the building. Even when people use coal for heat, they use Coleman lanterns for light and, occasionally, Coleman stoves for cooking and a secondary heat source. A few cabins now employ fuel oil stoves as their heat source. The oil is brought by snow machine and sled from Wainwright or Point Lay. In the early 1980s some Barrow people installed gasoline-driven electric generators in their Meade River cabins. In the early 1980s several people in Wainwright were talking about doing the same. By the spring of 1983 at least one family had done so.

Coal outcroppings that are still used by Wainwrighters dot both sides of the Kuk River as well as some of its tributaries. These include the Kunguq, Ivisauraq, Omikmuktusuk, and Ketik Rivers. Coal outcroppings are also used by campers who go to the south to hunt ducks and ugruich, including one mine near Nullagvik and another at Sikolik. The one at Sikolik, located on a lake bearing the same name, is used by people camping around Icy Cape.

While presently coal is relatively unimportant to Wainwright's economy, it was important in the past and may well be again. In 1982 and 1983, fuel oil cost \$168 per 55 gallon barrel and many North Slope Borough houses used five barrels or more per month in the dead of winter. In 1983 and 1984 CIP project funding was down. During the summer of 1983 construction jobs in Wainwright were scarce and during the winter of 1984 until about May they were virtually non-

existent. This was a period of economic hardship for many village families; to cut back on household expenses, several began burning coal again. The individual households gathered it with shovels from the beach. Coal was used to supplement oil heat, not to replace it. Coal was burned during the day when people were awake to tend the fire and oil was burned during the night.

The North Slope Borough has had several plans to lower heating costs in the area. One such plan, current in early 1982, involved building a multi-million dollar experimental coal mine and heating plant in Wainwright. This plant would have provided heat for all the houses in town at, it was estimated, 20 percent of the present cost. The plant would have provided permanent jobs in the community as well. At the time, many Wainwrighters, disliking the experimental nature of the plant and fearing possible pollution and disruption of the village, opposed the plan. At present, construction of this plant is, at best, unlikely. Given the cost of oil, however, it is likely that a growing reliance on coal will develop in the future.

Oil/Gasoline

Oil exists in and around Wainwright. One or more natural oil seeps lie within the town's borders. In 1981, oil sands were struck at about 14 feet by drillers putting in pilings for the telephone building. Outside of town, along the Kuk and on other rivers, natural oil seeps and slicks are also in evidence. While many of the town's and village's

leaders hope that, if oil developments come to the area, the people of Wainwright will financially benefit from them, at present no such event is occurring. We know of no use, traditional or otherwise, being made of the oil which seeps to the surface around Wainwright. Moreover, the oil and gasoline used in Wainwright is shipped in via barge.

The importance of oil to Wainwright's economy may change in the future. Conceivably, as CIP projects continue their decline, more villagers will take and hold North Slope related jobs. The North Slope Borough is presently planning to build a power grid to supply electricity to Nuiqsut, Barrow, Wainwright, and possibly other villages. This plant would be located in the Prudhoe area and would be fired with either oil or gas. The completion of this plan would significantly lower all fuel costs in Wainwright.

Natural Gas

Natural gas is found on the North Slope, although no large-scale deposits have yet been discovered in the immediate vicinity of Wainwright. Barrow, for example, has access to natural gas wells and many of its residents use it for heating and cooking. In 1982, several of the leaders in Wainwright who feared the possible pollution hazards of the large coal-fired heating plant proposed by the North Slope Borough, looked to Barrow's situation as an alternative. The mayor of Wainwright, especially, argued for the development of a natural gas pipeline to the town. He felt that, while such a pipeline would not bring jobs to the community, it would do no harm either and would bring down utility costs.

Ice/Fresh Water

Although Wainwright's environs are snow and ice-covered in the winter and wet in the summer, this is due to poor drainage and a low rate of evaporation and not to large amounts of precipitation. In fact, the North Slope is an arctic desert. Wainwright averages only 11.7 inches of snow per year and about 2.3 inches of rain. Precipitation fluctuates considerably from year to year (Nelson, 1969:409).

In Wainwright, collecting adequate quantities of potable water has always been a considerable problem but has worsened as its population has grown more sedentary, has increased in size, and has accustomed itself to such modern conveniences as running water and washing machines. Traditionally, people in Wainwright used melted ice for drinking water. The ice would be cut in early winter, before the ice had become too thick and hard for cutting. It would be stored in piles at the lake; families would bring in supplies as needed. In the spring around whaling season, large quantities of cut ice would be brought from the surrounding lakes and stored in ice cellars for use as drinking water in the summer. Water for such activities as washing was carried in pails from nearby lakes. Today, as in the past, many of the camping sites are located near streams, lakes or ponds known for their potable water.

Today, the water problem in the village of Wainwright has been somewhat alleviated by the construction of a large water plant owned and operated by the North Slope Borough.

During the summer, this plant collects water in hoses from a nearby pond and stores it in a large tank. As water is needed, the plant treats it with chemicals and filters and disperses it to houses in water trucks. This water cost seven cents per gallon in 1981-82.

While this water is considered adequate for such activities as washing, most Wainwrighters find it undrinkable, claiming it can cause illness. For this reason, most people in town still rely on ice-water for drinking and cooking. As in the past, ice is cut from the lakes in the fall, after freeze-up and before it becomes too thick and hard. The blocks are about a foot deep. During the winter, these blocks are stored in piles at the lake and are brought to town by snow machine and sled as needed. Each household has its own pile; usually a single male or two will go to fetch ice. Before it is brought into the house to melt, ice is cleaned by shaving its sides.

In the spring and parts of the summer, large snow drifts are also used as sources of fresh water. The new snow fence on the north end of town created a drift that did not melt away until nearly July. Here, people could easily gather snow water in pails. In places more protected from the sun, such snow ice was available until around the end of August.

PART II

ETHNOGRAPHIC SUMMARY
AND CONCLUSIONS

CHAPTER XIV

ETHNOGRAPHIC SUMMARY AND CONCLUSIONS

WAINWRIGHT: PAST AND PRESENT

Wainwright is a village on the North Coast of Alaska, 300 miles north of the Arctic Circle. The nearest community is Barrow, approximately 90 air miles away. Several other small villages lie in the region known as the North Slope—a coastal plain between the Arctic Ocean and the Brooks Mountain Range.

The peopling of the North Slope is generally believed to have been a northern "backwash" of the main Paleo-Indian migration from Asia into North and South America (Spencer, 1959:13). The precontact North Slope Inupiaq were composed of two interaction groups: the coastal tagiumiut or "ocean/beach people" and the interior nunamiut or "people of the land" (Spencer, 1959:14). These were recognized ecological adaptations, not political or social divisions. Apparently, the kuugmiut (people of the Kuk River) and the utaqqaqmiut (people of the Utuqqaq River) were the two principal groups that traditionally lived in the Wainwright vicinity (Ivie and Schnieder, 1979:76). Of the two, the kuugmiut had the more coastal orientation. While members of these two groups may have formed the core of Wainwright's original inhabitants, the settlement process was complex and emerged out of the extreme social disruptions of the early

commercial whaling era. By 1890, the precontact social groups had fragmented; the survivors had formed into new organizations.

The period of Inupiaq contact with whites dates from 1778 when Captain James Cook explored the Arctic Coast as far as Icy Cape, midway between Point Lay and Wainwright (Schneider and Libbey, 1979:43). Contact with the outside began to increase rapidly after 1826, when Capt. F.W. Beechey attempted to rendezvous with Sir. John Franklin.

Commercial whaling in the area began around 1850 and remained a major economic influence into the early part of the twentieth century. White whalers wintered on the coast and learned from Native whaling techniques. The first shore based station was established in 1884 at Point Barrow. Within a few years, fifteen such stations were operating between Point Hope and Point Barrow. The whalers intermarried with the Inupiaq and today many Wainwright people trace their ancestry to white whalers of this period.

The inland nunamiut were drawn to the coast for employment and trade during this period and the inland population decreased (Schneider and Libbey, 1979:43). Although on-shore commercial whaling continued for another decade, the price of baleen began to drop dramatically in 1907. By 1908, outside commercial interests in baleen were also involved in fur trading.

As the importance of whaling decreased, this fur trading developed. By the 1920s, it had become a major source of income. It was common practice for trading posts to be

cooperative ventures between whites and Inupiat (Schneider and Libbey, 1979:44). Trading posts began to die out with the Depression in the 1930s and the decline in fur prices.

After World War II, primary sources of cash income were wage work, on and off the Slope, and transfer payments. Many Inupiaq were employed on PET-IV, government sponsored oil exploration, as well as during the building of the DEW line. A Distant Early Warning (DEW) radar site was established in Wainwright after World War II, but there is little interaction between military personnel at the base and Wainwrighters. Two of Wainwright's residents have been working there steadily since the 1950s.

Wainwright is a small community, but large relative to most villages in the Northern Arctic. In May, 1982, the city government reported its population as 506 men, women, and children. Roughly 100 of these, or about 20 percent of Wainwright's population, were whites; the rest were Inupiaq from the North Slope. In April, 1982, we conducted a survey of the households in Wainwright headed by Inupiaq; these included 392 people living in 97 households.

We found that changes in the economy have affected the white population of Wainwright as well as its relationship to the Inupiaq. Ten years ago teachers constituted most of the white population of the village. Today, construction workers do. The average stay of a construction worker can be counted in weeks. There are eight white teaching couples in Wainwright. Several of these have children school-aged or

younger. Today some of the whites in town are influential personages. Yet when Wainwrighters talk of whites that have lived in and been important to their community they almost invariably refer to earlier eras and to people who stayed long enough to make an indelible impression; they speak of teachers out of the 1950s, 40s, 30s, and 20s or of traders out of the 1940s, 30s, and 20s.

SOCIAL INSTITUTIONS

Political Structures

Many governmental organizations are represented in Wainwright. Their charters, powers, and goals overlap; their status in law is sometimes unclear. Organizations include the city government with its associated committees, the North Slope Borough, the regional IRA, the BIA, state governmental bodies, and the village corporation.

No traditional Native village organization has functioned in Wainwright for many years. However, some political procedures of the city council may refer back to this earlier era (see also Brostad, 1975). One important example of this is the persisting importance of elders. The opinions and needs of the old people come up in political discussions and meetings in Wainwright more than they do for the society at large. In the political struggles with the outside, the claims to rights are based so much on traditional usages that the knowledge of the elders now serves as a charter, emphasizing village rights. A second example is

the institution of the "blue ticket." Occasionally, chronic troublemakers are told formally by the city council to leave the village and to never return unless the council has given them written permission to do so.

IRA Government and BIA Authority

An IRA government still has a limited sphere of authority in the village of Wainwright, one which exists in a direct relationship to BIA trust responsibilities and federal laws governing tribal rights and sovereignty. The Inupiat Community of the Arctic Slope (ICAS) emerged in the mid-1970s as the IRA government on the North Slope. Like the North Slope Borough, the ICAS is a regional organization centered in Barrow. Member communities such as Wainwright have an elected representative on its council. ICAS presence is quite limited with most functions performed by the North Slope Borough. As a tribal government, ICAS has created the Alaskan Eskimo Whaling Commission (AEWC). Wainwright whalers are represented in this organization. The AEWC operates on the claim of the ICAS, acting as an IRA tribal government, with the right to regulate such Native subsistence activity.

City Council

The Wainwright village council used to operate under Section 16 of the Indian Reorganization Act of June 18, 1934 and made applicable to Alaska in 1936. Wainwright no longer operates under the Indian Reorganization Act. In 1962 it was incorporated as a second-class city under the laws of the

State of Alaska. With the incorporation of the North Slope Borough, the City of Wainwright also came within the Borough's jurisdictional boundaries. The City of Wainwright is governed by an elected city council and a mayor and vice-mayor.

The City of Wainwright has the same authority as any second-class city that operates within the boundaries of the State of Alaska; the right to regulate public safety and morals, the right to regulate vehicular traffic, issue business licenses and permits, and to own and manage public property. Its actual exercise of sovereignty is severely constrained by budgetary considerations. The new fire station, health services, and public safety are controlled by the North Slope Borough.

Religion

The establishment of Christianity on the North Slope seems to have been an important ingredient in the strong cultural revitalization that occurred in the 1920s. While, in Wainwright, church attendance is less frequent today than it was in the past, Christianity remains important in traditional Inupiaq culture.

Today, two Christian churches operate in Wainwright, the Presbyterian Church and the Assembly of God. The Wainwright Inupiaq are devout Christians and practice their faith in ways consistent with Christians everywhere. Many religious practices focus on the subsistence way of life where the concerns for safety and success, gratitude and thankfulness

are dominant. Some elements of traditional religious beliefs combine with Christian ideology in maintaining the spiritual relationship with nature.

Formal Education

The establishment of a school and a reindeer herd at the mouth of the Kuk River in 1904 marked the beginning of Wainwright as a permanent settlement. Today, the reindeer are gone but the school remains one focal point of the community. In 1982, the former elementary school was a central meeting spot for the community. On its grounds and steps people gathered and visited. Festivals such as Nalukataq and the Fourth of July races were also held there. The modern, new Alak High School and its attached elementary school, provide indoor space for many community-wide activities.

The schools are managed by the North Slope Borough School District. The School Board is made up of representatives from the various villages elected at large. Wainwright has an Advisory Council of five local parents who are responsible to the Board. Wainwright also has a parent group called ICICLE (Inupiat Concerned and Involved in Classroom Learning and Education).

Property

The ownership of property as a social institution is of growing importance in Wainwright. Many of the stresses and strains that Wainwrighters are experiencing are reflected in the way they act toward property. Many of their personal and

cultural strengths are reflected in these actions as well. Most lands upriver are not owned by individuals--they are held by the village or regional corporation or are part of the National Petroleum Reserve. These lands are not considered "owned;" people camp where they pursue game. They camp in places where they--and sometimes their grandparents and great-grandparents--have always camped. Individuals from Wainwright hold allotments upriver which were made before the Native Land Claims settlement. Essentially, people have staked out claims to some of their traditional camping sites, often to parental birthplaces. People have claimed upriver lands in an attempt to protect traditional rights to them. Many claims overlap, but this overlap seems to have created little friction thus far.

Inside the town itself, land is held in one of five ways: (1) it is owned fee patent by individuals (this is rare); (2) it is held in trust by the BIA for individuals; (3) it is held by the city; (4) it is held by the village corporation; and (5) it is held by the North Slope Borough.

Ice cellars are scattered about town, built where the topography is appropriate. Unless they have been sold, they are owned by the family that constructed them, regardless of whose land they rest on. This ownership is seen as an important traditional use right. When the North Slope Borough considered building a health clinic on a plot containing five ice cellars, the village council insisted the site be moved. New housing is built on lands conveyed by the city to the

Borough. In the past, people making payments on the houses would receive the title to the land in 30 years. Because of the recent cutbacks to HUD funds, this has changed. People will pay rent; the title to the land will remain with the Borough. Many people in Wainwright see this change as yet another attempt by the Barrow government to get power at the city's expense. They also see the Borough as not behaving properly as a steward; they see it as "trying to go into business." In response, the Wainwright village council has investigated ways of becoming the owners of this land.

Another stress involved expansion of the airport. In order to build a new airport in Wainwright, land must be conveyed to the State by the village corporation. Later, the State will convey the airport to the Borough. Despite heavy pressures from the city council and the Borough, the village corporation refused to act. The corporation's reasoning was that, since they are a profit-making institution, they could not afford to give away their only real resource--land--without getting something in return. This problem was solved when the corporation received the contract to manage the airport construction.

Voluntary Associations

Search and Rescue is probably the most prestigious male association in Wainwright today. Search and Rescue's membership includes most of the younger males who serve in some capacity as representatives to the North Slope Borough or the City of Wainwright and most, if not all, of the whaling

captains. The duties of this organization involve precisely what its name implies--to search for and rescue lost travelers and hunters. The goals of the Search and Rescue organization exemplify the Inupiaq ideal of the male's relationship to his society--hard work and self-sacrifice for the community. Accepting the cost and dangers with equanimity is a part of this ideal.

Other voluntary associations are also important in Wainwright. The Wainwright Dancers is particularly popular and is perhaps the only organization that brings together elders, the middle aged, and the young on a regular basis. The Recreation Committee is most visible through its sponsorship of bingo games which raise money to be used as matching funds for various projects. The Motor Musers is a social service club organized around snowmobiling. The club organizes races, raises funds through bingo games, and provides food to churches at Thanksgiving and Christmas sharing ceremonies.

THE CASH ECONOMY

Wage Labor

The cash economy of Wainwright is characterized by an almost total dependence upon the public sector and by the seasonal, or "part-time," nature of wage work. Cash to buy goods is indirectly derived from public funds--largely tax revenues from Prudhoe Bay. There was a sizeable wage economy in Wainwright in 1982; most of it public. Almost all of this

is associated, in one way or another, to the oil developments at Prudhoe Bay, some 250 air miles away, and the related creation of the North Slope Borough in 1972.

Our census of 97 households found 392 Inupiaq living in Wainwright at the time of our study. Approximately 35 percent of this population was currently employed in the wage economy. The household employment rate was 1.44. That is, in each household there were about 1 1/2 persons employed in wage labor.

Of the estimated 140 jobs, about 120 (or 79 percent) were Borough related or "Borough created" jobs. All but a few of these were created by CIP projects; 18 jobs depended on funds ultimately derived from the public sector, and only two were private sector jobs. It must be stressed that most of the work is seasonal, temporary, or otherwise unstable.

Thus far it seems that the wage sector has accommodated to the other demands facing the people of Wainwright. Subsistence activities require that one goes hunting or fishing when the weather is right or when migratory species appear as well as "when you want to."

Major employers include the village corporation (Olgoonik corporation), the North Slope Borough, and the North Slope Borough School District. The Olgoonik corporation operates a store which sells groceries, clothing, all the fuel oil in the village, and gasoline. The corporation has recently taken over the CIP construction contracts in the village from Blackstock Corporation, a private

contracting firm. The NSB school district employs a number of local people in various capacities. The North Slope Borough is the third major employer in Wainwright providing thirteen or more permanent jobs.

These three constitute the major employers in terms of relatively permanent, fulltime jobs. Almost all of these jobs are dependent upon some form of transfer payment, either from the Borough tax base or from other government funding.

The Capital Improvements Program is not only central to the local economy, it has changed the face of Wainwright and affected the quality of life of its inhabitants.

Expenditures

Without the benefit of a household survey it was not possible to get accurate estimates of household expenditures. The amount of food purchased, or conversely, the amount of food obtained by hunting and fishing, was not a topic people wanted to discuss. Kruse et al. (1981:70) estimated in 1977 that only twenty-four percent of Inupiaq households in Wainwright obtained no food through hunting and fishing.

Our observations confirm that most meat and a substantial proportion of all food is not purchased. Items available in stores are mostly incidental foods, vegetables and the like, used as side dishes or as additions to a meal. Whites who do not hunt and have all their food shipped into the village give an indication of what food costs would be without subsistence. One white family of three estimated \$500 per month (\$6,000 per year) for food alone. This was

purchased in bulk at discount rates and shipped on the barge. We can estimate that food and heating fuel alone for a small, non-hunting family of three would cost \$10,000 to \$13,000 a year if food were bought wisely at outside prices.

A great amount of money is spent on snowmobiles, boats, motors, gasoline, and other equipment necessary to subsistence pursuits. A formal household survey might have allowed us to obtain systematic data on household expenditures for food and shelter, subsistence activities, and so forth. As it is, we can only say that what cash is earned, is spent quickly.

Understanding the relation of the total economy to this high dependency on both public-sector employment (based upon a non-renewable resource), and legislation, sustaining human services programs, is crucial. McBeath (1981:88) has pointed out that the long-term costs of these projects will have the effect of increasing the dependence upon an unstable, non-renewable resource economy.

KINSHIP

Households

People assume that Eskimo households are large, filled with many children, and made larger still through additions of grandparents, in-laws, and the like. At Wainwright in 1982, the large families were noticeable. Nevertheless, they were a distinct minority. The sizes of most households clustered between one and six members. However, the smaller

households (three people or less) are not independent of the larger ones. Single persons are drawn into domestic activities of the households of their relatives; they share food, services, skills, and the like. The largest households, also, do not form self-sufficient islands. The large households are elastic, and respond easily to the loss and gain of members.

In Wainwright, a process of the splitting of larger households into smaller ones has been encouraged by oil monies flowing into the coffers of the North Slope Borough. Much of these monies have gone into the Borough's Capital Improvements Plan (CIP). In Wainwright, much of the CIP money has gone into new housing. This trend to new housing reflects not only a Borough policy, it expresses a hitherto unattainable desire on the part of many individuals in the town for more privacy, more room, and more "modern" conveniences.

Many larger, older, extant households center around a core of reliable money earners. Many of Wainwright's larger households are headed by noted hunters. These households also have access to relatively large and stable sources of income. On the Arctic Slope, this relationship between work and family size is complicated and seems to be changing rapidly with the building of more North Slope Borough houses. Many of Wainwright's larger established households are not only headed by a well-recognized hunter, they also include one or more of the hunter's sons. These younger men also are

often accomplished hunters but they are less well-recognized as such by the community. Many of the young wage workers live in the town's smaller households.

Two impressive trends appear in Wainwright's demography. First, the village has grown tremendously. Between 1955 and 1982, the Native population has increased by about 57 percent; the white population by about 150 percent. While Wainwright is evolving under Native rather than white direction, still these population trends indicate that Wainwright is, in some respects, becoming more a town than a village. Second, household size has decreased significantly --by about 22 percent in 1955. This decrease represents a real change in the social composition of households qualified by the fact that sharing and cooperation among people under different roofs persists.

Kinship and Household Composition

A comparison of Milan's household census (1969:83-95) and ours confirms many of Burch's (1975) observations about changes in Eskimo kinship. In the past 27 years the household composition in Wainwright has, on the average, become simpler. Yet, even a cursory analysis of the 1982 census shows this composition to be more complex than that for the United States as a whole. While few households in Wainwright contain collateral kin or affines, many households include adoptees.

Present-day Wainwright households contain between one and four generations of kinspeople. The flexibility of

households, the types of composite, three-generational, and four-generational households suggest a trend different from the trend perceived by Burch. Indeed, Eskimo values for adoption and sharing continue to yield some large, composite households. Research on the household structure of Natives in the "lower 48" indicates that composite households may increase in the future if transfer dependencies increase but fewer dollars and services are provided per household, or if hunting for subsistence increases, or if both occur.

With the advent of publicly financed housing, sundry transfer payments, and public sector employment, 98 percent of all Wainwright households have come to contain either no children or children one-, two-, or three-generations removed in a direct line of descent from the household heads. However, this high proportion of houses containing only direct descent exists only if we ignore adoptions. If we recognize the kinship origins of adoptees, the complexity of the composite and multiple generation households becomes obvious.

Adoption remains an important institution in Wainwright, and particularly so with regards to the internal and external workings of the various households. It joins families in that village to families in others, particularly Barrow and Point Lay. It joins together households in Wainwright itself. Many of the adoptions involve relatives either in Wainwright or from other communities as far away as Anchorage.

Kinship and Economic Organization

The overwhelming importance of kin relations in traditional, pre-contact North Alaskan Eskimo society is widely accepted. Today, one can look at almost any formal social institution in Wainwright--the stores, the churches, the schools, the bodies of government--and find some way in which its operations are affected by kinship considerations of its employees or members. Nevertheless, kinship no longer forms the basis for such social organizations. The stores, for example, are not structured by kin relations. These institutions find their order in United States law, a law often complicated because of the special relations between the federal government and Native Americans. One might point to a "kinship component" in a business's hiring practices, but this component remains an aspect of a phenomenon organized along different principles.

Moreover, the people of Wainwright understand that such organizations are not kinship-based institutions. People are aware of price differences between the stores, often item by item. Comparative prices, store hours, and credit needs--not kinship--are what shoppers in Wainwright consider. Often one hears complaints about nepotism in one social institution or another. These complaints are always phrased in terms of the universalistic ideal of American society at large, never in terms of some conflicting kin obligations.

Kinship relationships are not the only facts which influence the organization of subsistence task groups. The structure and size of subsistence-orientated task groups are

related to such issues as the kind and character of the resource to be exploited, the distance that resource lies from Wainwright, the amount of time one might expect the activity to take, the technical apparatus needed to accomplish the task, and the time of the year it is to be undertaken.

For example, the composition of many task groups is ad hoc. When we asked the question, "Who do you hunt walrus with?" people would often answer, "With my relatives" or "With my brothers." Almost as often people would give answers like, "Whoever is going out" or "Whoever is around." Usually the person who "happens" to be going out also "happens" to be a relative, but this is not always the case. A man will bump into a friend at the store, mention that he must check his net by boat and invite the friend along. We must stress that, even with boat crews, this "happenstantial" quality is often an important factor in task group composition.

Today in Wainwright, contending forces encourage and discourage the increase of subsistence pursuits by unaccompanied individuals. On one side, the snow machine and three-wheeler have added to an individual's mobility and carrying capacity. This has made the solitary hunter a more efficient unit than ever before. Added to this, the present availability of well-paying jobs has brought such technology within the reach of most village adults. Jobs also mean that workers have to juggle their subsistence activities around

their "free time" and vacation time. These constraints vary from individual to individual.

On the other hand, the same technology which adds to an individual's hunting efficiency allows him to leave town, accomplish a task and return in hours when it would have been days in the time of dog power. This allows for greater flexibility in planning. Thus, many persons who might often hunt alone, can also easily team-up with other hunters. Also, the same jobs, which require that hunting and work time be juggled, put many men on identical schedules. We have noticed that several men who work together also hunt together. This tendency is particularly strong in such cases where the work is longstanding.

Couples, sometimes with small children, are a common form of task group. This, like the solitary hunter, fisher, or gatherer, seems to have become more prevalent with the adoption of the snow machine and the growth of the money economy. A man might have three or four partners with whom he hunts at different times or for different species. Nelson (1969:261-262) described the partnership approach to hunting and we found that similar patterns exist today.

Complex hunting groups occur, especially as boat crews. While these task groups often contain unrelated members, they usually include a stable "core" of members who are closely related. This core usually consists of fathers and sons, brothers, cousins, or nephews. Occasionally it includes an unrelated or distantly-related longtime hunting partner.

In Wainwright, the most complex hunting task groups are

whaling crews. The regulation of the bowhead take seems to have affected the structure of these crews in several ways. First, the size of whaling crews seems to be increasing; second, non-Wainwright membership in the crews seems to have been encouraged; and, third, semi-formal ways of distributing the less experienced hunters among the various crews may be emerging.

SHARING

A major element in the subsistence economy of Wainwright, and throughout Eskimo society, is the sharing of subsistence products. A great amount of sharing of naturally-occurring renewable resources goes on in Wainwright today. Most of this sharing involves food in relatively small quantities. Although such sharing occurs among neighbors and friends scattered throughout the community, most of it occurs within fairly narrow confines. Food is given to parents, children, siblings, aunts, uncles, nephews, nieces, and in-laws. This type of sharing occurs daily; it is so common--so much a part of life--that it can hardly be recalled months or even weeks after.

More formalized sharing occurs in three ways: giving to old people, giving at Nalukataq, and giving at the Christmas and Thanksgiving feasts. Special giving to "old people" occurs in two ways. Young men, as they learn to hunt, are expected to give the first animal of every species they kill

to some old person. A second type of giving to old people might be seen as a more generalized version of the first. Everybody in Wainwright seems to hold the view that one should give to old people because they cannot hunt for themselves. Good hunters sometimes give a great deal; one man shoots a caribou for each of six "old people" on his list; another gives a sack of fish and a caribou to people on his.

Nalukataq means "blanket toss." It is also the word for the feast given by a successful whaling crew to the village in celebration of the taking of a bowhead whale. Days before the festival relatives and friends arrive in the village. Visiting is a major activity and hosts serve Native foods, buffet style. The Native foods served in the homes during Nalukataq are status foods. Having varied and adequate supplies reflects well on the hunter and his wife.

The festival celebration itself is opened with a prayer from a visiting preacher and then people are served lunch, soup and bread. The crowd in 1982 numbered a few over 500. Members of the whaling crew, their wives and girlfriends, and other close relatives were on the platform busily sorting food into large pails, plastic bowls, and plastic bags. Some of the pails were so large that two men strained to carry them. Some of the people who worked on the platform later distributed the food to the crowd.

After this eating portion of the festivities, walrus, several varieties of maktak, whale meat, and mikiaq were given by the whaling captain and his crew to the assembled guests. The idea is to divide all the food equitably among

the families represented, each household was given an equal "share" for each of its members.

Quite correctly, commentators have made much of the importance of whaling to the Inupiaq of the North Slope. The striking and landing of a whale is an exciting, colorful, and highly visible event. The Nalukataq may be less visible to outsiders, but it remains an important feature of the cultural landscape to the people of Wainwright and for all the North Slope Inupiaq.

Tremendous quantities of subsistence foods are shared, not only at the celebration itself, but also during the festivities which surround it. At the celebration, the focus is on the whaling captain's family and crew and on the whale. In the rest of the festivities, it is on family and friends and traditional subsistence foods in general. This coming together to share helps define the Inupiaq community. One might say that the giving of the whale at Nalukataq is what gives whaling its importance. The division of food into per capita shares occurs not only at Nalukataq, but also at the two other holidays during which food is given away, Thanksgiving and Christmas. At these two celebrations, Native foods and store bought foods are distributed.

SPECIES AVAILABILITY, COLLECTION, AND USE

Big Game

Three big game species are encountered by Wainwright

hunters in the area they normally exploit: grizzly bear, caribou, and moose. Of these, only the caribou is of major importance to the village's subsistence economy. Caribou provides the staple subsistence food in Wainwright; it is the most significant land mammal hunted (see Nelson, 1969:153, 180).

Brown bears are occasionally encountered upriver, but rarely, near the coast. In the old days, their furs were sometimes used for clothing and mattresses, but this is not presently the case. When brown bears are shot, their meat is eaten boiled. Like polar bear meat, it is often shared. Wainwrighters consider brown bear meat inferior to polar bear. Brown bears are rarely hunted today but will be shot if they disturb the fish camps. We were told that "a few are shot each year;" we know of one killed in the fall of 1981.

Today, caribou remains Wainwright's staple subsistence food and, even taking into account store-bought substitutes, it is the meat most often consumed in the village. Everybody in this town agrees that caribou is the one meat that a person could eat every day without tiring of it. Today, too, caribou is the meat most often fed to dogs.

Exact figures on the caribou kill at Wainwright are difficult to come by. In part, this difficulty arises from earlier attempts by the State of Alaska to regulate caribou hunting on the North Slope. State interference has left the people in the village extremely suspicious of outsiders questioning them on this subject.

There are few statistics on the number of caribou taken

in the past. Chance (1966:42), quoting Milan for the 1950s, states that the average annual caribou take at Wainwright was 800 and that a full-time hunter in a family of six kills an average of 24 per year. Today, the taking of caribou is not distributed evenly by household. A father and his sons, two of whom head their own small households, killed more than 60 in 1981. Another household containing three active hunters killed about 30. A man who heads a family of six and is considered a good hunter in Wainwright killed between 10 and 12. On the other hand, three households that were interviewed killed no caribou in 1981.

If we had to make an estimate of the average number of caribou consumed per household we would set the number at five. This is considerably less than in Milan's report for 1955, even when one considers the smaller households of today. Caribou consumption is difficult to estimate not only because people do not like to talk about it, but also because it varies greatly from house to house and from year to year. While all Native households in Wainwright consume caribou, some eat it four, five, or six times a week, while others have it only rarely. The latter persons eat more store-bought foods.

A discussion of caribou hunting can be broken into two parts, hunting before freeze-up and hunting after freeze-up. The hunting of caribou becomes a major activity around the first or second week of August. It is during this period that the skins are considered prime for skin sewing because

the fur is not too thick. Caribou meat before freeze-up is considered prime for one of the favorite of all dishes--qwaq, meat eaten frozen and raw.

It is during the summer and early fall hunting that most families take the bulk of their caribou. Hunting during this period is a cooperative effort; it is done by groups of men in boats along the ocean's coast and the shores of the rivers. Usually, by mid-September, ice formation puts an end to the hunting of caribou by boat. After freeze-up, hunting is done by snow machine and it ceases to be as much of a cooperative venture. Very small caliber, fast, flat shooting rifles are generally used on caribou. Rifles such as .222, .223 and 6mm Remingtons, .243 Winchesters and .25-06s are most often used. Hunters say they are more accurate than larger calibers and ruin less meat.

Not only is caribou the preferred food of the people in Wainwright, but it is essential to their diet. The Inupiaq name for caribou meat is nigipiaq, "real meat," and it probably provides the greatest percentage of protein consumed in Wainwright. People use it for clothing and shelter; all parts of the caribou may be utilized.

Inupiaq prepare caribou in many different ways, providing variety to their diet. People in Wainwright eat caribou fresh, but most of it is stored for future use. It can be air cured by hanging up on outside racks to dry, thereby preserving the strips of meat. Most of the caribou meat hunted by Wainwrighters is preserved by freezing it in ice cellars.

Over half of the caribou meat is eaten boiled. Wainwright cooks make soups, stews, and Eskimo ice cream. Inupiaq eat caribou pan fried, raw or frozen. They snack on the bone marrow. The head, brains, tongue, neck, kidneys and heart can be boiled. Some of the older people eat eyes mashed into a paste mixed with caribou tallow. The fatty membrane around the intestines is often eaten raw, as is the back fat called kalnuk (See Bane, n.d.).

The carcass and skins of caribou still provide raw materials for a part of local technology. Clothing in the form of snowpants and parkas were once commonly used by everyone. We saw several caribou parkas and snowpants, but they were all owned by older people. Our impression was that lambskin lined parkas have generally replaced the use of caribou outer garments. However, several women in town still make caribou boots for their own families and to sell to other residents.

The skins of the caribou legs are used to make mukluks for inside or outside. Caribou skin is also used to make a liner like a felt pad for the inside of boots. Skins from caribou killed in the winter are used as a soft, comfortable mattress when camping which also gives more warmth than an inflatable plastic pad.

Moose are not common and provide, at most, a secondary meat source. Of the eight hunters we questioned closely on this subject, only one had killed a moose within the last year, in August of 1981. Moose hunting is done by boat

crews. As moose move toward the coast, they will be hunted occasionally by walrus crews or by caribou hunters operating in boats along the beach. However, most moose that are encountered are found upriver; almost all the moose that have been taken have been shot as "targets of opportunity" by men hunting upriver caribou by boat. As such, moose hunting is exactly like caribou hunting before freeze-up. As in the case of caribou, not all the moose that are seen are shot. We were told that people prefer the smaller ones. Moose meat is usually boiled. Although it is not a preferred meat, people mention liking the taste of it occasionally.

While the normal subsistence range of Wainwright in no way includes areas inhabited by Dall sheep, men from the village have traveled the long distances necessary to hunt them. At least one trip was made in the 1980 season and another in 1981. The first was made by snow machine and took four days each way; the other was made by charter airplane. In any case, these trips can be seen more as an example of "sport hunting" than as a subsistence pursuit. In subsistence systems, recreational and economic aspects are often difficult to separate; Wainwright men take great pride and pleasure in their hunting activities.

Small Game, Fur-Bearers

Of the many small fur-bearers which inhabit the area exploited by Wainwright's hunters, only four have had noticeable roles in the subsistence economy of the village. These include: the arctic fox, the red fox and red fox variants,

the wolf, and the wolverine. In the 1910s and 1920s, fur trapping was the major economic activity on the North Slope, so important that it affected settlement patterns and subsistence strategies.

Today, the arctic fox is generally trapped; the rest usually shot with very small caliber rifles so as to damage the fur minimally. The wolf, and particularly the wolverine, are seldom encountered. Except for the arctic fox, none of these animals have played a central role in the village economy. The hunting of all of them--and in particular the trapping of arctic foxes--has been affected by the growing wage economy. We know of nine men who trapped some in the winter of 1980-81. Doubtlessly others did as well. Of these nine, only two trapped with regularity. In 1981-82, a prime arctic fox pelt sold for between \$35 and \$40 apiece.

Red fox and red fox variants are less common and more sought after than arctic foxes. The variants include blue foxes and cross foxes, both distinguished from the red by different colorings of, and markings on, their fur. Prime red fox sold for around \$150 in Wainwright in 1981-82; the rarer blue and cross foxes for \$185 and more. These foxes, although less durable than wolf or wolverine, are sought for ruffs and decorative trim on parkas--particularly women's parkas. Unlike arctic foxes, red foxes are not normally found near Wainwright. They are hunted upriver and are, almost invariably, shot with small caliber rifles to minimize damage to the pelt.

Wolves are found upriver and are also shot with small

caliber rifles. They are usually hunted by snow machine from around November through February when their pelts are prime. Hardly any are caught in traps. A good place for finding them is up the Ivisaruk River around Ivisharak. The number taken is small. One man shot three in the winter of 1981-82 and he was considered unusually successful. Of nine others we interviewed on this subject, two men shot one each and the rest were unsuccessful. Since the take of wolves is small and their pelts are preferred for ruffs of parkas, few are sold outside of the village.

Wolverines are hunted like wolves, only they are bagged even less often. Several people have stated that they are rarer today than in the past because of all the development that is taking place. Wolverine is preferred over all other furs for parka ruffs and trim. We know of three wolverines that were taken by Wainwrighters last year, although there were probably a few more. Since they are so rare, few, if any, are sold outside of the village.

Marine Mammals

The change from dog traction to snow machines has generally decreased the economic importance of marine mammals, while, at the same time increased hunting costs by creating a dependence on petroleum and technology. Since dogs do not have to be fed seals and walrus, those animals are hunted less.

The changes that have taken place in recent years, however, have had less impact on the dietary importance of

sea mammals to humans than on hunting intensity. Taken together, polar bear, the various seals, and walrus remain an important, if secondary, source of subsistence foods. As in the 1960s, gifts of beluga whale from Point Lay remains an important tie between these two settlements. Finally, despite international regulations, the bowhead whale continues to provide large amounts of meat and maktak--the most sought after of all subsistence foods. Moreover, the bowhead remains the centerpiece in the local community's religious relationship to animals, and it provides the reason for maintaining the most important inter- and intra-village sharing ceremony, the Nalukataq.

The ceremonial and religious position of the bowhead whale for the people of Wainwright is important. It appears that sea mammals, in particular, are crucial to the religious and social attitudes about people and animals. Put another way, sea mammals play a significant role in the cultural definition of man's relationship to nature.

Here it is important to remember that, to a greater extent than with big game and fur bearers, the Inupiaq of Wainwright stress the personal and spiritual ties of hunter and hunted in their attitudes toward marine mammals. They draw an analogy between the polar bear as hunter and themselves; they do not do this with grizzly bears. The killer whale, the shark, and possibly the grey whale are all animals which should be left undisturbed because of their particular personalities or spirit. There are no similar land animals.

The walrus and the harbor seal are the two game animals taken by Wainwrighters which are seen as dangerous and needing to be treated with respect. Finally, it is with the beluga and, more, with the bowhead that Wainwrighters stress the way animals allow themselves to be taken by men who have proper thoughts toward them. Coupled with these religious attitudes is the predominant role that marine mammals play in formalized sharing. The polar bear, walrus, and especially the bowhead, are important here.

Birds

Bird hunting today may be more important to Wainwright's subsistence economy than it was twenty years ago. If one considers that Wainwright took two bowhead whales in 1982--one weighing 60 tons and one 45 tons--it is clear that the "actual volume" of bird meat brought into the village could never equal that of marine mammals. Yet, the actual amount of meat consumed by villagers is another issue. In the mid-1960s, literally tons of walrus and seal meat were consumed annually by the dogs. This is no longer true. Much of the bowhead meat and maktak is gifted outside of the village. On the other hand, one man and his wife this year shot 140 white-fronted geese and snow geese in the spring of 1982. One goose makes enough soup for a meal for their family. Eventhough they give many of these away they ate many goose soup meals. Moreover, unlike maktak, birds tend to be gifted within the village. This household, and others like it, consumes more bird meat at home than sea mammal meat and they

feed their dogs mostly caribou. Other households do not eat as many birds but, all in all, the balance has changed.

Except in the case of black brants, bird hunting is much more intense during the spring than in the fall. It continues sporadically through much of the summer and picks up again in the fall. Today, three major groups of birds are hunted: eider ducks including the common, king, spectacled, and Stellar's; black brants; and white-fronted geese. In general, eiders are hunted along the ocean shore and on waterways a few miles inland and white-fronted geese are hunted on inland waterways from a few miles inland all the way to the fish camps, 50 to 60 miles up the Kuk.

Eider ducks are intensely hunted by boat, in the ocean, during the spring and sporadically hunted during the summer and fall. This bird hunting often begins immediately after the end of whaling and, for a short time, can involve a whaling crew or part of a whaling crew. Later, these hunting crews are the same that hunt seals and walrus. Early in the season, many eiders can be taken in a single day. Forty is not an uncommon amount; one whaling crew took sixty in a few hours. In boat hunting, the birds are divided equally among the crew members. Eiders may be the most preferred of all game birds in Wainwright. For this reason, few are stored. They are consumed immediately or shared, usually with close relatives.

Black brant hunting takes place on the ocean beach. They are the most commonly found goose along the coast. While these birds are hunted during the summer, they are one

of the few that are hunted systematically during the fall.

When there is snow on the ground, people travel to their hunting spots by snow machine, later by three-wheeler or by boat. Some good hunting spots are within a mile or two of Wainwright, but the best ones lie 20 miles or more to the south.

White-fronted geese are shot upriver. These are the first major birds to arrive. They begin to congregate 50 miles inland and appear closer and closer to Wainwright as the snow begins to melt. These birds can be taken in especially large quantities--60 per day is not unheard of. While snow remains on the ground, circular bird blinds made out of snow are often constructed. Family camping groups usually go upriver to do this kind of hunting.

Fish

Wainwright's fishing may be divided into four kinds of activities: ocean netting, upriver netting and jigging, "smelting," and spin fishing. Spin fishing is done in the ocean, in the Kuk Lagoon, and upriver. In the ocean and lagoon fishermen take salmon, char, and an occasional flounder and ling cod. Upriver they take mostly grayling and whitefish. Upriver, a person might put in a net and spin fish to pass the time of day. During the 1970s, spin fishing became very popular; today, many lures can be purchased in the stores.

In the late 1970s and early 1980s, ocean fish were being exploited more than ever before. Presently, many Wain-

wrighters are gill netting for oceangoing fish. These nets are set in front of Wainwright's beach and at other places along the coast where the water is relatively deep close to shore. Other favored places are near or at the mouths of streams and rivers entering the ocean, especially at the mouth of the Kuk Lagoon. Nets are also sometimes placed on the south shore of the lagoon as much as 3 or 4 miles from the ocean.

Netting in the ocean has become popular only in the last five years or so and as yet relatively few households put them in. Two reasons for this increased popularity are given. First, ocean nets are expensive and, compared to the upriver variety, bring little return. Until the influx of jobs, few people could afford to invest the \$200 plus dollars needed for an ocean net. Second, people say that the number of salmon in the area has been increasing since the mid-1970s. Even so, ocean and inlet netting is not very productive compared to salmon netting in more southerly parts of Alaska or, for that matter, compared to netting upriver.

Ocean netting has three advantages: first, it can be done in the latter part of July and early August before upriver netting and caribou hunting begins in earnest; second, it can be done from Wainwright or along the coast at a time when the mosquitoes inland are quite intolerable; and third, salmon are a preferred fish.

Except for red salmon, the take is not differentiated by species. Humpback are the most common taken, followed

closely by dog salmon. The take is measured in "sacks" which weigh between 40 and 50 pounds. Five sacks was considered a good catch for the summer of 1981, ten sacks was considered excellent. Red salmon are relatively rare and much desired. They are "counted in numbers." A good take in 1981 was five; one man reported taking seven.

Salmon are split and dried, boiled into soup and baked, often in aluminum foil. Since salmon are a preferred fish, they are often shared. Gifts are in small amounts, one fish for a meal. Usually they are made to close relatives, yet fish are also given to friends and neighbors.

Upriver netting begins in late August with the onset of nightfall; darkness hides the net from the fish. It continues until freeze-up. After freeze-up, people jig for fish, especially grayling and ling cod (burbot), and some families continue to use nets designed to be placed under the ice. Char, grayling, an occasional ling-cod, and two varieties of whitefish are taken in the nets.

Grayling are taken most commonly and provide the bulk of the fish harvested from the Kuk River and its tributaries. These are followed by the whitefish and dolly varden. Such fish are counted in "sacks;" they are not differentiated by species. Most is eaten frozen, often dipped in seal oil. Some is fried or boiled into soup. Many people prefer whitefish to grayling.

A sweet-tasting smelt is taken by Wainwrighters in the Kuk Lagoon. The fish is rather large, running as big as 8 inches. These fish enter the lagoon from the ocean around

January and stay through March. Actually, a few remain longer, but after March they are no longer considered "prime." A few are also caught in nets set along the ocean beach near the mouth of the Kuk, but during the warm months, they are not sought. During the winter, fish freeze almost immediately after being brought up onto the ice and this is considered important in preserving the flavor of the smelt.

Today, people jig for smelt in almost exactly the same manner as is described by Nelson (1969:148-149). They usually travel the three or so miles from town by snow machine and sled. They fish while standing or sitting on their sleds or snow machine. This is done in January, February, and March, the coldest months of the year.

Smelt are often given away. Usually this occurs within a narrow group of relatives--between parents and children, aunts, uncles and nieces and nephews, between cousins--but we have seen examples of people giving smelt to "just friends" and even to co-workers. The amounts given are generally small, anywhere from enough for a meal to four or five pounds.

Smelt has the distinction of being the only species of animal or plant that is regularly bought and sold in Wainwright. The going price in town in 1982 was one dollar per pound, although it could be had for eighty cents. At one time, smelt was sold to the cooperative store and then resold, but this is no longer the case. Today, people advertise in notices put up at the store and sell to customers

directly. Two households were involved in this trade in 1982, one particularly so. All along the North Slope, Wainwright is noted for its particularly sweet tasting smelt. Most of the smelt trade in Wainwright is done with people ordering direct from Barrow.

Although we were not able to observe this, fish called panmaksraq (probably capelin) spawn locally and can be taken with homemade seine nets. These fish can be boiled or fried when they are fresh. They are also dried. On a good day, a single individual might seine a sack or two of fish--up to eighty pounds or so wet weight--from the water.

Other Resources

Invertebrates

Apparently, marine invertebrates have never been of more than marginal importance to the diet of the people of Wainwright. At present, they are rarely collected although crabs and clams are occasionally gathered after strong fall storms. Several could provide a source of food in an emergency. More important, however, is that the invertebrates constitute an important link in the food chain of the mammals that Wainwrighters hunt, eat, use, and revere. Invertebrates are crucial, being the principal food of walrus as well as the food of some whales and seals.

Plants

In its study of subsistence land use in the area, the North Slope Borough Contract Staff (1979:12) lists four types of berries and ten types of greens and roots in use by

Natives in the Barrow-Wainwright region. These are: blueberries, cloudberry, cranberries, wild chives, willow leaves, sour dock, grass roots (unspecified), Hudson's Bay tea, swamp grass (unspecified), wild celery, wild spinach, wild potato and wild rhubarb.

While tasks have never been rigidly separated by sex, formerly the gathering of plants was primarily a female activity. However today, few 20 and 30 year old women in Wainwright seem to know much about plants. When asked about gathering and cooking indigenous plants, most women that age would refer the questions to their mothers or grandmothers or older aunts. Only time will tell whether younger women will possess knowledge of plant extraction and preparation, and collect them or not. It may be that young women simply defer to older women in such discussions.

Whatever the case may be, some store-bought products undoubtedly substitute for Native plants. We met nobody that did not like store-bought fruit and many enjoy the vegetables as well. Several people mentioned that they look forward to trips to Barrow and beyond because it offers an opportunity to purchase large amounts of quality produce.

CONCLUSIONS

We have attempted to accurately describe the social, economic, and cultural systems in Wainwright and discuss their linkages to the harvest of naturally-occurring, renewable resources. In Wainwright, as in other villages on the

North Slope, subsistence is a way of life with deep historical roots. As an economic system it has been affected and changed throughout this century by commercial whaling, by reindeer herding and fur trapping, by the introduction of the cash economy, and by the introduction of new foods and new technology.

The recent changes brought about by Prudhoe Bay oil and abundant CIP wage work have been analysed. Lowenstein (1981) refers to the present as the period of "super change." The changes that oil development has brought to the Arctic Slope have been mostly indirect, results of NSB policy making as well as of the Borough's ability to tax. Nevertheless, changes on the Arctic Slope have been substantially different in order and magnitude than earlier effects.

In the face of such change, hunting, fishing, and gathering have remained integral to the lives of Wainwrighters. Indeed, we have demonstrated that the subsistence way of life has provided the community with needed strength and stability during a difficult period of rapid change. Thus, despite the changes that have taken place with oil development in recent years, the available, naturally occurring species continue to be inextricably linked to the socioeconomic and sociocultural systems of Wainwright and other North Slope communities. Our research has provided a species-by-species analysis of the collection, distribution, use, and importance of these resources to the Inupiaq way of life.

Wainwright's population has grown, whites have become a significant element of that population (if not yet of the "community"). Households have become smaller and more numerous. Oil-related employment opportunities have attracted the whites and proliferation of housing built by oil money has changed household size and composition. The changing characteristics of the local economy have been reflected in changes in the white population as well as in changes in Native-white relations.

Combined with the recent sizable and significant demographic shifts are changes in subsistence technology which have been made possible by a new cash economy. Snow machines and motor boats have virtually eliminated dogs and other forms of transportation. While such innovations lower the required harvests of subsistence species--particularly walrus--they also escalate the local dependence on petroleum products. In 1982, expensive fuel oil had virtually replaced the use of the abundantly available coal for heating houses.

Numerous biotic species are available resources for the subsistence of Wainwrighters. However, the availability of particular resources is subject to wide fluctuations. For example, while we lived in Wainwright during the winter of 1982, caribou were abundant very close to the village. On the other hand, few caribou could be found near Wainwright in the winter of 1983 and hunters were traveling long distances to collect them.

We have discussed the complex history of Inupiaq reactions to changes in the availability of various species,

particularly to shortages of bowhead whales, walrus, and caribou. We have discussed, as well, other changes. For example, we examined how the switch from dog traction to snowmobiles affected the need for walrus and, to some extent, their availability. The next section of this report employs the knowledge of these past reactions in a discussion of the effects of potential disruptions to the harvest from future OCS activities.

We have described and analyzed how each species is collected, distributed, shared, and used by the people of Wainwright. We have compared, whenever appropriate, today's patterns with those of the past. We have also provided a discussion of how recent regulations have affected the Inupiat use of certain species, particularly bowhead whales, birds, and caribou. Insights from these discussions will also be employed in our analysis of potential OCS disruptions.

We have addressed the specific issues of the relationships between social organization and subsistence in the Arctic. While households have proliferated and each is smaller than before, a great deal of sharing and cooperation continues among kin now residing separately. Also, many special characteristics of Inupiaq kinship, household composition, and adoption are evident. The present day makeup of subsistence task groups demonstrates the continuing importance of kin relations and such traditional quasi-kin relations as "partners." This remains true

eventhough new technology and accommodations to wage employment have encouraged an increase in individual subsistence pursuits.

The importance of sharing to the Eskimo way, to kinship relations, to social organizations, and to the vitality of the community has been highlighted. The formal characteristics of sharing is notable at such central ceremonial events as the Nalukataq as is the importance of such sharing in unifying Inupiaq society. However, sharing is even more widespread in informal and almost invisible ways. The pervasive sharing of meals, access to kin's ice cellars, sending of pots and packages across the village or to other villages, has not been quantified. However, we found most sharing occurs in this fashion. Moreover, we found that sharing, particularly in this fashion, was central to the process of maintaining the community as were the more formal varieties.

In-depth analyses have already appeared on the emerging wage economy of the North Slope and on the importance of the Borough's Capital Improvement Projects in maintaining this economy (see especially Kleinfeld et al., 1981; McBeath, 1981). While these earlier analyses may have been overly optimistic about the future of the wage economy, they clearly point out: (1) that oil development has not led to the growth of a diversified self-sustaining economy; (2) that energy development has created, for the Inupiaq and the Borough, a serious dependence on an unstable, non-renewable resource; (3) that the substantial revenues from oil currently can only

be projected to continue for another ten years; (4) that the elaborate social service system being created is establishing high maintenance and repair costs that will, in the near future, require a larger share of a shrinking budget; and (5) that a projected end to subsidized rent and infrastructure services will require residents to earn cash regularly. We have shown throughout how subsistence activities are tied, to a degree, to this unstable, nonself-sustaining cash economy.

Finally, we have examined some of the major social institutions in Wainwright. We have tried to delineate the structure of authority. The issues confronting village government and the complexities of dealing with overlapping bureaucracies have been addressed. We were able to observe the development of a social movement to ban alcohol in the village which culminated in a success for the prohibitionists. We have found Wainwrighters undergoing changes in the way they act toward property ownership and have described some tensions between traditional ideas of stewardship and new ideas of ownership. Villagers continue to strongly value traditional rights and to prefer forms of ownership other than simple private property. The major voluntary association in Wainwright, Search and Rescue, has traditional roots in subsistence life and continues to exemplify the Eskimo way.

The stated purpose of this ethnography is to provide the background necessary to predict the social, economic, and cultural impacts of potential disruptions to the subsistence

harvest that might occur due to future OCS activity. Thus far we have examined the current condition of Wainwright's subsistence economy, its complex past, and its relations to the village's present day sociocultural systems. The following section (Part III) will address the economic and sociocultural effects of harvest disruptions in this context.

PART III

METHODS, STANDARDS, ASSUMPTIONS, IMPACT CATEGORIES,
SYSTEM PARAMETERS, METHODS AND ASSUMPTIONS

CHAPTER XV

HARVEST DISRUPTION ASSUMPTIONS AND IMPACT CATEGORIES

Social impact assessment consists of a strange and inescapable mix of science and art. The goal of impact assessment is to project future social change, to come to "bottom line" conclusions about the nature, direction, and strengths of changes that would occur if some hypothetical, externally induced action were to take place. Moreover, the goal is to separate changes due to this action from (1) changes that would occur if no actions were taken and, (2) from changes that would occur if other unrelated but planned actions were taken. In social impact assessments, the first set of changes is called the "base case" while the second set is called the "cumulative case." The hypothetical action is termed "the proposal."

Separating the effects of the proposal from changes in the cumulative and base case assumes a type of final and discrete causality which, except in the specialized field of social impact assessment itself, finds limited support in present day social science theory (see Ellias, 1978 for a recent discussion of this problem). However, even accepting the possibility of a rigorous separation of social changes due to a proposal from changes occurring as part of the rest of human history, coming to a "bottom line" assessment still remains a monumental task.

A "bottom line" assessment--for example, a conclusion

about the probable level of effects on Wainwright's subsistence from proposed regional OCS development--is actually composed of answers to many questions about strategies, methodologies, technologies, and attitudes Wainwrighters exhibit toward the harvest of naturally-occurring renewable resources. It is composed, as well, of answers to questions about how subsistence pursuits relate to other economic and social activities in the community. In turn, the answers to these questions rest on further complexities and uncertainties; they are products of sets of assumptions and interpretations of data which are almost always incomplete or inconclusive.

A cursory examination of one such question demonstrates the magnitude of the problem. The caribou hunt is important to Wainwright's yearly subsistence round. Therefore, answering the question of the possible effects of oil development on the level of effort devoted to caribou hunting would provide one small piece necessary for a "bottom line" assessment of subsistence effects. This question is actually composed of a multitude of smaller problems.

Some are rooted in understandings of lawful behavior. For example, in a capitalist society the price of true commodities can be plotted against a supply and demand curve. However, enforced state and federal game regulations have effectively eliminated any market potential for Alaskan caribou meat. Thus, our assessment must take into account the fact that caribou meat is not a true commodity, that its

worth is necessarily determined by some principle other than supply and demand, and that the level of hunting effort devoted to caribou is not determined by its price.

Even though, in the past, some discussions about legalizing the sale of caribou meat have occurred, we assume that the laws against its sale will remain intact; in present day Alaska, political tensions over the "subsistence issue" probably would not allow for such a revision even if biological grounds for it came to pass. Granting this assumption, we may assume that neither the worth of caribou meat nor the effort Wainwrighters expend in harvesting it will be affected by its price.

Some aspects of any assessment are based on empirical data and probabilistic relations among these data. Following our example, since Wainwright has been heavily dependent on caribou meat for the last few hundred years, we can assume—simply on empirical grounds—that the village will remain dependent on caribou meat in the near future unless forced to do otherwise.

In the past, Wainwrighters have reacted to caribou scarcities by expanding the hunting range and devoting more effort to its pursuit. Therefore, also simply on empirical grounds, we can assume that, all things being equal, the village's hunting efforts would increase again if faced by a future caribou scarcity. Thus, on empirical and probabilistic grounds we can safely assume that, should OCS oil development induce a change in the caribou population or distribution, levels of hunting effort would increase and the

"cost" of that meat to Wainwright households would effectively be raised. However, also on empirical and theoretical grounds, we can assume that, since the production and consumption of caribou meat exists outside of a true commodity system, assigning a specific "dollar value" to this "cost" would be arbitrary as well as difficult. Thus, the same process which leads us to predict that harvest effort would increase also leads us to conclude that the ratio of harvest disruption to increased harvest effort is not known. (Discussions of this ratio do not appear in any of the extensive literature we have reviewed.)

Finally, some aspects of any assessment, by their nature, can only be "educated guesses" or pure assumptions. Following our example again, the status of caribou as a non-commodity has been important to our projections of hunting effort. Above, we noted the importance of game laws in establishing this non-commodity status. Obviously, since such rules are imposed consciously by regulatory boards, we cannot--either on lawful or empirical grounds--project these rules into the future. Instead, we make "educated guesses" about future regulatory actions based upon all we "know" of state policy and politics. Such guesses, however wise, appear as arbitrary assumptions in the logic of a social impact assessment.

Actually, this consideration of harvest efforts devoted to caribou would constitute only a small part of a "bottom line" assessment of the effects of OCS development on Wainwright's subsistence economy; it would play even a

smaller role in a consideration of the overall effects of OCS oil development on Wainwright's society and culture. Yet, to be complete, even this small piece of the total assessment blends dozens of lawful, empirical, and probabilistic facts, assumptions, and guesses with others about village population dynamics, caribou population dynamics, the availability of other subsistence species, changes in technology, likely oil development scenarios, and the likely responses of caribou and other subsistence species to those scenarios. The multiplicity of facts, assumptions, and guesses which comprise an entire social impact assessment would defy delineation.

This example does not argue against social impact assessments per se; such assessments are regularly made and they obviously can provide planners and decision makers with useful information that would otherwise be lacking. Rather, we wish to make several basic points about impact assessments in general and the limitations to our approach specifically.

First, the factual and causal relationships in a social impact statement can never be complete. In anthropology, a complete functionalist ethnography would break a society into its interacting components and then delineate all interactions among these components. In order to be complete, such an ethnography would have to demonstrate how each of these interactions functioned to preserve or change the components in question and it would also show how the totality of these interactions formed an organic, self-maintaining whole.

In the field of anthropology, the logical impossibility

of completing such a project has become a truism; simply the number of components and interactions involved approaches infinity. Social impact assessments are inherently functionalist since they must assume that societies are constructed from discrete, interacting institutions which will change in predictable ways from specific causal events. However, impact assessments logically multiply the infinities of a complete functionalist understanding of a society by the infinities of all possible ramifications of each potential impact to that society.

Second, the laws, probabilities, and assumptions which fill the impact assessment tool box exist on many different levels of certainty. As in the case of causal relationships, simply the sheer numbers of laws, probabilities, and assumptions that go into an assessment preclude their total explication. Instead, both the analysis and explanations of that analysis appear as complex forms of situational logic. The question is asked, "What might happen if such and such occurs?" Only strategic points in functionalist causal chains are examined; only major areas of effects are pinpointed and highlighted. Furthermore, impact assessments only pose as complete; actually functionalist argument appears only at strategic points. Arguments are never supported nor developed for the society as a whole.

Third, since situational logic is used to delineate strategic points in the analysis, ultimately strong social impact assessments must be built on good ethnographic

description. The analyst must be able to make reasonable judgments as to where important causal chains may lie, where effects may become evident. These judgments must be informed by a rich understanding of the society in question, an understanding built on empirical evidence. Thus, good analysis rests ultimately on the strength of good ethnographic "baseline information" and, although indirectly, the scientific underpinnings of this baseline become a major ingredient of a defensible social impact assessment.

This chapter addresses these three functionalist issues as they relate to our Wainwright report. The chapter is divided into two sections. The first is the more methodological of the two. In it we present the assumptions and system parameters that form the scientific underpinnings of both our fieldwork and our analysis. We also examine impact categories and discuss their selection for an analysis of the possible effects of harvest disruptions. Since the study of Wainwright is part of a larger project involving the villages of Unalakleet in Norton Sound and Gambell and Savoonga on St. Lawrence Island, the methods, standards, and assumptions used in all three reports are comparable whenever possible. We devote a great deal of time to this discussion because, as stated above, we believe that scientifically adequate ethnographic methodology is a basic ingredient of defensible impact assessments. We also hope the review which follows clarifies the strengths and limitations of our ethnographic baseline and projections.

For want of a better term, we name the second section

"Analytical Assumptions;" it is the more applied of the two. Here we lay out certain assumptions about Inupiaq culture and society, about the types of outside pressures that may be experienced, and about the direction that change may take. Some of these assumptions--for example, those which appear in "A special note on sharing"--are either ethnographic descriptions or pure empirical findings. Other assumptions, such as those about the future of CIP programs or about the future management role of walrus and polar bear by the State of Alaska, are more like "educated guesses."

Our analytical assumptions create a context for the discussion of harvest disruptions which occurs in the final chapter. We hope they provide an added benefit as well. This project's scope of work instructed us to examine only those social effects which could be derived directly from harvest disruptions. However, one of our major findings is that most social and subsistence impacts which might be expected from oil development would not be driven by the direct effects of harvest disruptions alone (for similar findings see Jorgensen, et al., 1982 and Berger and Assoc. 1983). Put another way, the impacts of oil developments on subsistence systems always result from a broad spectrum of causal agents. Moreover, such impacts normally occur long before the effects from any single agent--even one as central as harvest disruptions--would become evident.

For these reasons the final chapter, which closely follows the scope of work and focuses solely on harvest

disruptions, has limited value as a social impact assessment per se. These limits are evident, first, because most social effects result because a complex of agents exists and, second, because to analyze impacts without recourse to this complex of agents it becomes necessary to hypothesize harvest disruptions at unlikely high levels.

The analysis which appears in the final chapter is necessarily incomplete as a social impact assessment. However, many functionalist arguments are embedded in our ethnographic baseline; many others are explicitly stated in our analysis of harvest disruptions in the final chapter. We hope that these, along with the materials found in the analytical assumptions in this chapter, will go beyond the scope of work and lay the groundwork for an adequate social impact assessment.

METHODS, STANDARDS, AND METHODOLOGICAL ASSUMPTIONS

Assumptions About the Relationships Among Categories of Culture

Culture may be viewed as organic, as a seamless web of human activities and meanings (see Kroeber and Kluckhohn, 1963). However, we assume that culture may be divided into relatively discrete "categories" which are real and measurable. These real and measurable relations among "categories" of culture, or of society, have been recognized by social scientists for over one century (see for example, Tylor, 1871; Morgan, 1877; Marx and Hobsbawm, 1964; Durkheim, 1933;

Weber, 1947). Measuring those relations and explaining the meanings of them have spawned controversies as well as the development of new methodologies during the long course of that history. We take as given that regular relations obtain among ideologies, technologies, economies, and social phenomena. Such relations have been demonstrated within cultures over time, and among cultures measured at one or more points in time (see Naroll, 1970; Driver, 1973; Jorgensen, 1979; and Lewis, 1956).

Several modes of social science inquiry have focused on the causes and mechanisms of social change. Perhaps none of those modes of inquiry has been more successful or more enduring than those that have sought to determine the relations among environment, technology, economic organization, and ideology. On the general level of cultural change, scholars as diverse as Marx (Marx and Hobsbawm, 1964), Kroeber (1939), White (1959), and Harris (1980) have sought to account for the effects imposed by environments on forms of production and organization, and the manner in which technology mediates and limits the effects of environments. On the specific question of change in native American communities, case studies by social scientists such as Graburn (1969) and Aberle (1966), comparative case studies by Jorgensen (1972), and a spate of social impact assessments and critiques of those assessments have been produced (see Jorgensen, et al., 1978; Geisler, et al. (eds.), 1982; Jorgensen, (ed.), 1984). Since many of these studies specifically examine the effects of large scale power developments

on native Americans they are particularly relevant to our analysis.

It is evident that populations have grown as technologies have been developed to increase hunting efficiency and territorial mobility, or to harness river systems, or to produce agricultural surpluses and the like. Further, organizations for production (including ownership, inheritance, extraction, division of labor by sex, age, and task groups), consumption, distribution, and exchange have changed, as have family household organizations, politics, and ideologies.

We do not challenge the basic tenets of this rich social science literature inasmuch as changes in some aspects of Eskimo culture have been quick and dramatic since the introduction and wide-spread adoption of snowmobiles, outboard motor boats, high-powered rifles, three-wheelers, and all-terrain vehicles. At the same time, populations have become more concentrated in villages. Rapid and wide-ranging movements in subsistence pursuits have come to involve groups of men rather than entire families. Wider networks of kinspeople and friends are involved in these activities and they can complete in a few days what once required a few weeks.

The increased use of modern technology has changed the base of the local economy. It has become increasingly dependent on tenuous sources of earned and unearned income through federal and state grants, transfer payments, legislative programs, agencies, and awards, to provide the cash

necessary to acquire the technology and fuel required to maintain subsistence pursuits, shelter, health, and clothing.

The penetration of state and federal government ever more deeply into village affairs has altered the political economy of village life, creating regional governments, regional corporations, village corporations, city governments, and IRA councils. State and federal actions have also prompted residents to seek services and income from those institutions. The relations among local institutions and state and federal governments introduce legal and professional relations where few existed before. Relations between representatives of local institutions and the residents of the villages are moving from traditional relations among leaders and followers toward professional-client relations.

We do not presume that the harvests of naturally-occurring, renewable species can be neatly separated from the cultural milieu in which the subsistence economy is embedded, but we can analytically examine several broad cultural categories that influence, or are influenced by, the harvest of naturally-occurring species. We assume that we can demonstrate the interplay of: (1) the organization of subsistence extraction, (2) dependence on certain technologies which require cash for their purchase and use, (3) the relations of local institutions to families and to their environmentally-based subsistence economies, (4) the ideas and sentiments that people hold and express about their natural environments, and (5) proper relations to those resources, and more. Indeed, much of this interplay has been carefully analyzed in

our ethnographic description of Wainwright.

Impact Categories and Assumptions About
Relations Among Impact Categories

For the reasons already discussed, a synchronic study cannot infer causality, so temporal data will be adduced, whenever possible, to lend credence to the concluding hypotheses about the consequences of harvest disruptions to Wainwright culture. Before listing the specific categories that we assume may be affected by disruptions to the harvests of naturally-occurring species we provide a brief narrative on assumptions about relations among categories of Wainwright culture.

The harvests of naturally-occurring renewable resources by Wainwright residents and the uses to which those resources are put are embedded in a nexus of cultural relations, the origins of which extend back over several thousand years. The subsistence economy, with its organization of production, distribution, and consumption, subsuming ownership, inheritance, stewardship, and authority, are some of those relations, but there are many more.

Should we choose to analyze the subsistence economy separately from other aspects of Wainwright culture, we assume that we should do so for analytical purposes only. For instance, family, household, and wider networks of kinspeople are organized not merely as kinship qua kinship units to rear children, or even for limited additional purposes such as to provide shelter or emotional support. We have

shown in the ethnographic baseline that these organizations are integrated as core units for extraction, preparation, storage, and consumption (including use) of those natural resources and the products derived therefrom. Family household units and often kinspeople living in other households, pool technology required for subsistence, such as boats or snowmobiles, skills, and the like. They also pool cash from earned and unearned sources of income for the purchase and upkeep of equipment as well as for more mundane needs. Finally, members of these units provide gifts of resources. That is, they share labor, technology, locally abundant resources, and even scarce resources, with affines, kinspeople, or friends in Wainwright and distant villages.

Attached to the organization of kinship, which itself is deeply embedded in the organization of the subsistence economy, is a very wide array of ideas and sentiments. Many of these ideas and sentiments are associated with obligations to contribute to the household economy. Other sentiments are associated with the consumption of naturally-occurring resources because of their life-sustaining, spiritual, or medicinal values. Yet other sentiments revolve about the sharing of resources with the aged, kinspeople, affines, and friends, as well as a willingness to work to obtain resources for the sole purpose of sharing them. There are also sentiments about the beauty of the land and surrounding waters from which Wainwrighters extract their livelihoods and beliefs about proper use and stewardship of the land and waters.

Below, in Table XV-1, appears a list of the categories of culture that we assume to be impacted by harvest disruptions. These are assumed categories. First, they are based on an extensive reading of anthropological and sociological literature which has established ties among changes in these categories and changes in a society's relationships to their surrounding environment (see discussion above). Second, they are categories we took with us into the field. They have been used to organize our experiences and findings; they are not derived from our work at Wainwright. We stress that the assumptions we make lie with the way we choose to divide up culture; other cultural categories could have been derived instead. That Wainwright society would be effected by large scale harvest disruptions is an empirical finding of our study; it is not an assumption.

Table XV-1

Categories of Culture Assumed to be Impacted by
Harvest Disruptions

- I. Subsistence
 - A. Naturally-occurring species sought
 - B. Distances traveled to acquire naturally-occurring species
 - C. Strategies employed to acquire species
 - D. Native foods consumed
 - E. Processed foods consumed
 - 1. Purchased
 - 2. Purchased with transfer payment assistance

3. Received as transfer payments (e.g. hot lunch programs)

F. Skills and knowledge about harvest locations

II. Technology

A. Motorized transportation equipment (needs and amount invested)

B. Fuel

C. Hunting equipment

D. Fishing equipment

E. Shelter

F. Clothing

G. Discretionary technology, e.g., electronic equipment for home and motorized equipment (CBs, TVs, digital barometers, telephones, pickup trucks, etc.)

H. Storage technology

III. Economic Organization

A. Resource ownership and control

1. Relations between village and region

2. Relations between or among villages

3. Relations between or among family members in relation to inheritance

4. Recognition of stewardship for family-household resource areas

5. Significance of stewardship

6. Requests to stewards and from stewards

B. Organization of labor

1. Subsistence tasks

- a. By sex
- b. By age
- c. By task group composition, including networks of kinspeople or friends
- d. Authority of stewards to organize

2. Productive commercial tasks (e.g., ivory carving, skin sewing)

- a. By sex
- b. By age
- c. By task group composition

3. Wage Labor

- a. Amount
- b. Demands

4. Dependency of transfer payments for earned income (employment) and unearned income (including welfare)

C. Production

1. Amount of species harvested

- a. Birds
- b. Land mammals
- c. Sea mammals
- d. Fish
- e. Plants
- f. Invertebrates

2. Amount of species stored
 - a. Birds
 - b. Land mammals
 - c. Sea mammals
 - d. Fish
 - e. Plants
 - f. Invertebrates
 3. Amount and kinds of by-products from naturally-occurring species
- D. Organization of distribution
1. Sharing, giving (and receiving); donors and recipients
 - a. Within households
 - b. Within networks of kinspeople
 - c. Between affines
 - d. Between friends
 - e. Between residents of different villages (intervillage) and in cities (e.g. Anchorage, Fairbanks)
 - f. Authority to give
 3. Pooling and redistribution, ceremonial or institutional
 - a. Within villages
 - b. Within villages but also to foreign guests
 - c. Authority to organize and to request gifts for redistribution

4. By-products as commodities (carving and skin sewing)

a. Sales volume

b. Price

c. Cultural definition of commodity value (to be shared or to be sold, and if to be sold, for personal gain or for other uses)

E. Organization of exchange

1. Definitions of commodities

2. Authority to sell

3. Pressures to sell (and buy)

4. Prices

5. Purchases of commodities for standard values

F. Organization of consumption

1. Relation between units of production and unit of consumption

2. Family-household consumption

IV. Ideas and Sentiments About the Importance of Naturally-Occurring Species

A. Ideology and sentiments about village place and space

1. Beauty

2. Perpetuity

3. Relations to land (including water, ice, sky)

4. Abundance

5. Proper use of natural resources

6. Community (shared meanings, also space)

- B. Ideology about consumption of foods from naturally-occurring resources
 - 1. Medicinal (threats to health if not eaten, restoration of health if eaten)
 - 2. Spiritual (relation to completed, or whole, or good person)
 - 3. Native reality (traditional foods as "real" food rather than unnatural or processed foods)

- C. Ideology about acquisition of naturally-occurring renewable resources
 - 1. Effort to produce is beneficial to the extractor and all who receive parts of the products
 - 2. Sharing is helpful, expected, beneficial to the person (extractor-distributor) and to the species
 - 3. Cash income, in large part, is to be invested in technology for extraction, extractive ventures, and/or supplies and fuel to assist extractors in their pursuits

- D. Ideology about proper understanding of abiological and biological phenomena
 - 1. Necessity to learn by precept, rather than oral instruction
 - 2. Bad form to criticize person for ineptness in subsistence tasks
 - 3. Potential loss of skills within community without explicit oral or written transmission of skills
 - a. Seamanship
 - b. Knowledge of ice
 - c. Techniques for harpooning
 - e. Knowledge of attributes and behavior of game

E. Ideology about threats to abundance of naturally-occurring and renewable resources from non-native activities

1. Beliefs that non-natives expropriate and deplete environments without regard to native needs for and uses of those environments
2. Beliefs that government regulators of the environment possess inadequate knowledge and are poorly informed about the environment and the consequences of their regulations

V. Social Organization

A. Kinship (also see Economic Organization categories)

1. Family household composition
 - a. Size of household
 - b. Pooling and sharing within household
 - c. Authority within household
 - d. Stability of household
 - e. Male-female relations within household
 - f. Husband/father and wife/mother roles
2. Kinship networks
 - a. Pooling and sharing
 - b. Requests for help
 - c. Adoptions
3. Affinal networks and activities
 - a. Within village
 - b. Between villages

B. Friendship networks and activities

1. Within village
2. Between villages

C. Village community

1. Camping together during bird, seal, and fish seasons
2. Village festivals
3. Genesis of social movements
(political/religious; alternative, redemptive, reformative, transformative)
 - a. Issues
 - b. Leadership
 - c. Goals
 - d. Means
 - e. Philosophy of history

VI. Religion

A. Beliefs

1. Relations with supernatural
2. Relations with nature
3. Relations with community
4. Curing
5. Synchronism

B. Organizational aspects

1. Attendance
2. Counseling services
3. Social services
4. Sectarianism
5. Relations with off-Slope religious institutions

VII. Political-Economic Institutions

A. Village corporation

1. Requests from village residents
2. Requests to, and relations with, regional corporation
3. Staff stress (including burn-out)
4. Management stress (including burn-out and dismissal)
5. Requests to and relations with externally-based financial institutions

B. North Slope Borough government

1. Requests from village residents
2. Requests to regional non-profits for assistance
3. Activities and programs to provide helping services
4. Requests to state and federal government
5. Relations with state and federal government
6. Employment provided by Borough and programs for which it contracts
7. Stress to employees
8. Stress to management, including demands on leadership to enter new areas, such as securing and distribution unearned income as transfer payments or for services rendered (job)
9. Growth of role in providing and distributing unearned income

C. City government

1. Requests for helping services from residents
2. Requests for employment from residents
3. Requests for city for grants, contracts, and aid from state and federal sources

4. Relations of city with state and federal government
 5. Stress to staff, burn-out and resignation rates
 6. Resignation of elected leaders
 7. Relations with village corporations and Borough
 8. Requests to change state and federal regulations
 9. Growth of role in providing public sector jobs
- D. Regional non-profit corporation
1. Requests for help in relations with state and federal government
 2. Requests to exert influence to change state and federal wildlife regulations
 3. Requests to take lead in relations with externally-based corporations
 - a. Provide jobs
 - b. Curtail deleterious effects on environment presumed to be caused by corporations
 4. Requests from village for regional government to seek grants and contracts to provide options and employment to villagers
 5. Stresses on leaders and staff
 6. Growth of role in acquiring and distributing unearned income to village

VIII. Helping Services

A. Social Services

1. Requests for counseling aid
2. Stress

B. Health services

1. Requests for medical aid
2. Stress

C. Law and order

1. Requests for legal aid
 2. Stress
-

This list clarifies our position that all aspects of Wainwright society are interrelated. Even those aspects of life most distant from the system of production will ultimately reflect changes to it. To emphasize these interrelationships we shall give one example, concerning recent changes in dress styles. In 1979 or 1980, the wife of one of Wainwright's premier hunters got the idea of making new, matching parkas for her husband and herself. These were hip-length, decorative "men's" parkas trimmed in fur and piping. This idea took hold; by 1982 many wives and girl friends had made matching decorative parkas for themselves and their mates.

Obviously, this is an example of an individual's cultural innovation, of one person's inventiveness. Nevertheless, it was an idea whose time had come. It reflects the major social changes that have occurred in Wainwright's society: the breaking-up of extended households into nuclear ones and the consequent solidification of the husband/wife relationship; the growth of weekend hunting by household units which tended to increase its family and recreational

values; increases in the capitalization of subsistence which allowed the wife to travel as an equal to her husband--that is, to drive her own snowmachine; the switch to snowmachines themselves which encouraged the adoption of new clothing such as short parkas and snowmachine suits and discouraged the longer woman's parkas that are better adopted to riding on sleds in a sitting position or riding in a standing position than to straddling a seat.

We make several points with this example. First, obscure links tie all aspects of Wainwright's society to its system of production. Second, for this reason we can assume that harvest disruptions, by affecting the system of production, will effect all aspects of that society. A corollary should be equally obvious. The huge numbers of changes possible from harvest disruptions raises the impossibility of delineating them all. For this reason, throughout the report our discussion employs the more practical approach of using a "situational logic." In it, we ignore the more obscure ties between the system of production and other aspects of society. Instead, we emphasize issues that are current, on changes that are likely to be most noticeable, and which will effect the central institutions in Wainwright society.

By this we mean we attempt to focus on changes to subsistence production, distribution, and consumption and changes to the money economy as they effect family structure, household composition, kinship organization, task group formation, social controls, and the body politic. We assume that, at these junctures, the crucial relationships between

harvest disruptions and social change can be uncovered. We also assume that other, less crucial changes to Wainwright society and culture are entailed by these more central ones. We reiterate that a complete, functionalist analysis of all possible changes is logically impossible. However, we do assume that, in fact, relationships between all the categories we list and changes to the subsistence and money economy do exist and that they could be traced.

Methods and Standards

Ultimately, the methods and techniques employed in building the ethnographic baseline determine the quality of data from which later analyses come. The OCS contract specifically forbade obtaining OMB clearance for the use of interview schedules or structured questionnaires with more than nine people. Such clearance is necessary in all federally sponsored social studies. The OCS restriction rendered random sampling techniques impractical for the purposes of our research. Moreover, random sampling techniques make two assumptions which are unwarranted within native villages: first, such techniques assume that the population sampled is infinitely large and, second, that the traits sampled are independent. For these reasons we adopted other methods for gathering the data necessary for establishing valid generalizations. The techniques we have chosen allow us to produce an empirically sound ethnographic description and analysis of Wainwright. These techniques also allow for establishing valid generalizations, surely the

equal of the best generalities that stratified random sampling approaches provide. Native villages are, after all, intimate; residents are interdependent in scores of ways. These interdependences form the core of our studies and it is precisely these interdependences that random sampling obscures.

Chapter I, a completely revised version of Technical Memorandum SLI-4, fully discusses the methods utilized on the Wainwright project and their relationships to methods used on the two other harvest disruption projects. That discussion need not be repeated here. It appears useful, however, to reiterate that three types of data collection procedures were used: (1) anthropological observations, (2) protocol observations, and (3) archival observations. Further, data obtained from one observation technique were, whenever possible, compared with the data collected using the other techniques (triangulation) so as to determine the validity of the data. In the absence of more rigorous scientific techniques, e.g., survey sampling and over-time measurements, triangulation of the three observational methods provided the only means of estimating the validity of the data (see Webb, et al., 1981).

Even though triangulation provided a means of establishing the validity of some of the data, it could not determine the validity of all of the data. This is especially the case when relationships between variables are at issue. Comparable data were not always available given the financial and temporal limitations imposed by the

research contract. Nor could triangulation resolve the difficulty of making projections about future conditions, a point to which we now turn.

Assumptions About External Validity

Before continuing with the discussion of the logic supporting the analysis of the harvest disruptions, it must be noted that a further methodological hazard remains. Even though the evidence suggests that generalizing from the Wainwright data to the Wainwright population is possible with some degree of confidence, it is impossible to confidently discuss change over-time with data which have been collected only at a single point in time. Synchronous data is "timebound;" hence it provides description of what is currently the case. It provides no assurances whatsoever about what must be.

While an analysis of change over time can demonstrate the causal linkages among variables, even this type of analysis provides a shaky basis for projecting change into the future. In fact, comparable data from at least three points in time are required to evaluate such causal sequences. Put simply, our empirical statements about Wainwright in the present will require external validity checks before it will be generalizable into the future. Thus our projections present, essentially, a problem of extrapolation beyond the data, and all assurances of the external validity of the conclusions are removed. Because most of the study's data are synchronous, hence timebound, and because

the archival data are too meager to lend validity checks to many of the generalizations obtained from those synchronous data, the ethnographic baseline (Chapters II through XIV) from which impact categories are drawn is an empirical statement of "what is," rather than a causal explanation of "what must be."

It is a non sequitur to claim that time-bound data yield generalizations about temporal relations. Put simply, empirical statements about Wainwright will require external validity checks before they will be scientifically generalizable beyond the present. For instance, whether Wainwright society will be the same ten years from now, even if no sources of influence intervene to change it, cannot be generalized from the current conditions. The present research guarantees nothing here, even though we have confidence in the research. The only sure method for strengthening the validity of our findings is for temporal replication at two additional points in time.

Indeed, even if the probable consequences that are posited in the harvest disruption analysis occur in accordance with those postulates, there is no way of knowing whether they occurred because of the factors specified or because of other unmeasured factors unless at least two follow-up studies are conducted. With this concluding caveat, little more needs to be said about the research procedures employed.

ANALYTICAL ASSUMPTIONS

We have already provided a full description of the methods used in the overall study. The assumptions described below grow out of the preceding ethnographic analysis and the wealth of literature and knowledge available on the past and current conditions in Wainwright as well as on its physical and social environment. While many of the analytical assumptions are grounded in empirical data, others are educated guesses about future directions of development and government policy. Used with our baseline ethnography of Wainwright (Chaps. II-XIV) and our concluding chapter (Chap. XIV), the assumptions which follow provide an important starting point for a social impact assessment.

Assumptions About Government Regulations

The regulations and policies of both the federal government and Alaska State government affect Alaskan Native communities in a variety of ways. Not the least important of these is through the regulation of fish and wildlife, including harvest quotas. Such regulations have done more than simply affect the subsistence economy. Reactions to such outside interference has served as a catalyst in the evolution of North Slope political institutions. (See Worl Assoc., 1978 for a discussion on the effects of the enforcement of migratory bird regulations; Worl et al., 1980, for a discussion on the effects of the whale quota. We have discussed the effects of caribou regulations, above.)

We assume that bowhead whale quotas will continue in force. These are suggested by the International Whaling Commission and imposed on Alaskan Native whaling communities by the National Marine Fisheries Service, and policed by the U.S. Fish and Wildlife Service. Because recent studies have revealed higher than expected bowhead populations, we assume that these quotas will not decrease. In fact, the most recent negotiations have slightly increased quotas from their extreme 1982-1983 low and we expect small increases may occur again in the late 1980s. However, we assume bowhead quotas will remain much below the numbers that would otherwise be used by the expanding populations of North Slope villages. We also assume that the organization of Eskimo whaling will continue to reflect the bureaucratic influence of such regulation as long as the rules remain in force.

The Marine Mammal Protection Act of 1972 gave the Department of the Interior responsibility for managing the nation's manatees, polar bears, walrus, sea otters, and dugongs. While the State of Alaska is negotiating for these powers, presently the U.S. Fish and Wildlife Service is responsible for managing and enforcing the moratorium on taking and importing marine mammals and marine mammal parts. Walrus are not on the endangered species list. Currently, only Natives may hunt walrus and their harvest is not limited by quota. The U.S. Fish and Wildlife Service estimated the Pacific walrus population at 300,000 in 1982 (see Fay, 1981), 120,000 of them in U.S. territorial waters, and the population appears to be increasing.

We assume, that because of the size of the walrus population, quotas on the walrus take will remain lifted indefinitely. We believe that the assumption of these regulatory powers by the State of Alaska is likely and that, if it should occur, the hunting of walrus by non-Native hunters will continue to be restricted. However, we assume that the State of Alaska would allow limited amounts of sport hunting by non-Natives, probably under a system of state licensed guides. In 1982, the state was already soliciting lists of possible Native guides from city governments on the North Slope.

Current federal law does not allow international sales of marine mammal parts, although exceptions allow Natives to sell worked (carved or decorated) ivory, bowhead baleen, and polar bear fur. We assume that this exemption to sell worked marine mammal parts will remain in force indefinitely. Further, it is assumed that if the responsibility for the management of marine mammals is transferred from the U.S. Fish and Wildlife Service to the State of Alaska, there will be no changes in the provisions that allow Natives to sell by-products, nor any new restrictions on "take" by Eskimo hunters. We note, however, that shifts in regulations could occur since the state is more subject to local sport-hunter pressures than is the federal government. For example, during the winter of 1983-84 Eskimo hunters took unusually high numbers of polar bears. This caused much negative comment in the Alaskan press.

The State of Alaska regulates the hunting of caribou. Currently caribou are abundant in the vicinity of Wainwright although their annual availability fluctuates widely (ACI-Braund, 1983). We assume no changes in these fluctuations or in the current regulations regarding caribou harvests. We also assume that, unlike in Canada where under certain conditions Natives may sell limited quantities of caribou meat, in Alaska the total ban on such sales will remain in place (see above). Finally, we assume that the State of Alaska and oil companies will continue to discourage sport hunting on the North Slope by non-Natives. However, we believe that, should local caribou populations fall significantly, the State would attempt to institute new hunting regulations for natives.

The imposition by the United States of a 200-mile territorial limit to waters off its shores in 1977 has had a marked effect on western Alaskan fisheries and Wainwrighters perceive an increase in fish populations. We assume that the federal territorial limits will persist at current levels or increase.

These assumptions are made even though it is acknowledged that rapid changes can occur in the size of the wildlife populations through famine, weather, over-hunting and/or accessibility to the populations, or because of unpredictable migrations away from formerly occupied areas. It is further acknowledged that political climates (international, federal, and state) can change rapidly as well. However, the assumptions made are reasonable and provide a means of analyzing potential disruption and thereby provide a base

from which to evaluate changes in the natural and social environments which may occur later.

Assumptions About ANCSA

ANCSA provisions, in conjunction with the Indian Reorganization Act of 1934, the Indian Self-Determination Act of 1975, the Indian Financing Act of 1974, the Indian Health Care Improvement Act of 1976, and the Indian Child Welfare Act of 1978, confer upon villages limited sovereign immunity, the authority to acquire jurisdiction over child welfare cases, the authority to contract with the Bureau of Indian Affairs and Indian Health Service for programs, and the authority to manage those programs. We assume that these acts will remain in force and that tribal ordinances and customs, as consonant with P.L. 280, will be honored in State of Alaska civil courts.

We stress that the legal limitations on these various acts must be considered in any social impact assessment; in fact, none of these laws extends much real protection to Native communities in conflict with outside interests. Our intent is not to analyze these limitations here (for a discussion see Jorgensen, ed., 1984).

We also recognize that many of the provisions of ANCSA are undergoing investigation and review by the Alaska Federation of Natives (AFN), and the Alaska Native Review Commission (established by the Inuit Circum-Polar Conference). It is likely that legal challenges will be mounted by native organizations to state fish and game regulations, ownership

of some state land, stock ownership provisions in native corporations, control of ocean waters between the 35 and 200 mile territorial limit, and several provisions of ANSCA that have proved bothersome or unacceptable to Natives. Nevertheless, in order to undertake the harvest disruption analysis under the most stable and known conditions, we assume that ANSCA will remain in force in its present form or that modifications to it will not change. Opposition by the State of Alaska makes changes to ANSCA's basic economic provisions or land divisions unlikely; revisions that are made will probably not establish new power relationships within the State of Alaska.

Assumptions About Regional Unity

On the North Slope, the success of pan-Eskimo, as well as region-wide, political and social institutions is often noted (see Worl Assoc., 1978; Worl et al., 1980). To name but a few examples, these include the North Slope Borough, the Arctic Slope Regional Corporation, the Inupiat Community of the Arctic Slope, the Eskimo Whaling Commission, the Elders Conference, and the Inuit Circum-Polar Conference. Such unifying trends on the North Slope are in contrast to those found in several other regions of Alaska (see for example, Ellanna, 1980).

We assume that the tendency towards political unity evidenced by such North Slope institutions reflects a parallel, yet less obvious, tendency toward social and cultural unity. This unity is not absolute; for example,

Point Hope is more closely allied with NANA settlements than it is to any other North Slope village, while Kaktovik is closely tied to Eastern Canada. Moreover, counter trends exist. For example, Wainwright, like other North Slope communities, has tenaciously held onto a certain independence from the NSB and ASRC governments.

Nevertheless, we assume that the ability of North Slope residents to organize area wide reflects a deeper social and cultural unity. Further, we believe that this deeper unity is one of the elements which enabled the inhabitants of the North Slope to deal more effectively with encroaching political forces than did many other Native groups within the State of Alaska. We assume that the region's political and cultural tendency toward cooperation in the face of external threats will remain a factor in state and regional politics in the future.

Assumptions About the North Slope Borough and CIP Programs

The North Slope Borough was created in 1972, so as to encompass the oilfields and related industrial facilities at Prudhoe Bay. Several analysts have indicated that tax revenues accruing to the Borough are central to its growing influence across the North Slope and within the State of Alaska (see McBeath, 1981; McBeath and Morehouse, 1980; and Morehouse and Leask, 1980; also see Chap. IV). By supporting such organizations as the Elders Conference, the Historical Commission, and various dance groups the Borough has

increased the area's social and political integration. The Borough provides all major community services across the North Slope including schools, police, fire department, health care, and the water department and other facilities.

Perhaps the CIP program has been more important than these services to the Borough's expanding influence in North Slope villages. In the late 1970s and early 1980s, this massive program provided the major source of jobs and household incomes. At the same time, the programs gave the Borough title to large amounts of land and capital improvements in every North Slope community. The CIP program is not financed directly from tax receipts; rather municipal bonds are issued pledging future Prudhoe Bay tax receipts.

Thus, directly or indirectly, much of the NSB's economic and political weight is dependent upon the non-renewable resources at Prudhoe Bay. While major on- and off-shore discoveries at Prudhoe would extend the life of the Borough's tax base, we assume that tax revenues will begin to drop before the 21st Century. We assume that the scope of such services will decrease but still remain higher than pre-Borough standards.

By 1984 the CIP program was already decreasing rapidly and the Borough faced both economic and political difficulties in marketing new bonds. Analysts have indicated that it is unlikely that Borough can mount another large CIP program after the 1985 completion of current projects (see McBeath, 1981:87). We assume that, after 1984, expenditures for CIP programs will not reach 25 percent of 1982-1983

levels. We assume that this, in turn, will lead to a serious decline in job opportunities on the North Slope. We assume that some individuals will be forced to leave their North Slope village residence while others will actively seek jobs at Prudhoe. We also assume that the harvest of naturally-occurring renewable resources will increase to fill the economic vacuum (see Spencer, 1959, for an earlier example).

Assumptions About Local Political Authority

We assume that the major political institutions which presently exist on the North Slope will continue to exist in the near future. Since no basis exists to do otherwise, we assume that no new ones will emerge. However, we also assume that the relative power that existing institutions are able to exercise will change due to several foreseeable events. Here we shall discuss the NSB, ASRC, village Native corporations, and city governments, particularly as they relate to political authority in Wainwright.

North Slope Borough

Presently, the home rule NSB is the dominant force on the Arctic Slope. Ultimately, much of this hegemony rests with the Borough's ability to tax the oil industry at Prudhoe Bay. This centralization of authority in the Borough government as well as the Borough's growing influence in outlying villages has been underwritten by extensive CIP projects (see Chap. IV for a discussion of the importance of CIP projects in Wainwright; see McBeath, 1981 and McBeath and Morehouse, 1980 for discussions of the role of the CIP in solidifying

NSB hegemony). We assume that the projected decline in CIP projects will lead to a relative decline in NSB political influence across the Arctic Slope. We believe that only a relative decline will occur and that the Borough will remain the single most powerful governing body on the Slope. Moreover, its ability to tax oil industry will remain after the decline of CIP projects. We believe that the NSB will remain the largest single employer in the villages well into the 21st Century.

Arctic Slope Regional Corporation

We assume that ANCSA land conveyances, the federal government's apparent willingness to negotiate land transfers, and the settlement of issues concerning subsurface rights to land, will all tend to increase the relative power of the Arctic Slope Regional Corporation, ASRC. To a large degree, the economic clout of ASRC depends on the continued development of the area's oil (and perhaps coal) resources. Oil development, we assume, shall occur.

This dependency interjects some conflict into ASRC policies. As shareholders, native residents of Alaska's North Slope depend on their native corporation's economic success. As subsistence hunters these same shareholders tend to fear--and sometimes resist--oil development. Hitherto, this conflict has been softened by focusing the issue of oil development on OCS leasing. We assume that this resolution of potential conflict is incomplete and will prove inadequate. We assume that the hunter/shareholder conflict

will grow along with the area's on-shore and near shore oil industry. Finally, we assume that, compared to the NSB, the political power of ASRC will grow in relative terms.

Village Native Corporations

We also assume that, with ANCSA land conveyances, land transfers, and the settlement of issues surrounding sub-surface land rights, village native corporations hold the potential for greater influence in the future. However, because of serious economic problems that many presently face—including Wainwright's Ogoonik Corporation—such possibilities are anything but certain. Indeed, in Wainwright, much of the village corporation's economic clout rests on the fact that it holds several Borough CIP contracts. This clout should decline along with the entire CIP program.

The village corporations face the same contradictions concerning oil and gas development as does the regional native corporation. As representatives of shareholders these corporations must become involved in such development, yet their constituency's feelings about oil development tend to be negative. We assume that such conflicts will remain evident in Wainwright and will increase if oil development occurs. We also assume that, at Wainwright, the village native corporation will remain a significant employer even after the decline of the CIP program (see Chap. IV).

City Governments

Prior to the founding of the NSB, the Wainwright city government was the only governing agency that operated in the

village on a daily basis. Representatives of state and federal agencies, including such important functionaries as BIA officials and state police officers, would commute to Wainwright. Brostad (1975) analyzes the workings of the city government during this period. He argues that, although chartered as a fourth class city under Alaskan state law, the council functioned in many ways like a traditional village council. Meetings were forums to discuss traditional social concerns, decisions tended to be non-confrontational and were commonly reached by consensus.

To a degree, the founding of ICAS, the NSB, and ASRC all tended to erode the city council's role as described by Brostad. This change occurred on two levels. First, prior to the formation of these new institutions, the city government operated effectively as the only regular, local representative of Wainwright's people. Presently both the Borough and the the native village corporation have governmental and/or quasi-governmental agencies operating on a daily basis in Wainwright. Added to these are the frequent though intermittent activities of a host of government agents from federal and state departments as well as from Eskimo organizations such as ASRC and AEWC. All these activities have diffused the principle of the city government's representation. Second, through its regular interactions with other government bureaucracies, the Wainwright city government has grown into a more bureaucratic institution itself. This, also, has affected its ability to function as a traditional

village council.

Nevertheless, during public meetings the traditional aspects of the city government's role are manifest. Social concerns are examined in detail; traditional leaders are heard at length. Today, as in the past, most decisions occur through consensus. Moreover, this government often acts in the role of a traditional leader. If, for example, a family runs out of heating oil, the council will move to help the needy even though no budget exists to do so. In 1984, the NSB proposed the abolition of all city governments within the Borough. The proposal's sound defeat throughout the North Slope demonstrates the people's strong identification with city governments acting as quasi-village councils.

We assume that the relative influence of city governments on the North Slope will remain stable in the near future. We believe that, while their power has declined in the past and will remain limited by their lack of a tax base, the councils' influence will remain because they are perceived as proper representatives of community interests. If a city government such as Wainwright's began to operate as an IRA government, its formal powers and its access to federal funds might change. However, when compared to the NSB, its relative influence might still remain the same.

Assumptions About Off-shore/On-Shore Activities

Disruptions to harvests can occur from off-shore as well as on-shore activities, including staging areas, pipelines and transportation routes, recreational uses, and so forth.

We assume that activities of either type will affect naturally-occurring species. We also assume that if economically recoverable oil is discovered between Peard Bay and Icy Cape, such activities will affect those naturally-occurring resources harvested by Wainwrighters. Such an assumption is well founded since, in the event of a discovery in this area, on-shore facilities are likely to be located near Pt. Belcher, an important bowhead whaling station for the village. A Pt. Belcher location would concentrate noise and traffic disturbance, as well as oil-spill risks, in areas important to Wainwright's marine mammal hunting. Moreover, the pipeline from Pt. Belcher to TAPS could affect Wainwright's on-shore subsistence activities.

We assume that an on-shore pipeline from Pt. Belcher to TAPS would encourage the development of NPR-A oil reserves south, southeast, and southwest of Wainwright by significantly lowering production costs. Such development would also affect Wainwright's subsistence.

Finally, we assume that the growth of Wainwright's public sector, consequent to OCS development, can also affect native access to harvests. Recent changes to subsistence patterns on the North Slope have demonstrated this possibility.

Assumptions about Social Dysfunction

We assume that rates of mental illness, substance abuse, violence, and suicide are social facts (see Durkheim, 1951). We assume that significant oil-related impacts on

Wainwright's sociocultural system would be reflected in these rates.

Some evidence for this position may be found in recent data from the North Slope. Violent death rates may serve as crude indexes of the psychological and social stress that has occurred since the the early 1970s as a result of socio-cultural impacts. Kraus and Buffler (1979) have shown that since this time the rate for suicides, suicidal behaviors, accidents, and other forms of violent death have changed significantly for the Northwest Eskimo. While, before the 1970s, these rates had been lower than those for many other Alaskan Native groups, since then they have been increasing more rapidly than those for other Alaskan groups (Kraus and Buffler, 1979:128, 138-148). This study also demonstrates a change in the patterns of many of these behaviors. For example, while formerly older residents were most prone to suicide, presently younger ones are (Kraus and Buffler, 1979:145).

These authors argue that such changes were induced by recent sociocultural change. Before the 1970s, the Northwest Eskimo were relatively unaffected by change when compared to the Alaska Native groups with higher suicide rates. Moreover, the presently elevated rates have manifested themselves primarily in middle aged and young adults, those groups whose lives are most directly effected by such change. Another study has indicated a shift in the types of mental illness exhibited in the Arctic. Traditional Arctic hysterias "are no longer significant" while "recent socio-

logical changes have produced a new set of problems such as identity crises, family conflicts, alcohol abuse, and crime" (Brower, 1980:69-70; see also Boarg, 1970:115-120; Foulks, 1972; Wallas, 1972).

While some of these studies have been general, dealing with the Arctic or Northwest Eskimo, several have addressed North Slope issues explicitly (Klausner and Foulks, 1982; Brower, 1980; Milan, 1974; Foulks, 1972; Hippler, 1969; Chance, 1965; 1966). One of the most current and detailed was done in Barrow. Its authors, Klausner and Foulks, tie both Barrow's elevated violent death rates and the town's increased alcohol use to the direct and indirect affects of recent oil development. According to these authors, Barrow experienced a "revolution" in causes of mortality in the early 1970s. In 1970-72, violent death rates were similar to Alaska's as a whole. By 1976-78 the crude death rate for violent deaths was 140 per 100,000 for the state and 400 per 100,000 for Barrow, a rate 2.86 times as high. These figures appear below: (Klausner and Foulks, 1982:151)

Table XV-2

Violent Deaths in Alaskan Localities
as a Percentage of All Deaths,
1970-1978

	Alaska	Fairbanks	Bethel	Barrow
1970-72	30.1 (4,352)	21.3 (315)	35.8 (123)	30.0 (50)
1973-75	32.2 (4,477)	28.2 (365)	31.9 (135)	50.8 (65)
1976-78	34.8 (4,928)	36.1 (485)	38.7 (142)	48.4 (62)

Particularly, the rates for Barrow inhabitants between 15 and 40 years old have changed. Again, these age groups are most affected by sociocultural change. The study found that traumatic death "in this group averaged approximately one per year from 1952 until 1973. Suddenly, in 1973, the numbers of deaths jumped to six, and then averaged five to six deaths of this type in this age category for the next five to six years. In effect, the death rates from this cause increased by a factor of five in 1973. This point in time, indeed, corresponds with the sudden enrichment of the community in connection with energy development" (Klausner and Foulks, 1982:153). While Barrow in the best studied case, this enrichment, along with its problems, has percolated out to the other North Slope communities.

We stress that, presently, such rates serve only as crude indexes of social impacts. No clear statistical correlations among these rates and specific Alaskan historical events hat been made (see Berger & Assoc.,

1983, for a careful analysis of this problem). For this reason, we do not use changes in these rates as social indicators. Nevertheless, they are recognized as the results of a complex interaction of interpersonal, social, and cultural factors occurring within an historical context (Kraus and Buffler, 1979:111-113; see also, Kiev, 1964; Murphy, 1965; Inkeles, 1973).

The nature of this complex interaction may be seen in various Alaskan examples. The rates of all types of mental illness appear to be higher "in larger rural Native towns than in the more traditional Native villages" (Foulks and Katz, 1973:91-96; Kraus and Buffler, 1979:121). Native villages help buffer the individual by providing a sense of continuity and control. People live with recognized role expectations, beliefs, and lifestyles. On the other hand, rural towns are the foci of the increasing outside influences. Bethel experienced acculturative pressures earlier than most native towns as evidenced in its elevated violent death rate in the 1930s (Anderson and Eells, 1935). Similarly, others found that a "notable increase in mortality due to these causes in non-native Fairbanks parallels the pipeline work" (Klausner and Foulks, 1982:151).

Exposure to modern life by itself may not automatically lead to rising rates of mental illness, substance abuse and violence (Inkeles, 1973:358-360; Brower, 1980:62). Complex sets of causal relationships lead from acculturative impacts to the social pathologies which raise these rates.

Some of these relationships have been examined. Increased social mobility may isolate individuals from kinsmen and supportive social situations (Stillner and Stillner, 1974). The growth of smaller communities into larger ones may have a similar effect, particularly if it is accompanied by the immigration of an unfamiliar, highly skilled group which fills many important positions. Thus, problems of self-image are critical to the development or non-development of social pathologies (Chance, 1966:92).

The sort of psychic stress which leads to social pathologies "may be significantly determined by the extent of the gap between the old and the new norms" (Brower, 1980:62; see also Kiev, 1964:456-458; 1972:11; Chance, 1966; Murphy, 1965:279-280). Such problems may result from people being socialized for a lifestyle that no longer exists (Milan, 1974). New routes to success, created by development, may contradict the more traditional patterns of reciprocity and egalitarianism and lead to social conflict and feelings of guilt (Hippler, 1969:51-52, 60). Conversely, people may identify with new goals which are inaccessible or for which they lack skills. This leads to lowered self-esteem and increased anger and frustration (Chance, 1965; 1966:95-96; Chance et al., 1966:197-226; Kiev, 1964:456, 458; Murphy, 1965:279-280).

The substitution of one set of normative behavior for another may disrupt the standard set of expectations, predictions, and responses used to understand social settings. This too leads to lowered self-esteem, increased frustration

(Erasmus, 1961:23-32; Kiev, 1964:456-457).

Finally, the nature and direction of change may not be clear or understood or it may accelerate and "overload" the existing sociocultural system (Murphy, 1965:279-280). Such a situation decreases the sense of control and increases perceptions of an external threat and psychic stress. A sense of control is particularly important for adjustment (Chance, 1966); a sense of an uncontrolled external threat particularly detrimental (Murphy, 1965:279-280; Kiev, 1964:456, 458).

Assumptions about Wainwright's Culture and Society

The ideology of sharing and helping is paramount among the basic values of Wainwright society. Furthermore, the ideology of sharing and helping takes expression in acts of sharing and helping that run counter to the ideology of economic choice which allegedly motivates market behavior. As has been demonstrated in the ethnography above, many examples of common behavior in Wainwright demonstrate that sharing and helping—not economic choice—motivates Native action.

We assume that the sense of community in modern Wainwright is institutional. That is, it is long tried, repetitive, habitual, and expected. This sense of community comes from the sharing of resources and skills, extending through wide networks of kinspeople and friends, through the helpfulness that is extended to persons in need, through a

common history stretching back to the time of Christ that has drawn together Inupiaq-speaking peoples. The sense of community coalesces around sentiments about the beauty of the land and oceans of the North Slope and from commonly shared sentiment about the threats posed to Wainwright by natural forces as well as by industries and governments.

We assume that Wainwright natives remain wedded to their environment and to their subsistence economy, in largest part, because they prefer to do so. Wage-labor and salaries are perceived as temporary solutions to material problems, just as are transfer payments and the legislation on which they are based. Cash income is sought and much of that income is used to purchase technology that will enhance subsistence harvest activities which, in turn, make family and community life more predictable.

We assume, therefore, that the continuance of Wainwright village life is predicated on the continued presence, extraction, and use of naturally-occurring renewable resources. We further assume that the formally organized institutions in Wainwright, that have been legislated into being during the past thirteen years, will be used in attempts to assure the continuance of access to, and protection of those resources, and to guarantee transfer payments and federal and state relief should those resources be severely altered or reduced. We assume then, that institutions will be used in culturally explicit ways, ways which will support continued extraction, distribution, and consumption of naturally-occurring resources. Finally, we assume that activities such as OCS

oil development, which are seen as a threat to the subsistence system, will also be perceived as a threat to the community and to the way of life.

A special note on sharing

Central to the subsistence economy in its manifold connections to other aspects of contemporary Inupiat culture is the concept and the practice of sharing. Sharing is institutionalized in such a way that raw resources are given, labor is contributed, and equipment is borrowed and loaned among networks of kinspeople and friends. The concept of helping is so deeply held that second thoughts about economic choices are not required when an able person contacts a person in distress. The concept is so deeply held that neither thanks nor explicit reciprocation are expected for such help. The able person acts simply to help the disabled person, to repair his equipment or the like.

We assume that this practice and its accompanying ideology has accommodated Eskimos to their arctic and subarctic habitats in the past, and will continue to cause Natives not to behave as "economic men" in the western market tradition (see Knight, 1933; and Polanyi et al., (eds.) 1957, for lucid analyses of the assumption of economic man and choice in economics). The practices of sharing, giving, and helping are so widely spread and so persistent in the arctic and subarctic (see, for recent examples, Little and Robbins, 1984; Jorgensen, 1984; Jorgensen et al., 1982; Wolfe, 1981; and the review article by Moran, 1981) that their collective

significance is often overlooked, and apparently accepted as given by many arctic researchers (see, for example, Nelson, 1969:378-380; and especially Ellanna, 1980:108-116).

Sharing, giving, and helping among arctic and subarctic Eskimos are not only conceptually different from the concept of market exchange for standard values and bartering, they are also conceptually different from the concept of reciprocity as commonly described in anthropological literature. With reciprocity, there is explicit recognition that the donor of a service or an object will receive an equivalent service or object from the original recipient at some future date. Some Eskimos--habitually and over their entire productive lifetimes--give much more than they receive. However, the recipient is conceived of as the community, not as a personal recipient, and the donor does not expect specific reciprocity. By giving, a person accepts the cultural institution of giving. He helps and is helped. Nevertheless, today as in the past, esteem accrues to the big giver, to the "good hunter," to the successful extractor who shares his catch.

We assume that sharing, helping, and giving among arctic and subarctic Eskimos are, then, conceptually different from market exchange practices and also from concepts of reciprocity and redistribution as applied to non-market exchange systems (see Polanyi et al. (eds.), 1957; Sahlins, 1973).

Finally, we assume that sharing of species-specific resources underlies essentially all of the formal village

ceremonies (Nalukataq, Christmas, Thanksgiving, and other holiday feasts) that are central to the maintenance of community itself as well as to the persistence of what the people see as the "Eskimo Way."

CHAPTER XVI

EFFECTS OF RENEWABLE RESOURCE HARVEST DISRUPTIONS ON SOCIOECONOMIC AND SOCIOCULTURAL SYSTEMS IMPACT ANALYSIS WAINWRIGHT, ALASKA

INTRODUCTION

At the outset of this project we assumed that archival and field investigations would allow collecting a data base sufficient for making empirically sound ordinal definitions of harvest disruptions to renewable resources. Empirically warranted definitions must fit the phenomena to some specific criteria, such as a measure of quantity or a measure of specifically diagnostic attributes (phenomena that vary in kind, or quality, rather than quantity). We think our definitions satisfy those criteria.

We also believe our definitions to be logically adequate. This test is met by making sure that the three definitions form a mutually inclusive and mutually exclusive possibility set. The possibility set comprises all possible types of disruptions to harvests of naturally occurring, renewable resources used by Wainwright Natives. Furthermore, each rank in the set (low, medium, high) is mutually inclusive and mutually exclusive so that disruptions of one type cannot be misclassified as disruptions of another type.

While our definitions of levels of harvest disruptions are logically and empirically sound, several problems stand in the way of their direct application to the task of

projecting future change. First, because our study is time-bound and essentially tied to the present, we cannot determine through standard postdictive techniques whether our definitions discriminate sufficiently well to be of scientific value. This problem was discussed at length in the last chapter (Chap. XV).

A second problem is that the severe restrictions placed on the use of survey techniques and statistics in the data collection and analyses phases of our ethnographic baseline research have made valid forecasting from this synchronic research impossible. Moreover, the paucity of time series in the archival data sets pertaining to the natural resources of the North Slope and their uses by Wainwright Natives do not allow us to compensate for validity problems inherent in our synchronic data. This problem was also discussed in the methodology section (Chap. XV).

A third problem is that the consequences we propose from the three levels of disruptions to harvests of naturally occurring renewable resources are not validated. That is to say, we cannot demonstrate that the relation between level of disruption and type of consequence is real and determinate. Being "real," in a statistical sense, would mean that whenever the level of disruption varied, the type of consequence would vary in the predicted direction. Being "determinate," in a statistical sense, would mean that no intervening variables would affect this relationship. Therefore, general problems of validity obtain for our definitions. They could

be resolved only through retests at several points in time, and then only by incorporating survey techniques of network samples with ethnographic observations and formal, time-series analyses. For this reason we present the consequences only as hypotheses.

A fourth problem is that the scope of work for this project excludes many of the social factors necessary to project impacts. As discussed in our methodology section, all aspects of a society are functionally interrelated. Thus, logically all aspects of Wainwright's social life would be affected should harvest disruptions occur. However, this does not mean that the strongest, most relevant, and most telling impacts to all aspects of village life would be directly traceable to harvest disruptions.

In fact, one of our most important findings is that this is not the case. In the case of communities affected, oil developments usually confront social life in a number of ways. More jobs may be created, more regulations and outside interference may be imposed, more social services may be made available, more strangers may pass through the village, and the like. Depending on what aspect of society is considered, any of these changes may have more immediate and telling impacts than would harvest disruptions. By concentrating on possible harvest disruptions to the exclusion of other types of effects, the scope of work overlooks much of the "human environment," it excludes many factors necessary for the projection of social impacts.

In the earlier chapters of this report we addressed this

problem by going beyond the original statement of work. In Section I, the ethnographic baseline, we constructed a careful, empirically valid description of Wainwright. Included in this picture are not only descriptions of the relationships between subsistence and other facets of social life; included as well are discussions of relations among these other facets, analyses of historical change, and descriptions of important causal relationships beyond those which involve subsistence. In the methodological chapter (Chap. XV), we went beyond an assessment of the empirical grounding for our conclusions and presented a series of analytical assumptions.

While these assumptions cannot be empirically known, they are rooted in the facts of the ethnographic baseline and they involve a larger spectrum of social effects than simply those tied to harvest disruptions. Joined with the ethnographic baseline, they constitute the basis of a wide-ranging social assessment of the possible effects of oil-related developments at Wainwright and have applicability to other North Slope villages as well.

In this chapter, we return to the narrower confines of the original statement of work. Here we shall deal with the problems mentioned above by developing a situational logic to examine the possible consequences to Wainwright society from increasingly severe disruptions to the harvest of naturally-occurring, renewable resources. We first will define the levels of disruption and provide a rationale for the

distinctions. These levels of disruption are set much higher than published definitions of major effects found in OCS environmental impact statements (see for example, Diapir Field FEIS, U.S. Dept. of Interior, 1984).

The reader is reminded that we are not attempting to assess effects on a particular subsistence system. Rather, we are asking how effects on a system—and those effects alone—might percolate through an entire society and disrupt all aspects of village life. The levels may be set unrealistically high. On the other hand, it is just as unrealistic to assume that the only effects oil development would have on a community would occur due to direct disruptions of subsistence harvests.

In background sections that appear after our definitions of the levels of disruption, we will provide a comparative assessment of consequences to Native American culture from rapid, large-scale energy developments. Here we focus on similarities and differences between Eskimos and American Indians.

Comparisons of American Indian experiences with energy development are deemed appropriate for several reasons. First and foremost, since the same governmental and corporate structures are involved in leasing in the two areas, we can assume that Eskimo societies are facing pressures to develop that are very similar to those experienced by Indian societies. Moreover, the impacts of oil, gas, and other non-renewable energy resources are well documented among Indian societies in the American West.

American Indian societies, although different from Wainwright Eskimo society in many particulars--not the least of which is the dependence on naturally occurring resources for subsistence--are also similar to Eskimo societies in many ways. The similarities include some traditional, non-commodity valuations of environments, similar kinship network gifting and reciprocity patterns, similar household composition forms in relation to stability and amount of income, similar concepts of community, and some similar dependency relations and relations of subordination to the federal government.

The analysis of the social and cultural consequences from harvest disruptions to naturally occurring, renewable resources to Wainwright culture will follow the background sections.

HARVEST DISRUPTIONS TO NATURALLY OCCURRING, RENEWABLE RESOURCES: DEFINITIONS AND RATIONAL

Unlike western industrial systems, subsistence systems are built directly on naturally occurring renewable resources. On the North Slope, the use of vegetation is limited, while faunal resources, such as marine and terrestrial mammals and fish, are heavily emphasized (NSB Contract Staff, 1979:5; Spencer, 1959). The available spectrum of resources is very limited when compared to more southerly regions such as Norton Sound or St. Lawrence Island (see Little and Robbins, 1984; Jorgensen, 1984).

On the North Slope, the spectrum of resources varies, somewhat, from village to village. Generally, more species are available to coastal than to inland villages; more are available to southern and western lying villages than to northern and eastern lying ones. Table XVI-1 presents a summary list of resources used by North Slope villages. Point Hope, the southern-most coastal settlement, uses 17 categories which appear on that list while the inland villages of Atqasuk and Anaktuvuk Pass use only nine each (NSB Contract Staff, 1979:10-15). Wainwright, Barrow, and Kaktovik all use 14. The availability and usefulness of species, the importance of specific subsistence areas, and the timing of subsistence activities are all qualities of the subsistence system which are determined, in large measure, by ecological and biological factors. They may be viewed as natural limits to the subsistence system.

Table XVI-1

Biotic Resources Used by North Slope Villages

Resource	Anak-tuvuk		Nuiq-	Kakto-	Wain-		Point	Point
	Pass	Atqasuk	sut	vik	Barrow	wright	Lay	Hope
(1)	IN	IN	IN/C	IN/C	C/IN	C/IN	C/IN	C/IN
Bowhead			X	X	X	X	(2)	X
Caribou	X	X	X	X	X	X	X	X
Fish	X	X	X	X	X	X	X	X
Beluga			X	X	X	X	(2)	X
Seal			X	X	X	X	X	X
Ugruk			X	X	X	X	X	X
Walrus					X	X	X	X
Polar bear			X	X	X	X	X	X
Moose	X	X	X	X	X	X	X	X
Sheep	X			X				
Small mammal	X	X	X	X	X	X	X	X
Invertebrates								X
Ducks	X	X	X	X	X	X	X	X
Geese (3)	X	X	X	X	X	X	X	X
Murre								X
Owl		X						
Ptarmigan	X	X	X	X	X	X	X	X
Bird eggs	X	X	X	X	X	X	X	X
TOTAL	9	9	13	14	14	14	13	17

Sources: NSB Contract Staff, 1979:10-14; ACI-Braund, 1983: Tables 96, 97, 98, and 108.

Notes:

IN = Inland/Freshwater

C = Coastal/Marine

Code listed first is emphasized.

(1) The resources are derived from NSB Contract Staff, 1979:14. Several of these are joined into one category. For purposes of the table above "primary" resources and "secondary" resources (NSB Contract Staff's "1" and "2") are joined and designated with an "X". The "rarely utilized/occurring" and "not available" categories (NSB Contract Staff's "0" and "NA") are dropped. Following ACI-Braund, 1983: Tables 96, 97, 98, and 108, bowhead whales, caribou, and fish are listed first to designate their importance.

(2) Of these three important resources--bowhead whales, caribou, and fish--caribou and fish are major resources for

both inland and coastal settlements. Bowhead whales are an important resource for all coastal North Slope villages except Point Lay where it is not available. At Point Lay the beluga whale is very important, however. It plays an equivalent role in the Point Lay economy.

(3) Migratory birds, particularly geese, are of increasing importance to the subsistence system; however, because of their limited mass, they cannot be classed with bowheads, caribou, or fish.

In Table XVI-1, caribou, bowhead whale, and fish are listed first to emphasize their predominant role in the area's present-day subsistence economy. In a recent study, households in Point Hope, Wainwright, Barrow, Nuiqsut, and Kaktovik were asked which resource they harvested most often, which provided their largest source of meat, which they consumed most often, and which was their favorite. While responses differed from village to village, taken together caribou, bowhead whale, and fish accounted for between 72 and 97 percent of all answers. These percentages were lowest for Point Hope, which uses the greatest variety of biotic resources.

This 1983 survey, done for the U.S. Department of the Interior, provides an idea of subsistence levels of dependency. Two-thirds of the respondents in the Beaufort Sea region villages (Barrow, Nuiqsut, and Kaktovik) stated they got most of their meat from hunting and fishing: 23 percent got all. For the Chukchi Sea region, which includes Wainwright, over three-fourths of the respondents got most or all of their meat from hunting and fishing (ACI-Braund, 1983:Table 91).

The survey also asked other questions which helped measure relative subsistence levels and dependency by species: effort spent hunting, quantity hunted, quantity eaten, and favorite meat from hunting and fishing. Caribou was the most important resource in terms of effort spent hunting, quantity of meat hunted, and quantity eaten. (Effort spent hunting is measured by frequency of hunting trips rather than total time spent, and quantity eaten is measured by frequency of eating rather than total pounds. In Wainwright these numbers were 62 and 80 percent of respondents, respectively.)

Bowhead whale, however, is the favorite meat of the majority of respondents (although in Nuiqsut and Kaktovik caribou is the favorite). Bowhead whale is also the subsistence resource most important as the basis of sharing and community cooperation, which are the foundations of the sociocultural system.

The 1983 survey also shows the relative importance of fish in the subsistence economy. For all of the indicators of subsistence levels and dependency, fish usually ranks second or third after caribou and bowhead whale. Bearded seal and game birds are also considered primary subsistence species. Waterfowl are particularly important in the springtime for they provide variety to the subsistence diet. Seal oil, from ringed and harbor seals as well as bearded seals, is an important staple and necessary complement to other subsistence foods.

Differences Between Family and Village Harvests

It is necessary at the outset to distinguish between disruptions to the harvests of subsistence resources engaged in by particular families, and disruptions to harvests of species or combinations of species for the entire village. In this study we focus on the latter rather than the former, but let us distinguish between them. In each season of each year it is not uncommon for the members of a family to experience a "slump," or "bad luck," or to be "shut out," as Natives might say, in the pursuit of certain crucial species sought for subsistence, such as walrus, bearded seals, caribou, or geese and ducks. A snow machine might breakdown, fall through the ice, or be stranded because of a quick thaw. Family hunters might become ill, or other unpredictable misfortunes might occur. If that family has difficulty in compensating for major items such as caribou, seals, or birds--particularly if they do not bag sufficient quantities of all of these mammals--they will receive food as gifts from kinspeople within the village, from friends within the village, and from affines in other villages. Villagers always know, through communication networks, what families have been unsuccessful as well as what hunters have had unusually "good luck." No person who has had unusual success could, or would, withhold resources from a family in need.

Failure to extract resources sufficient for a family's needs during a season, or in regard to particularly important species, such as caribou, is not uncommon. Compensation for Native foods occurs through switching to the extraction of

less preferred species, such as fish (grayling, char, and whitefish), a more predictable resource that occurs in relatively large quantities. Such alternative resource use usually leaves a shortfall, so relatives and friends within the village and affines and relatives in other villages are called on to contribute. Because sharing networks come into play, one family's misfortune affects many other families.

Disruptions to the harvests of naturally occurring resources to the entire village is a different issue. Examples of village-wide disruptions are common. Weather and ice conditions may reduce resource availability below their normal levels, distribution, and seasonal span. Bowhead whaling, since it is an activity engaged in by virtually the entire community and is dependent on weather and ice conditions, exemplifies such natural village-wide yearly variation. Weather and ice conditions may restrict access to resources by impeding or preventing travel, or they may cause spoilage to food already harvested. A late spring break-up negatively influences seal and walrus hunting for all villagers, just as early spring break-ups negatively influence bowhead whaling.

Both early and late spring break-ups occur often enough so that they are regarded as normal conditions by villagers: if seals and walrus cannot be bagged in large quantities, plentiful but probably not sufficient amounts of birds and fish can be extracted as compensation. The subsistence problems for villagers become dire when the harvests of

predominant staples are interrupted for successive seasons, or when harvests of several predominant staples are interrupted in the same season. In such instances, villagers share their preserved and stored foods, and lean heavily on assistance networks in other villages.

Levels of Disruptions to Harvests of Naturally-Occurring, Renewable Resources: Low, Medium, and High

We assume that availability of the resources extracted by Wainwright Natives forms a continuum from scarcity to abundance. Pursuant to this assumption, however, we know of no temporal measures of species quantities, concentration (or diffuseness), or locations (ranges from the village in which the species occur), that will allow us to create a continuous variable comprising the aggregate species. We have, thus, created an ordinal variable comprising three ranked attributes—low, medium, and high. We assume an underlying scale to the variable property, but we do not assume equal distances (intervals) between each rank.

Low Harvest Disruptions

Wainwright is located on a tundra plain in an extreme arctic environment. Strong fall and winter storms are common; ones which can make all subsistence activities impossible. Wainwright has experienced storms which have closed the village to travel almost two weeks at a time and which have made venturing across the street to the store hazardous and even fatal. Ice movements in the winter, and fog, rain, and wind in the summer can impede ocean travel. Residents normally and characteristically adjust to these and

a lesser array of abiological phenomena. Because some kinds of obstacles, but seldom the same obstacles, hinder the annual harvests of some resources, but not always the same resources, for the entire village of Wainwright, and because for the past five years Wainwright residents have coped with the disruptions to resource harvests that they have encountered, we treat the current situation as low level disruption.

Weather and ice conditions, on an unpredictable but anticipated basis, reduce resource availability below their normal levels; reduce distribution, and/or seasonal span; restrict access to resources by interfering with travel; and cause spoilage of resources already harvested. Poor snow cover has inhibited travel to hunt caribou and to check trap lines. Stormy seas have inhibited all sea mammal hunting. River overflow on the ice has impeded travel by snow machine to pursue quarry inland, and has also impeded winter jigging for smelt. Early break-up of the Kuk River ice can reduce the bag of white-fronted geese. Early break-up of sea ice can shorten the spring whaling effort; late break-up, on the other hand, can reduce the bag of seals, especially bearded seals, and walrus.

During these annual fluctuations of kinds of disruptions to harvests, some resources are available, but not at the desired time (when seals are fattest, say, or when caribou meat is prime). These disruptions do not deny Natives the resources that they seek, but they deny them access to the

resources in the conditions for which they are desired.

Finally, low level disruptions may be influenced by the population growth of the village through internal growth, and through in-migration of Natives and non-Natives. Local Natives complain of "outsiders" flying into the foothills of the Brooks Range to hunt or fish. More growth, coupled with increased competition for subsistence foods and fishing sites, may strain the system beyond the limits of low levels of disruption.

Here, several points should be made about relationships between such natural variation and the effects, on subsistence systems, of such activities as on- and off-shore oil development:

(1) While natural variation includes both highs and lows and produces windfalls as well as shortfalls, effects only produce lows.

(2) While the lows produced by effects may appear like the downward trends found in natural variation, in reality such effects would cut into the normal productivity of subsistence systems; effects would subtract from the highs in the natural variation and add to its lows.

(3) While various biological (e.g. species population cycles) and abiological (e.g. ice and weather conditions) factors cause variation in the availability of species, normally these factors do not cause similar variation in a broad range of species. For example, ice conditions which are bad for walrus hunting may have earlier been good for whaling. Such conditions would not affect sea and shore

birds. Pruitt (1966) has demonstrated that, even for closely related species, population cycles are not synchronized, lows in one population cycle are not matched by lows in most others. On the other hand, effects from on- and off-shore development (e.g. from an oil spill, non-toxic levels of hydrocarbons, noise and traffic distributions) could effect a broad spectrum of species at the same time.

(4) While history has shown that arctic subsistence systems are "flexible" enough to survive the natural fluctuation in which they operate, this same history does not provide similar evidence that these same systems could survive long term cuts in their productivity or cuts in the availability of a broad spectrum of subsistence species. Indeed, evidence from the whaling era--when substantial impacts occurred first on bowheads, then walrus, and then caribou--leads to the conclusion that, when outside effects are added to natural variation, these subsistence systems can lose the "flexibility" needed for survival.

5) For all these reasons, people involved in subsistence systems have different attitudes and reactions toward externally induced effects than they do toward natural variation.

Medium Harvest Disruptions

Disruptions to caribou for one season or to bowhead whales for two consecutive seasons (that render those resources inaccessible), or that destroy them after they are acquired, would constitute the base for medium harvest

disruptions. Similar disruptions to combinations of two other predominant staples or to three secondary food sources (any combination) for two consecutive seasons would also constitute medium harvest disruptions.

Such disruptions to three key types of resources in spring-summer, or summer-fall would not only restrict severely the stores which Natives rely on to see themselves through the winter, but would deplete whatever stores of preserved foods were on hand from the previous year and deny them the hundreds of meals that are normally composed of freshly caught or bagged resources. Fall-winter, or winter-spring disruptions, stretching from eight to eight and one-half months would drain the caches and freezers and require heavy concentration of efforts on extraction of less preferred species and resources less available for immediate consumption. Moreover, the same kinds of conditions that disrupt winter harvests of staples or secondary food sources can disrupt the harvests of most resources by inhibiting travel and access.

High Harvest Disruptions

Disruptions that render caribou and whales inaccessible or disruptions of either of these species, with a combination of two other predominant staples and secondary food sources (any combination), throughout a year would constitute high level harvest disruptions. Inasmuch as the majority of types of naturally occurring resources on which Wainwright Natives rely are dependent on the sea, a major and protracted off-shore disruption affecting some combination of four key sea

mammals, and/or fish and/or waterfowl would have severe consequences for Native subsistence harvests, regardless of the availability of land mammals, inland birds, and plants, and might affect tertiary food sources as well (marine invertebrates, sea gulls, less exploited sea mammals). A major oil spill, in conjunction with heavy and persistent storms through a winter, spring, summer, and fall, could affect access to resources, access to the spill (ice-locked, either stationary or moving), spawning migrations of anadromous species, haul-out areas for sea mammals, freezing of sea mammals (oil covered), freezing of waterfowl (oil covered), inaccessibility of food for diving birds (shorebirds, waterfowl, cliffbirds) and migratory routes for bowhead and beluga whales and walrus.

CULTURAL CONSEQUENCES FROM RAPID, LARGE-SCALE INDUSTRIAL DEVELOPMENTS AMONG NATIVE AMERICANS

Several large OCS lease sales have occurred in the Beaufort Sea, north of Prudoe Bay. While Lease Sale 85-- which would have included the Chukchi Sea from Point Hope to Point Barrow--was cancelled in 1984, Lease Sale 109, scheduled for mid-1987, should include much the same area. If a "northern find" of producible oil is discovered in this sale region, on-shore support facilities are expected to be built between 10 and 30 miles north of Wainwright and a pipeline is expected to be built from this "landfall" to the main TAPS pipeline west of Nuiqsut. Such a support facility

would be located in the heart of Wainwright's major whaling area and in an area important generally for marine mammal hunting. The support facility would also be easily accessible from Wainwright by snowmachine, three-wheeler, boat, and probably, by automobile and pickup truck.

Wainwright Natives do not share the definition of environment, ownership of nature's resources, and economic uses of those resources that are held by the dominant classes of United States society, but they are well aware of that definition and the ideas and values that define the cultural scene in society. (A very extensive literature has addressed the topic of American economic ideology in relation to competition, development, and the environment, as well as personal responsibilities in economic behavior. A brief list might include McClelland, 1961; Hofstadter, 1967; Bennett, 1979; and Jorgensen, 1972.) Wainwright leaders express dismay at the possibility that local on- and off-shore oil development may lead to the demise of their subsistence way of life as well as to their political independence. Subsistence hunters fear the negative transformation of their environment and their way of life through oil developments and the spin-offs of those developments. In this regard, off-shore developments are particularly feared since Inupiaq believe that outsiders are not adequately considering ice-hazards.

Wainwright Natives do not treat the land, plants, animals, and air as commodities. Yet leaders among them recognize that the dominant classes' interpretation of the

world--especially the social and economic world and how it works--is accepted by society's decision-makers at all levels (if not by all non-Native members of that society) as correct, and this acceptance of that "correctness" renders Natives powerless in opposing dominant plans for development.

Although they do not express hegemony in the following words, they recognize that public opinion and the hegemony exercised over them by state and federal governments, and corporations, are rooted in economic power. It is not the simple persuasiveness of a group's ideas, but the union of economic control and intellectual leadership which has produced and maintained dominant classes in secure control of American and Alaskan society.

The ideology of Wainwright Natives on the other hand is similar in many ways with the ideologies of Western American Indians. Symbols are assigned to the environment--land, water, air, animals, plants--that incorporate values of tradition, persistence, continuity, beauty, respect, reverence, and the expectation that its features should persist intact for future generations. These symbols are integrated with customs of labor, gifting, sharing, and helping. Neither among Western American Indians, nor Wainwright Natives, is the environment symbolized or treated as a commodity (see Chap.III; products of labor such as cabins or ice-cellars are sold on occasion but not the land itself).

The similarities between Western American Indian ideologies and those of Wainwright Natives, and the differences of

both from the ideology of the dominant society (in regard to the environment and its economic uses as well as the economic behavior expected of all persons) are crucial in anticipating cultural consequences from large-scale, rapid industrial developments in Wainwright.

Similarities and Differences Between
Wainwright Eskimos and Western American Indians

Wainwright Eskimos are different from American Indians as well as similar to them in many ways. An assessment will be made of these significant similarities and differences. This will be followed by brief assessments of the social and cultural consequences which have already occurred to American Indians in the western United States and on the Arctic Slope from large-scale, rapid, energy developments in their midsts. Together, these assessments will provide us with a comparative framework from which concluding postulates about the consequences from medium and high levels of disruptions to the harvests of naturally occurring, renewable species can be drawn.

Differences are crucial, principally because of (1) the uniqueness of the harsh and challenging arctic environment and of Wainwright's dependence for a large majority of their subsistence on the natural resources of that environment. Western American Indians reside in more salubrious climates and less challenging environments, and whereas some subsistence hunting, gathering, farming, or herding occurs on all of the reservations in which energy developments have

occurred, only on reservations where food production dominates (farming, stock-raising) are some Natives as dependent on the natural environment as are Wainwright Natives. (2) Wainwright is an isolated community. Information flows in and out through air travellers, radio, newspapers, satellite television, and the like, but Wainwright is not connected anywhere by roads, and the nearest settlement, Barrow, is about 90 miles distant. Snow machine or small boat travel to Barrow is arduous. Air travel is expensive. Western American Indian reservations are not isolated. Reservations possess one or more paved roads, as well as arteries connecting them to border towns (practically all reservations are checkerboarded with Anglo residents and non-Indian towns). Regional cities much larger than Barrow are accessible by auto, and often by bus within 100 miles of all energy resource-rich reservations in the West. (3) The fish, game, forests, ocean, and rivers in the Wainwright region are controlled by either federal or state government. Western American Indian tribes own and ostensibly control the fish, game, and forests on their reservations, and the waters that rise on or traverse them. (4) Wainwright Natives possess very little village and privately-conveyed land, and do not own the subsurface mineral rights beneath those lands (they are owned by the regional corporation or the federal government). Western American Indian tribes own and control--de jure but not always de facto--the subsurface rights on their rather large reservations. Often

Indian-owned subsurface rights extend to ceded territory (lands relinquished to the federal government by treaty).

Crucial differences, then, distinguish Wainwright Eskimos from Western American Indians with respect to dependence on naturally occurring resources, isolation, local control over fish, game, waters and forests, and ownership of subsurface mineral rights. Significant similarities, however, must also be recognized so that we can evaluate some plausible consequences from energy developments near Wainwright.

Similarities include: (1) the growth of a universal achievement orientation and functional specificity in village and tribal organizations through federal and state government domination; government expropriation of Native resources; formal rules and regulations about access to, and use of resources off-reservation or everywhere in the case of Wainwright; establishment of Native forms of government and defining their powers through legislation, such as the Indian Reorganization Act (Wheeler-Howard Act of 1934); and the establishment of federal and state bureaus, agencies, and offices which either administer Native affairs, or receive reports from and provide services to Natives; (2) public sector dependencies as they characterize reservation and Wainwright economies (The extensive CIP program has extended these dependencies); (3) control of energy resources from extraction through transformation to energy and sales as they are held by multinational corporations; and (4) non-commodity values of nature, unlike the dominant society's definition in

which there is no currency in ideology, in the courts, or in the market-place, for non-commodity values of nature.

The patterned variables of universality and functional specificity should not be overdrawn, because on reservations as well as in Wainwright, local governmental institutions are shaped by kinship obligations and expectations and the particularism and functional diffuseness that characterize the persistence of traditional cultures.

Cultural Consequences to Western American Indians
from Energy Developments

Energy-related developments have exercised profound effects on many rural regions of the western United States from the Grants Mineral Belt in New Mexico to the Skagit River in northwestern Washington. The consequences of these developments for American Indian societies are summarized in Jorgensen (1983), and analyzed at greater length in Jorgensen et al. (1978), and Jorgensen ed. (1984).

In practically all energy extraction or conversion projects on reservations, and in every energy-related project near reservations, after the permitting and licensing procedure is completed, decision-making and financial control is exclusively in the hands of transnational corporations. Employment from energy-related developments on and near reservations, even when preferential hiring clauses are included in tribal/corporation agreements, is almost exclusively non-Indian; and jobs held by Indians are usually restricted to the construction phases of projects and are the

most menial types of general labor and custodial maintenance. (Navajos have held 3,000 of 47,000 energy-related jobs on that reservation between 1957 and 1980; and during the peak of construction-phase employment at coal-fired power plants near the Northern Cheyenne Reservation, Cheyennes held 34 of the 895 total jobs, later dropping to six custodial maintenance jobs.)

Revenues accruing to tribes from resources leased and/or extracted, water allocations sold, leased, or given away, and rights-of-way granted have been insignificant relative to their collective worth, and small relative to the tax revenues accruing to states from sales, severance, and property holdings of those same energy operations. Western American Indian economies, as measured by personal and tribal income, are steadily losing ground each year in comparison with that of the United States, generally. Whereas public sector income in the form of jobs, grants, contracts, and transfers in cash and in kind to welfare recipients far exceeded revenues from energy-related production through 1980, the Reagan Administration policies and programs have made deep cuts from all public sector transfers in the past four years.

The income from employment in jobs that are created in either the private sector or public sector by energy-related developments is spent either in off-reservation towns, or in businesses owned by non-Indians, so multiplier effects have not strengthened Indian economies.

Surveys of Indians suggest that traditional concerns for

land cannot be accommodated to most known extraction techniques for minerals, and consequences from oil extraction have caused concern about land and animals in some instances, and personal, social, political, and economic conflicts in other instances (see Jorgensen et al., 1978 and Jorgensen ed., 1984 for a discussion of surveys, and the relevant bibliography pertaining to them, among Cheyenne, Crow, Navajo, Ute, Colville, and other tribes). Surveys further show that most Indians lack information about the companies doing business on their reservations, about the probable financial beneficiaries of future developments, and about the monetary value of the resources that they own. Surveys also report favorable attitudes toward energy developments so long as jobs are provided to Natives, no changes occur to the environment, no disrespectful whites discriminate against Indians, Indian culture is not denegated by non-Indians, Indian sacred areas are not defiled, and their birthrights are not be transformed.

Yet one of the clearest trends in the consequences of energy developments on Indian reservations is an increase in conflicts. Tribal members have sued their elected leaders in federal courts over contracts that tribal authorities have signed with transnational energy corporations. Indians whose traditional residences and resource areas for farming, stock-raising, and extraction have been threatened by energy-related developments have sued corporations and federal agencies for failing to analyze the communities, ways of

life, and dependencies of those tribal people on their traditional areas. Residents in small hamlets on reservations have accused their tribal governments of failing to protect them from discrimination and to protect their land from abuse by employees of energy corporations operating in their midst. Turnovers of elected and appointed officials in tribal governments have been high, and factional disputes within tribes often focus on issues of energy-related developments.

Within communities, households have been involuntarily relocated away from their traditional residencies and resources because of the opening of mines, mills, electricity generation plants, railroads, and related developments. Reciprocity-based kinship networks have been broken, as relocatees have had to sever ties with kinspeople and friends. In some instances sacred shrine areas and burial sites have been damaged by energy-related operations, and in other instances relocatees have been separated from them. Relocatees long to return to their home areas and grieve because their progeny cannot reside in those areas as well. (For fuller discussions of the preceding summaries see Jorgensen, 1983; and Jorgensen et al., 1978; and Jorgensen ed., 1984).

Because oil extraction may occur in or near Wainwright, the experiences of Western American Indians with oil developments are instructive. The first example is of rebellious social movement.

In the Aneth-Montezuma Creek section of the Navajo Reservation gas and oil operations conducted by Texaco,

Phillips, and other leasees for over two decades were almost completely staffed by non-Indians who ridiculed Navajo behavior, allegedly beat and mistreated Navajos on occasion, carelessly spilled oil around the rigs, and recklessly killed cattle and sheep grazing, browsing, or resting near roads of oil operations. Local Navajos had many other complaints, but when they took them to the tribal leadership for help, help was not forthcoming.

In response, Navajos in the Aneth region rebelled and took over all the gas and oil operations, driving off the workers and shutting them down completely. The rebels demanded that the oil leases be voided, or renegotiated, that Navajos be hired for jobs, that the oil companies make substantial financial contributions to Navajo education, and that discriminatory acts by non-Navajo employees of the oil companies cease immediately. The oil companies made some concessions but would not renegotiate leases. The Aneth Navajos also castigated the Navajo Tribal Council for taking the money obtained from oil and lease royalties at Aneth--against the will of the local residents--but providing few resources and services to the Aneth people in return.

This example, of personal mistreatment, economic and political powerlessness, and rebellious response, is a harbinger of non-Native/Native, corporation/Native relations in oil developments, but also, perhaps, in village/regional corporation relations in Alaska.

In other oil extraction projects, the Wind River

Shoshone and Arapaho of Wyoming have alleged that over \$3 billion worth of their oil for which they should have received royalties had been stolen by companies and persons engaged in extracting, storing, and transporting the oil. The allegations have been supported by a federal grand jury and an investigation conducted by the Department of Interior. Indictments have been brought down, one person has been convicted, one transnational oil company has recognized an "underpayment" and made compensation for it, and litigation continues. And among the Jicarilla Apache, an oil firm doing business on the reservation refused to open its books to the tribe. Under federal court order it was forced to do so and a \$600,000 underpayment was found. The Tribe assumed control of the oil operation.

Cultural Consequences to North Slope Inupiaq
from Energy-Related Developments

Since Wainwright lies near Barrow, the political center of the North Slope Borough, changes that have occurred already are particularly relevant to establishing a situational logic for predictions. Recently Kruse et al. (1982) have summarized the effects of energy development at Prudhoe Bay among the Eskimo groups of Alaska's North Slope.

The results of the activities of corporations, lobbyists and state and federal legislators was the Alaska Native Claims Settlement Act and all that it portends. The State of Alaska received title to the land under which the Prudhoe Bay oil reserves were located. But state legislation made it possible to form regional governments (boroughs) with taxing

authority on property. Natives dominated the formation of the North Slope Borough which secured its taxing authority only after protracted litigation against the State and oil companies.

In the decade following ANCSA and the production of oil from Prudhoe Bay, few Natives have gained employment in the private sectors of the energy and energy-related industry, and fewer yet have gained permanent employment. For example in Wainwright, while we were there, the number of people working at Prudhoe varied from 0 to 5. Gross receipts and profits have accrued to the transnational oil companies and the firms that supply them, and major revenues in the form of lease rents and royalties have accrued to the State. North Slope Natives have received few direct benefits from oil production. Yet the North Slope Borough, through its taxing authority as a state political division, has received large revenues from Prudhoe Bay oil production. These revenues--or public sector unearned income sources--have been supplemented by ANCSA award payments, federal and state contracts and grants, some federal and state agency employment, and many types of federal and state transfer payments. This has created a dependency economy atypical among Native Americans. It is atypical in the sense that public sector income from all sources is extremely high in comparison with that of say, Navajo, Ute, Northern Cheyenne, Crow, Hopi, Zuni, Wind River Shoshone, Jicarilla Apache, and other Western American Indian societies.

Tax revenues have been used in a myriad of community improvement projects planned for and approved by the North Slope Borough. Employment on such projects, which have developed community infrastructures of varying sorts and configurations throughout North Slope villages, is extremely high at times but has fallen far short of being either full or permanent for those employed. Moreover, presently the CIP program is facing major cutbacks. During the height of the program, low multipliers operated to keep some monies circulating locally that were earned on borough, Arctic Slope Regional Corporation, state, and federally-related jobs. However, viable investments and/or industries or businesses that will provide sustained employment and economic growth for North Slope inhabitants have not been developed. Oil revenues and ANCSA award monies, when depleted, have no foreseeable replacement. And petroleum and motorized equipment dependencies have increased.

The wealth of the North Slope is illusory inasmuch as it is based on public sector funds, many of which derive from the extraction of non-renewable resources, and many others of which derive from one time legislation for the extinguishing of Native claims to resources and from legislation sustaining human services programs (see McBeath, 1981). Job training and skill development in community improvement project employment have been inadequate to make workers competitive in the private labor market (McBeath, 1981). Indeed, the CIP program appears to have been counterproductive in this regard. In part, interest in Prudhoe Bay work opportunities

among residents of Wainwright is low because working away from the village interferes with and disrupts important and highly valued subsistence activities.

Recent research supports our findings that in Wainwright cash income is allocated to subsistence activities (see ACI-Braund, 1983; 1984; and Nelson, 1982). Research for the villages of Barrow and Nuiqsut (see Worl et al., 1981) and across the North Slope (see ACI-Braund, 1984) also point out that cash income is allocated to subsistence activities (equipment, provisions, petroleum, repairs), that subsistence resources are harvested because of preferences to do so, and that Natives are wary of activities in the environment which might disturb the naturally occurring and renewable resources on which those residents gain large portions of their diets. For example, according to Kruse et al. (1982:102), in 1977 about half of all North Slope families in their survey stated they acquired half or more of their food from subsistence extraction. We estimate a similar contribution to diets for Wainwright residents in 1982.

Moreover, we, like many before us (see Nelson, 1969; 1982; and NSB Contract Staff, 1979) found that subsistence behavior in Wainwright is symbolic of what it means to be an Eskimo. We learned that whether or not Inupiaq have been educated and/or employed away from the village, their return to the village to reestablish their residence also entails the resumption of "being and Eskimo," i.e., extraction the naturally occurring resources that have been the bedrock of

Native subsistence for generations, sharing those resources, and during the spring season, clearing out ice cellars of the past year's catch so that, as tradition instructs, the current year's resources will be available to the Eskimo extractor. These cultural phenomena--linked to naturally occurring, renewable resources and their uses--are contradictory to the commodity assumptions of the dominant society and the economizing-maximizing principles by which economic men are supposed to make decisions in a market economy.

In 1977, 35 percent of sampled North Slope residents "perceived that village living conditions worsened [since before the oil revenue period]...and only 7 [percent] observed that village living conditions had improved" (Kruse et al., 1982). Residents believed that the borough had met their needs, but they did not know whether it had controlled oil development. Community institutions have proliferated, single family housing has proliferated, and average household size decreased. Yet subsistence extraction, consumption, and distribution groups have maintained much of their pre-1970s organizational character in size and relations that connect them, at least in Wainwright. While the village had, by 1982, experienced changes due to oil development, the subsistence system had not yet been directly affected.

Relevance of Energy-Related Developments
in the Barrow Arch to the Village of Wainwright

To the present, no OCS or NPR-A lease sale has directly affected Wainwright's subsistence areas. The Barrow Arch Lease Sale 85, which included an area from Point Hope to

Point Barrow, was cancelled in 1984. However, oil company representatives and employees of the state and federal governments have informed Wainwright residents to expect oil development in the future but not necessarily oil-related employment. This advice fits with North Slope experience to date. This advice also parallels the longer history of experiences of western Indians regarding large scale power developments.

Income from OCS oil and gas extraction will not be shared with affected village or regional corporations. However, ASRC and Wainwright's village corporation have been involved in service industries related to oil development and will benefit, to a degree, for this reason. However, evidence to date indicates that their share will be relatively small. Moreover, Native experiences elsewhere suggest that, in Wainwright, local suppliers and service businesses will be owned by absentee persons and corporations if they are located in the village at all. Such experiences also indicate that most discretionary and large purchases, including groceries, will be made elsewhere.

Local residents are most likely to be uninformed or poorly informed about business ownership beyond the village level, as well as the nature and amount of benefits that accrue to corporations from oil and gas-related activities. Inflation in rents, durables, food, and services are likely to occur if Wainwright's population increases substantially or if many more non-Natives migrate into the village.

Lawsuits, like those filed and lost by the NSB over control of OCS territories, are apt to be filed by the Borough again, perhaps in conjunction with Wainwright and other villages. If legal remedies fail, social movements could well occur as the discrepancy between what Wainwright Natives have, and what they think they are legitimately entitled to, widens. If they acquire few jobs, have no control over the developments nor the income or revenues generated by the developments, and if large numbers of non-Native employees of energy-related firms come into sufficient contact with villagers and discriminate against them in some of those contacts, the potential for measured, as well as unmeasured response, is considerable.

Although the following is not specifically an OCS or even a state of Alaska concern, non-OCS oil extraction, too, could have unsettling consequences in Wainwright. If the regional corporation, for example, discovers and chooses to develop oil on Native, village, or regional corporation land in the vicinity of Wainwright, there is potential for conflict between village and region (as among the Navajo) or for factional disputes (as among the Crow, Northern Cheyenne, and several other Western American Indian societies). Moreover, on-shore and OCS oil development are related issues. If a "northern find" occurs in the Barrow Arch area, on-shore support facilities are likely to be located near Wainwright. Such facilities, along with the associated pipeline to TAPS, would make on-shore oil extraction near Wainwright much more likely by substantially reducing production costs.

PLAUSIBLE CULTURAL CONSEQUENCES WITHIN WAINWRIGHT
FROM MEDIUM AND HIGH LEVEL DISRUPTIONS TO THE HARVESTS
OF RENEWABLE, NATURALLY OCCURRING RESOURCES

Introduction

In this final section we restate, for emphasis, that cultural consequences cannot be forecast or predicted in the absence of validated time series or temporal relations. Although some archival data assessed in Part I are temporal, they are neither on topics that are appropriate to our interests nor are they sufficient in observations to yield valid forecasts. The historical and ethnographic data available to us from field investigations prior to our own are not sufficient in quantity or topical coverage to make for adequate comparisons with our own. And our ethnographic baseline data, because of OMB restrictions and OCS/JMI contract-work statement directives, do not include statistical analyses of survey data. We present, therefore, plausible consequences to Wainwright.

As is stated in the definitions of levels of disruption (above), the low level of disruption is defined as the conditions experienced over the past five years. Consequences to that level will not be analyzed (see Part I for consequences to the village from low level disruptions).

Non-Natives

A final introductory issue is the difference between Natives and non-Natives in Wainwright. Since the 1960s, the

village's non-Native population has increased at disproportionately higher rates than that of the Native population (see Chap. II). Economic, social, political, and cultural differences distinguish Natives and non-Natives. Non-Natives, with the possible exception of those persons who are married to Natives, are temporary residents of the community, usually located there because of high-paying public sector employment. Most of these non-Natives are employed either for the NSB school district or on CIP projects. Of these two groups, the size and membership of the school employees is, by far, the most stable. By 1984, the numbers of non-Natives working on CIP projects had dropped.

Wainwright's non-Natives share neither the language nor traditions of the Native residents, and their subsistence economies, social organizations (family and kinship networks, in particular), and ideologies are at considerable variance from those of local Inupiaq as well. The non-Natives do not participate in the local village corporations except as employees. While a few white residents have voted in local elections, they do not take an active role in city politics. Whites do not share Eskimo culture but they do participate in the formal institutions created by the state.

Some white residents harvest naturally occurring species for their families' consumption; a few whites maintain short trap lines near the village. However, in the past little friction has occurred over such small scale harvesting; resentment has appeared over "outsiders"--sports hunters--flying into upriver areas and over the sports hunting of

marine mammals, particularly polar bear. Since non-Native residency in Wainwright will continue to decline in the near future and since white school employees follow the directives of the Native-controlled school board, little conflict between Native and non-Native residence over the issue of subsistence should develop in the future. Any increase by "outsiders" hunting in the area could produce such conflict, however.

Consequences from Medium Level Disruptions

Disruptions to caribou for one season, bowhead whales or any combination of two predominant staples or three secondary food sources for two consecutive seasons would have the immediate effect of depleting each Native family's caches of preserved and stored food, and cause villagers to pursue less abundant and less preferred resources. The need to work harder and push the equipment harder would result in more breakdowns and more repairs, as well as more chances for accidents as hunters and fishers approach the ragged edge of control. In general, the least available resources are also the least efficiently harvested of all naturally occurring resources (cash and time allocations are included).

As cash is allocated to gas, oil, equipment, repairs, and provisions to extract less available resources, cash also will be expended to purchase food at the local stores to supplement the dwindling preserved food and the meager resources freshly extracted.

The allocation of ever larger portions of each family's

cash will require extensions of credit at the cooperative and village corporation stores for basic necessities for home consumption and subsistence extraction trips. And the widespread demand for larger credit lines, coupled with the use of most or all available credit, may have three consequences for the local stores: (1) personal requests that cannot be accommodated may precipitate public complaints. Both stores will likely respond by underwriting larger credit lines to Native residents of the village. (2) The stores may be refused deliveries by some vendors if credit lines are large and payments are slow. The village corporation has already suffered similar problems with its fuel oil business. (3) The Arctic Slope Regional Corporation and federal government may be requested to provide emergency cash transfers to these stores.

The welfare programs--state and federal as well as those contracted from the BIA by the Inupiat Community of the Arctic Slope acting as an IRA--will process increased requests for temporary assistance.

Within the village the kinship, affinal, and friendship networks in which each family participates will redistribute preserved and freshly extracted resources to those in need, caring for the elderly and infirm first.

As the disruptions to harvests continue, requests for Native foods will be made to relatives and affines residing in nearby villages, particularly Barrow, Atqasuk, and Pt. Lay. Gifts of food will be made by those people, thereby

depleting their own reserves and, depending on the circumstances, causing them to allocate more time and money on resource extraction trips and, perhaps, to seek resources from networks in their own villages. Moreover, these villages may also experience the direct effects of oil development. Barrow and Pt. Lay may experience problems with traffic and noise along with those from oil spills. Barrow's and Atqasuk's caribou hunting may be effected by an east-west pipeline running from Wainwright to TAPS. On-shore oil resources around all three villages may be developed if such a pipeline exists.

In the event that the disruptions to Wainwright harvests are widespread events, affecting other North Slope villages, requests on kinspeople, affines, friends, and trading partners in unaffected villages will be even greater than if Wainwright, alone were affected. That is because Wainwright residents and the residents of other North Slope villages will be collectively pressed to make similar kinds of requests for assistance to residents in villages beyond the Slope, as well as to their village corporations, the Arctic Slope Regional Corporation, the North Slope Borough, state agencies, and the like.

Aid in the form of food packages or cash will be sought from relatives residing in Fairbanks, Anchorage or other cities in Alaska; cash assistance may also be sought from relatives residing in the lower 48 states.

The Presbyterian and Assembly of God churches may appeal to their mission headquarters for assistance in goods or

finances to be distributed among Native residents of the village.

During the second season of a medium level disruption, or during the latter part of winter if the disruptions begin during the winter period, many household consolidations will occur as the most hard pressed families combine their residences with single or conjugal pair parents or grandparents living alone, or with younger families who have recently established their own households in separate residences. Combining of closely related families which are already participating in cooperating networks allows for the reduction of many high cost expenses, such as fuel for heating, at the cost of crowding and reduced privacy. Some children may be sent to distant villages or cities to reside, temporarily, with relatives.

The few Wainwright Natives who have moved back to their village because of the availability of CIP funded jobs but who did not become reintegrated totally into the subsistence system, may move away. These include several single-person, male-headed households and households headed by Native females and white males.

Native owners of dog teams will either use those teams more frequently for traction on hunting and fishing trips, or will kill the animals that they cannot afford to feed. We would expect an overall reduction in the numbers of dogs.

Expressions of dismay at, and criticism by Natives of, non-Native users of subsistence resources may become more

frequent, acrimonious confrontations may occur, and frictions may occur in city council meetings and public places. If the State of Alaska regulates the hunting of marine mammals and allows for sports hunting of walrus and polar bears, some of the acrimony would involve the entrepreneurs and Native guides who have solicited non-Native sportsmen to hunt in the area.

Criticisms of ADF&G regulations may increase, and the violation of some of those regulations, particularly for some bird and land mammal species, may increase if those species have not been disrupted.

Natives will evaluate the causes of the disruptions. If they are the consequences of weather or natural factors alone, over which agencies have no control and did not set into motion, the preceding impacts will probably be accompanied by some temporary out-migration. If, however, the causes of the disruptions are influenced by the actions of state or federal agencies or corporations, law suits will probably be filed against the appropriate bodies.

The purity and health-giving qualities of Native foods is a major present-day cultural issue on the North Slope. If a spill occurs, the effects of the physical death and tainting of subsistence species which does occur is likely to be multiplied by concerns and fears about eating impure or tainted meat (see for example, the discussion of polar bear marking in Chap.IX). It is unlikely that Wainwright Natives would use an animal that has been oiled even if it were apparently healthy.

The permutations and combinations of disrupted species and their impacts are not endless, but they are large in number. If, for instance, the impacts are to the caribou herds--overhunting, famine, unpredictable migrations--most villages in the region will be affected. If impacts are to the anadromous fish in the ocean, many or all villages may be affected. If the impacts to anadromous species are caused by oil operations, lawsuits against oil corporations, state, and federal governments will probably be filed, and social movements will likely precede and attend the lawsuits and their aftermath.

The local Native leadership of the NSB, ASRC, ICAS, OC Corporation, and city council will work actively and cooperatively to seek solutions to village and regional problems, and will use their connections with the regional profit and non-profit corporations, ANF and AFN, state legislators, the BIA, and the AEWG to do so.

Consequences from High Level Disruptions

Disruptions to caribou and whales or to either of these with a combination of two predominant staples and secondary food sources during each season for a year, regardless of the combinations of resources, would exercise such severe and protracted consequences to the village population, its institutions, its solvency, its neighboring villages, and the regional corporations, that very large federal transfers would be required in order to maintain the villages' Native population.

Substantial out-migration would occur, and all other impacts specified for medium level disruptions would be intensified so as to require major state and federal governmental intervention. The non-Natives, particularly those employed by the state, federal government, or school district, would not be severely affected. If oil operators are using Wainwright for various activities, including transportation, oil company employees and the businesses that service them will be less affected, making up with earned income that which Natives must seek through federal and state transfers. However, the social tensions between such groups and Wainwright villagers would be profound.

If consequences from oil operations, such as a major spill, noise, and navigation activities combine with extreme weather conditions to disrupt the harvests of the major and minor species that inhabit or use the resources of the sea (birds, mammals, fish, shellfish), the combined reactions of the affected villages would plausibly generate pressure groups and social movements focused on the causes of the disruptions and their perpetrators, and attempts to bring about the immediate removal of all such activities from the region and the barring of them in the future. The social movements most likely would not be restricted to local concerns, but would involve active support and membership from other Natives throughout Alaska.

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