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Customary and Traditional Use Worksheet, Ptarmigans, Game Management Unit 18

Prepared by

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for the November 2011 Barrow Board of Game meeting

November 2011

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

Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Division of Subsistence. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

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

Time and temperature

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

Physics and chemistry

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

General

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

Measures (fisheries)

fork length	FL
mideye-to-fork	MEF
mideye-to-tail-fork	METF
standard length	SL
total length	TL

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	HA
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, $\chi 2$,etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	log2, etc.
minute (angular)	'
not significant	NS
null hypothesis	HO
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

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INTRODUCTION

BACKGROUND

The Alaska Board of Game has not made a determination as to whether there are customary and traditional uses (C&T) of ptarmigans *Lagopus spp*. in Game Management Unit (GMU) 18 pursuant to Alaska Statute 16.05.258 (Figure 1). As a result, the department has prepared this C&T worksheet for the board's consideration at its November 2011 meeting in Barrow.

This customary and traditional use summary for ptarmigans in Unit 18 provides a description of customary and traditional harvest and use practices for ptarmigans from the ethnographic and ethnohistorical literature of this region of Western Alaska. Appendix A is included at the end of this report to provide pertinent quotations related to customary and traditional uses of ptarmigans from the literature.

CRITERION 1: LENGTH AND CONSISTENCY OF USE

A long-term consistent pattern of noncommercial taking, use, and reliance on the fish stock or game population that has been established over a reasonable period of time of not less than one generation, excluding interruption by circumstances beyond the user's control, such as unavailability of the fish or game caused by migratory patterns:

Ptarmigans have a long history in the diets of Western Alaska residents. As ethnographies in the Western region show, Willow ptarmigan (*aqesgiq*, *aqeygiq*, or/and *qangqiiq/kangqiiq* in Yup'ik), Rock ptarmigan (*elciayuli*), and White-tailed ptarmigan (*taqikataq*) have been harvested and used for many generations (Fienup-Riordan 1983, 1992, 1994, 2007, Hensel 1996, Nelson 1983[1899], Oswalt 1959, 1967). Ptarmigans are easier birds to catch than waterfowls. They are an important food source especially in winter and early spring, when other sources are scarce or non-existent. Subsistence harvest and use of ptarmigans surveyed in GMU 18 appears in Table 1. In addition, the history and present hunting regulations for ptarmigans in GMU 18 appear in Table 2.

A pattern of taking or use recurring in specific seasons of each year:

Ptarmigans are available year-round, yet they are harvested primarily from October through April, when overland travel on frozen ground is easier. March and April tended to be "hungry times" when winter stores of food were typically low. As a result, ptarmigans became a heavily targeted resource at that time. Ptarmigans are less commonly harvested in summer, partly because they are well camouflaged and partly because people travel less in upland habitat. Figures 2 – 18 illustrate the role of ptarmigans hunting in the overall annual seasonal round of subsistence activities for a variety of communities in GMU 18.

CRITERION 3: MEANS AND METHODS OF HARVEST

A pattern of taking or use consisting of methods and means of harvest that are characterized by efficiency and economy of effort and cost:

Historically, people in the western region of Alaska harvested ptarmigans by using snares, nets, and decoys (Nelson 1983[1899], Fienup-Riordan 2007:199-200, see Figures 19-20 and Appendix A for detailed descriptions). Elders remember that their grandmother caught ptarmigans by using decoys made of ptarmigans' skin stuffed with moss, feathers, soft snow with brown grass. A decoy was placed in a sinew net. The use of decoys took advantage of ptarmigans' habits, which were territorial and competitive with other birds for mating. People set ptarmigan snares made of braided twine with a wood anchor driven into the ground. Today, instead of using snares and nets, many hunters search for ptarmigans by snow machines and harvest them primarily with shotguns and .22 caliber rifles (Charles, pers. comm. 2011, see Appendix A)

CRITERION 4: GEOGRAPHIC AREAS

The area in which the noncommercial, long-term, and consistent pattern of taking, use, and reliance upon the fish stock and game population has been established:

Hunters find willow ptarmigan principally in willow thickets along river bottoms and surrounding tundra lakes, but may encounter them just about anywhere including willow covered slopes (Figures 21-22). Rock ptarmigan are found in treeless areas in the interior only. Ptarmigans are almost always found on the ground, usually in willow patches, except during nesting season, when they spread out over the tundra. Areas closest to communities are most heavily used, but ptarmigans are taken opportunistically by hunters or trappers traveling throughout community harvest areas. Traditionally, families would travel in search of ptarmigans during "hungry times," staying wherever they found them in great abundance. Hunting camps were often selected in part due to their proximity to areas of abundant ptarmigans, which could be harvested for fresh meals and snacks. Ptarmigans are also taken opportunistically when encountered during other activities.

CRITERION 5: MEANS OF HANDLING, PREPARING, PRESERVING, AND

A means of handling, preparing, preserving, and storing fish or game that has been traditionally used by past generations, but not excluding recent technological advances where appropriate:

Ptarmigans and ptarmigan eggs are primarily used as food for human consumption. Now, as in the past, most ptarmigans are eaten fresh or frozen for later use. According to an elder, consumption of raw ptarmigan breast can warm up a hunter's body and makes him strong and full all day (Fienup-Riordan 2007:264). Ptarmigan feathers in combination with seal oil are used by some as wormer for sled dogs. Traditionally, the absorbent feathers were used for cleaning

purposes, and as an additive (leg feathers) for tempering clay pottery. Ptarmigan sinew was sometimes used to make line for snares.

Because ptarmigans are taken primarily in winter, freezing was a traditional preservation technique. Sometimes a ptarmigan was dried whole. Often ptarmigans were boiled or roasted without being eviscerated. Currently some people store frozen ptarmigans in electric freezers, but it is not uncommon to store ptarmigans in storm sheds for a few days or weeks at a time prior to consumption.

CRITERION 6: INTERGENERATIONAL TRANSMISSION OF KNOWLEDGE,

A pattern of taking or use that includes the handing down of knowledge of fishing or hunting skills, values, and lore from generation to generation:

Traditionally, young boys in Western Alaska learned how to hunt by living with the other men of the community in the ceremonial men's house (*qargiq*). Today, the institution of *qargiq* is no longer part of Yup'ik daily life. Yet, learning cannot be separate from the physical involvement, and knowledge undergoes continual regeneration in a process of learning. If it is not possible for young Yup'ik children to participate immediately in hunting, they are expected to learn by observing experienced hunters, such as parents and grandparents, who know the hunting equipment and techniques, ptarmigan behaviors, anatomy, geography, and weather, then by practicing the actual tasks with them.

Yup'iks considered most birds edible, and based on their values, there are detailed rules for consumption of birds. Ptarmigans are not an exception. An elder suggests, "Ptarmigan, like rabbits, were proscribed for young men lest they likewise become fearful and easily startled" (Fienup-Riordan 1994: 126). Indigenous people in the Western Region have developed based on a history of activities and practical engagement with particular surroundings.

People in GMU 18 also use part of ptarmigans and the motif of ptarmigans for ceremonial objects, such as masks and dance fans, and Native arts, such as Eskimo dolls and yo-yos (Figure 23-26).

A pattern of taking, use, and reliance where the harvest effort or products of that harvest are distributed or shared, including customary trade, barter, and gift-giving:

In every community in Western Alaska where Division of Subsistence has conducted studies, researchers have found extensive sharing and distribution of wild resources. Sharing typically involves almost every household in the study samples. Certain resources such as seal oil are more commonly shared than others, which was as true in traditional times as it is today. Certain communities are recognized as particularly good sources for certain resources, for example Lower Yukon Villages are recognized for their higher moose harvests in more recent times. Some sharing occurs ceremonially; in feasts at Thanksgiving, Christmas, Easter, funerals, or on the occasion of a child's first kill. Table 1 lists the percentage of households in select GMU 18

communities using, harvesting, giving, and receiving ptarmigans, and serves to document the extent of sharing of this particular resource over time. Every community that reported harvesting ptarmigans also reported giving and receiving this resource. In most communities, households use wild foods harvested by others through sharing networks, so the percentages of households harvesting usually are lower than the percentages of households using wild foods.

CRITERION 8: DIVERSITY OF RESOURCES IN AN AREA; ECONOMIC, CULTURAL, SOCIAL, AND NUTRITIONAL ELEMENTS

A pattern that includes taking, use, and reliance for subsistence purposes upon a wide variety of fish and game resources and that provides substantial economic, cultural, social, and nutritional elements of the subsistence way of life:

Western Alaskan communities take, use, and rely upon a wide diversity of fish and game resources. Documented harvests in Western Alaskan communities ranged from 1328 pounds per capita in 1998 in Akiachak to 612 pounds per capita per year in Emonnak in 1980 (ADF&G 2011). The typical community harvests approximately 50 different species of plants, fish, and wildlife each year. The mix of species depends upon species availability. For some coastal and island communities, as much as 80 percent of the total harvests by weight may come from marine mammals. For other coastal communities, terrestrial mammals, fish, and marine mammals comprise approximately equal portions of the total community harvest. Small game, such as ptarmigans, are one type of wild resource that is harvested during the year in communities. They are somewhat different in that they are commonly available during the lean times of winter and spring when other wild resources may be unavailable. They provide a taste of fresh meat, which is a break from the dried or frozen stored foods used within the household. Figures 2 - 18 provide information regarding the annual seasonal cycle of subsistence activities for a selection of GMU 18 communities, which also serves to demonstrate the diversity of resources that unit residents rely and depend.

The amount of cash available in most Western communities is relatively small, compared to urban parts of Alaska. According to the U.S. Census Bureau (2011), the mean household income in the Bethel and Wade Hampton Census areas, which cover most of the GMU 18 communities, in 2009 was $36,024, while the one in the state of Alaska was $66,712. At the same time, imported food costs are very high. Many people in these communities cannot afford to buy meat or fish, and wild foods are essential to the quality of their diet. The people of GMU 18 use and rely upon virtually all the edible wild game species available in their region.

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TABLES AND FIGURES

Table 1 Subsistence Use of Ptarmigans Surveyed in GMU 18 from 1980 to 2010 (ADF&G 2011).

Community	Study year	Percentage of households					Estimated harvest	
		Using	Attempting	Harvesting	Giving	Receiving	Individual (lb)	Per capita (lb)
Akiachak	1998	92.6%	84.0%	84.0%	54.3%	34.6%	5,450.0	10.4
Akiak	2010	60.0%	48.0%	46.0%	19.0%	17.0%	725.1	1.9
Alakanuk	1980			81.0%			4,620.0	7.8
Emmonak	2008	64.2%	58.7%	55.0%	30.3%	23.9%	2,878.9	3.7
Kotlik	1980			92.9%			1,536.0	4.1
Kwethluk	1986		54.9%	48.1%	35.4%	25.2%	3,712.0	7.2
Kwethluk	2010	26.0%	24.0%	22.0%	11.0%	16.0%	808.7	1.1
Lower Kalskag	2009	27.0%	20.6%	20.6%	7.9%	4.8%	91.9	0.3
Mountain Village	1980			81.3%			2,706.0	5.2
Nunapitchuk	1983			88.2%			3,171.0	5.2
Quinhagak	1982			58.3%			1,846.0	3.9
Nunam Iqua (Sheldon Point)	1980			85.7%			578.0	4.2
Stebbins	1980			58.3%			640.0	1.7
Tuluksak	2010	57.0%	47.0%	47.0%	19.0%	16.0%	912.9	2.0
Tununak	1986	97.0%	81.8%	81.8%	30.3%	33.3%	1,928.0	5.9

Note Questions regarding the use, receipt, and distribution ("giving") of resources were not consistently included on historical surveys; therefore, data for these categories may not be available in some cases (indicated by blank cells in this table).

Table 2 Ptarmigan Hunting Regulations in GMU 18 from 1925 to 2012

Regulatory Year	Season	Total Days	Bag Limits, Areas, & Conditions
1925-1932	Sept. 1 – Feb. 28	181	In any one day during the open season 25 in the aggregate of all kinds; but not to exceed 25 in the aggregate of all kinds of grouse and ptarmigan.
1933-39	Sept. 1-Feb. 28	181	15 grouse, 25 ptarmigan, a day but not more than 25 in aggregate a day.
1940	Aug. 20-Jan.31	165	Grouse 10; ptarmigan 15, but not to exceed 15 in the aggregate of all kind of grouse and ptarmigan a day.
1941-1942	Aug. 20-Jan.31	165	Grouse 10; ptarmigan 10, but not to exceed 10 in the aggregate of all kind of grouse and ptarmigan a day.
1943	Sept.1-Jan. 31	153	Grouse 10; ptarmigan 10, but not to exceed 10 in the aggregate of all kind of grouse and ptarmigan a day.
1944[1]	**Fur District 5** Sept. 15-Feb. 28	167	Grouse 10; ptarmigan 10, but not to exceed 10 in the aggregate of all kind of grouse and ptarmigan a day.
1945-1946	**Fur District 5** Sept. 1-Feb. 28	181	Grouse 10; ptarmigan 10, but not to exceed 10 in the aggregate of all kind of grouse and ptarmigan a day.
1947-1948	**Fur District 5** Aug. 20-Feb. 28	193	Grouse 10; ptarmigan 10, but not to exceed 10 in the aggregate of all kind of grouse and ptarmigan a day.
1949[2]-1951	**In the Territory** Sept. 1-Feb. 28	181	10 singly or in the aggregate of all kinds of grouse or ptarmigan in a day.
1952	**In the Territory** Aug. 20-Feb. 28	193	10 singly or in the aggregate of all kinds of grouse or ptarmigan in a day.
1953	**In the Territory** Aug. 20-April 15	239	10 singly or in the aggregate of all kinds of grouse or ptarmigan in a day.
1954	**In the Territory** Aug. 20-April 15	239	15 a day in the aggregate of all kinds of grouse and ptarmigan, of which not more than 10 shall be grouse.
1955	**In the Territory** Aug. 20-April 15	239	20 ptarmigan a day.
1956[3]	**GMU 18** Aug. 20-April 15	239	20 ptarmigan a day.
1960	Jan. 1-April 15 & Aug. 20-Dec.31	239	20 ptarmigan a day.

[1] GMU 18 is referred to as part of Fur District 5 for the first time.

[2] No reference to districts or GMU at this time.

[3] Area is first referred to as GMU 18. Data for all subsequent years are attributed to GMU 18.

1961	Aug. 20-April 15	239	20 ptarmigan a day.
1962-1964	Aug. 10-April 15	249	20 ptarmigan a day.
1965-1966	Aug. 20-April 30	254	20 ptarmigan a day, 40 in possession.
1967-2012	Aug. 10-April 30	264	20 ptarmigan a day, 40 in possession.

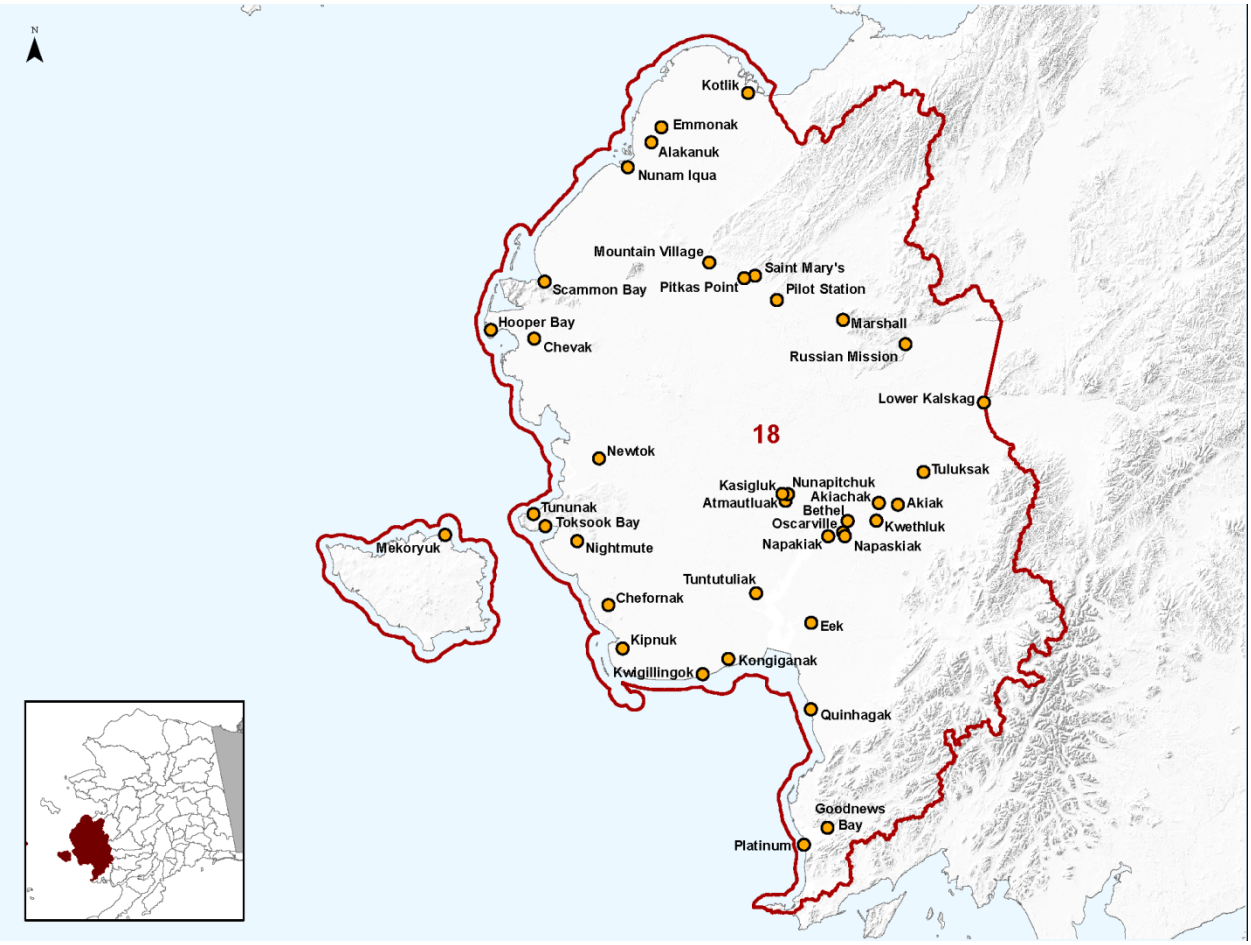

Figure 1 A Map of Game Management Unit 18

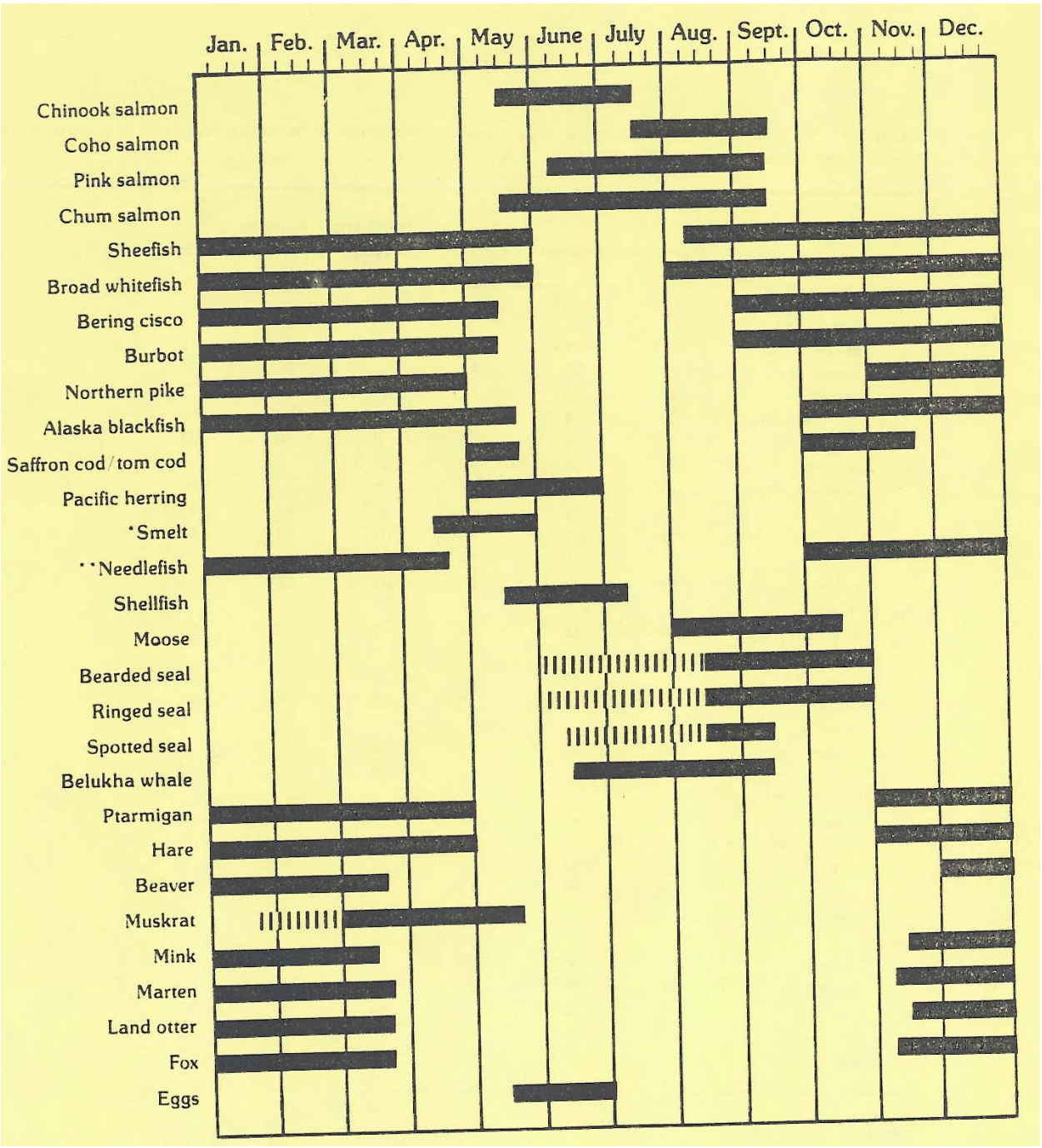

Figure 2 Contemporary seasonal round of harvest activities by Alakanuk, Sheldon Point, and Scammon Bay residents. Solid line indicates usual harvest effort. Broken line indicates occasional harvest effort (Schroeder et al. 1987: 271 citing Fienup-Riordan 1983)

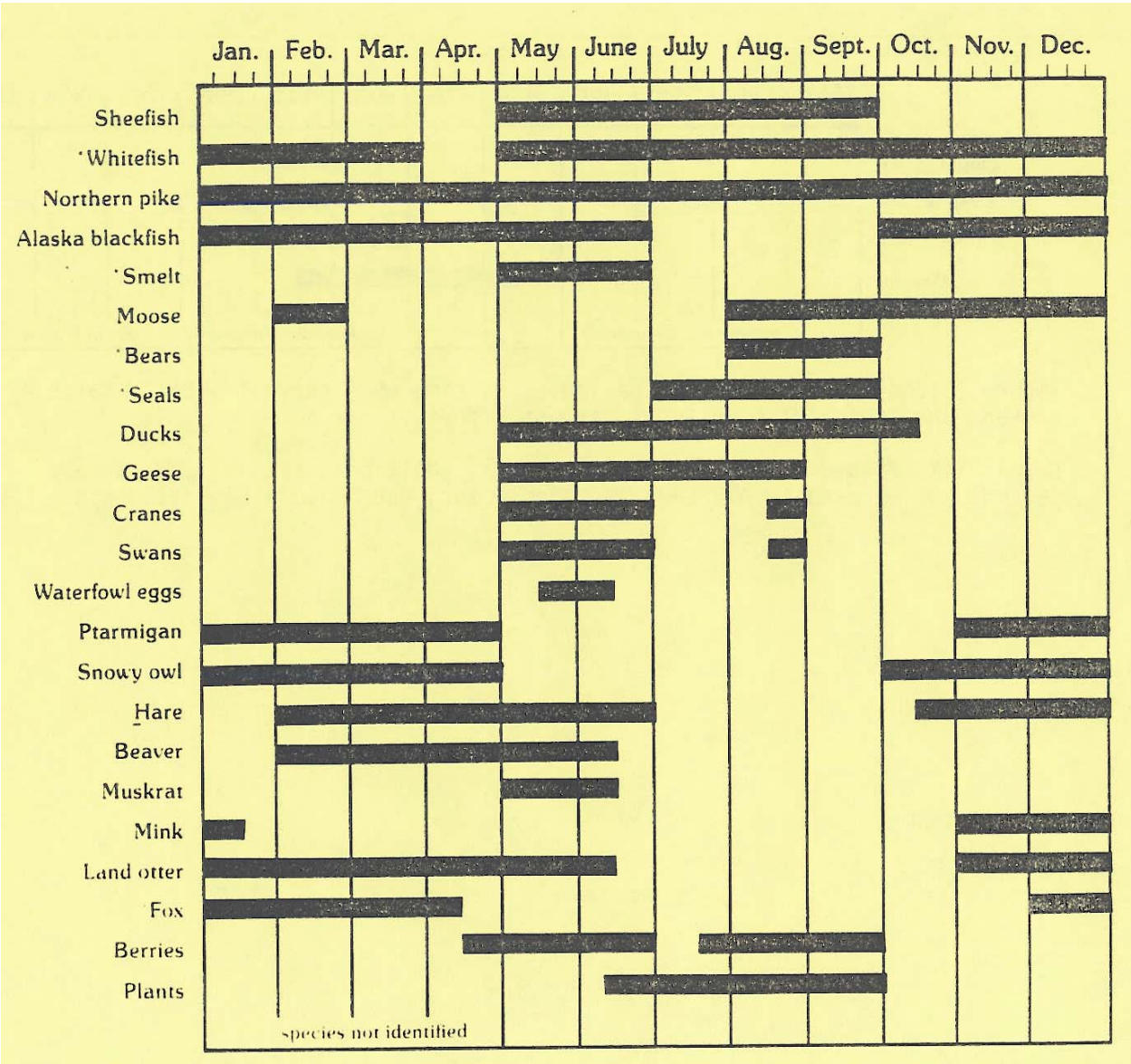

Figure 3 Contemporary seasonal round of harvest activities by Atmautluak residents (Schroeder et al. 1987: 273 citing Nunam Kitlutsisti 1983)

Figure 4 Contemporary seasonal round of harvest activities by Bethel residents (Schroeder et al. 1987: 274 citing Pete, pers. comm).

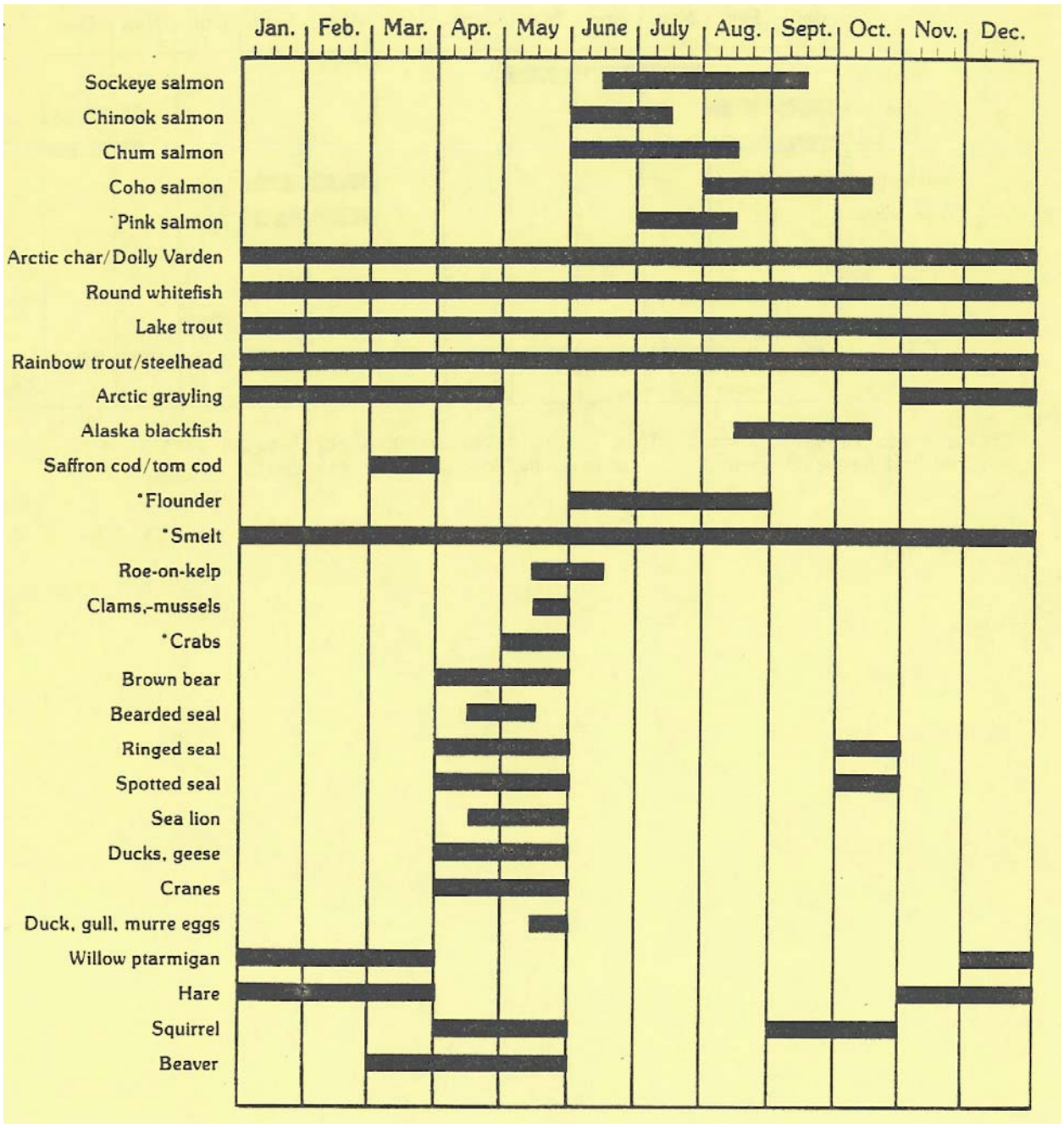

Figure 5 Contemporary seasonal round of harvest activities by Goodnews Bay residents (Schroeder et al. 1987: 278 citing Wolfe et al. 1984)

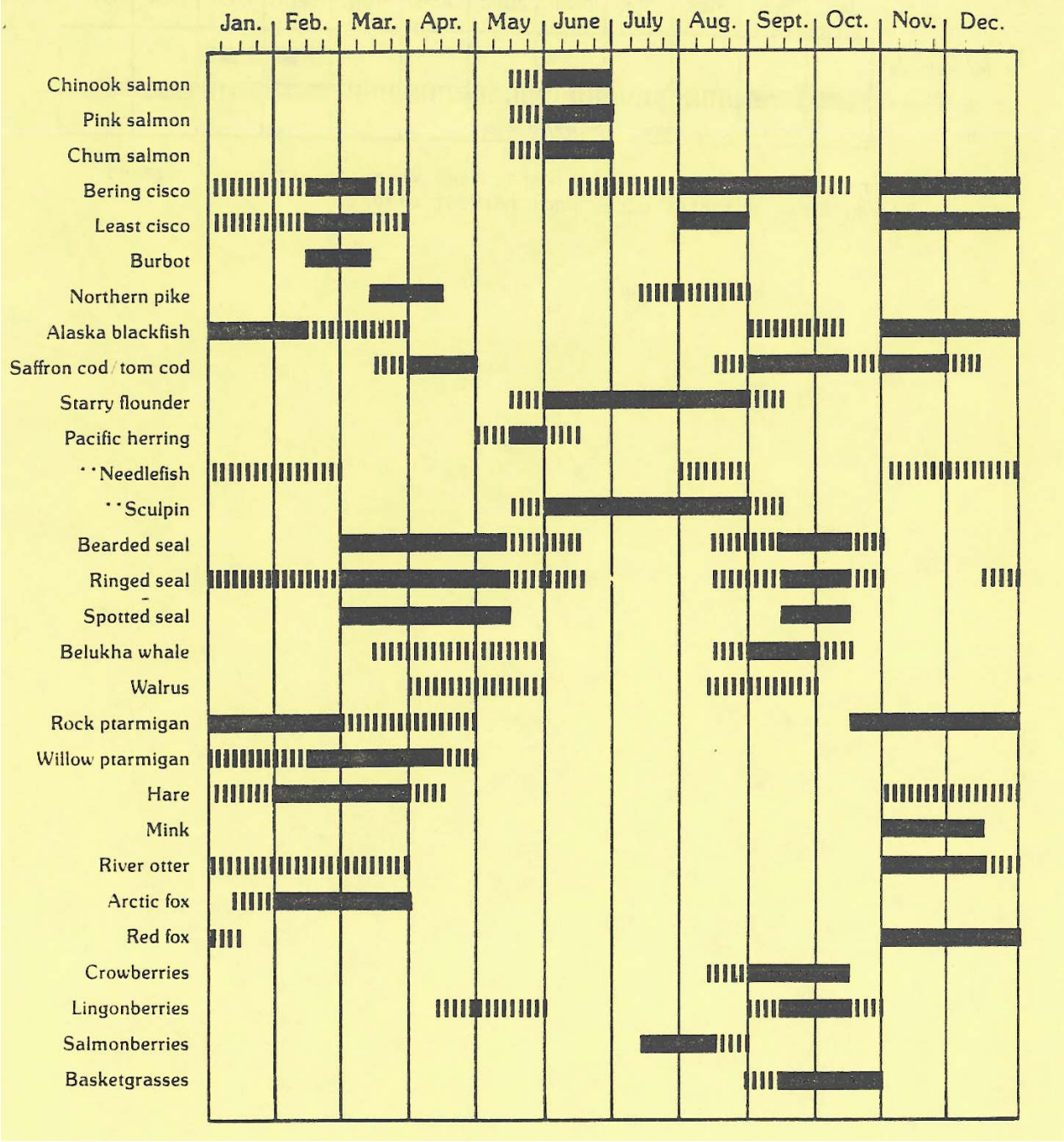

Figure 6 Contemporary seasonal round of harvest activities by Hooper Bay residents (Schroeder et al. 1987: 280 citing Stickney 1985).

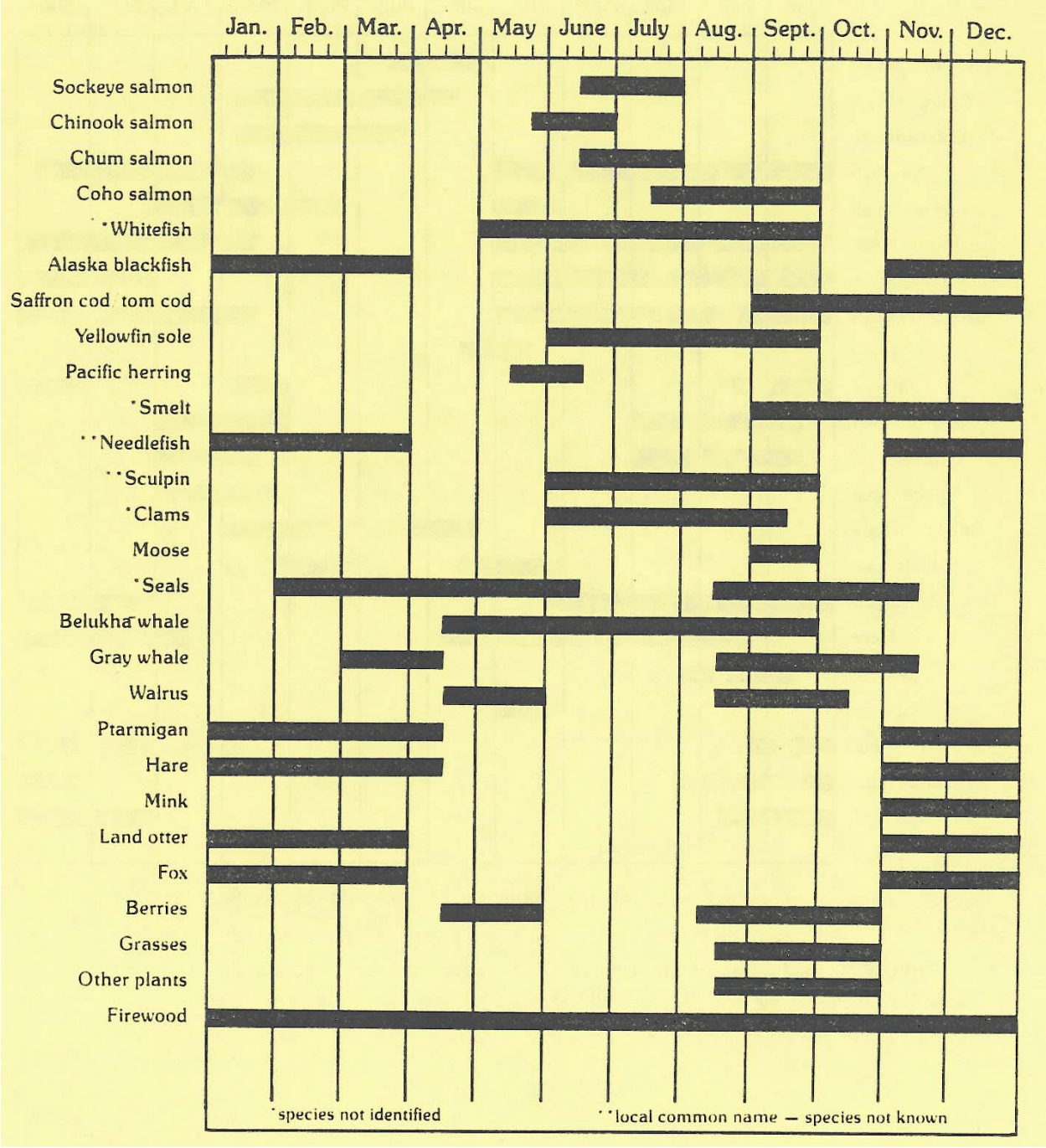

Figure 7 Contemporary seasonal round of harvest activities by Kipnuk residents (Schroeder et al. 1987: 282 citing Pete, pers. comm.).

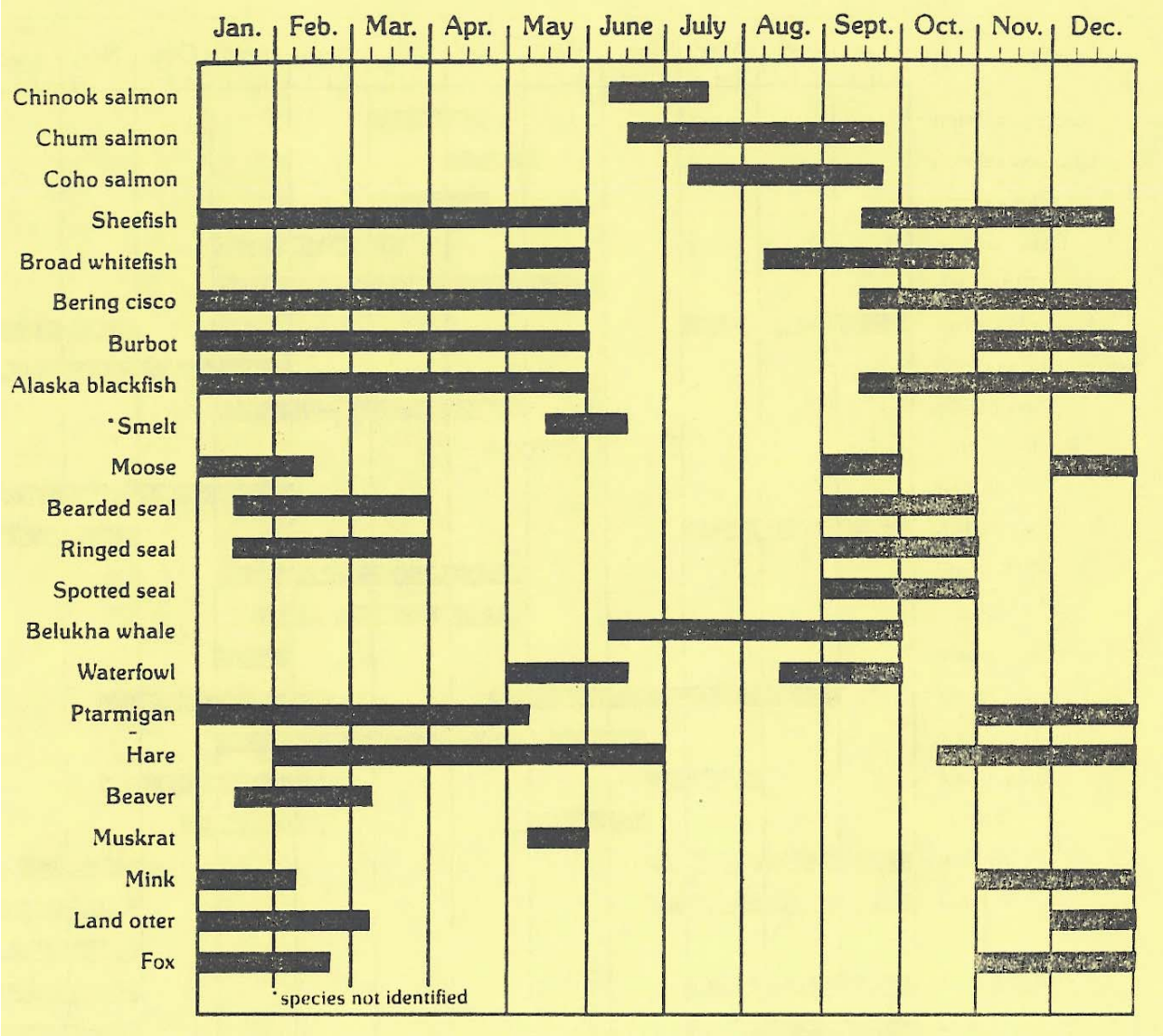

Figure 8 Contemporary seasonal round of harvest activities by Kotlik residents (Schroeder et al. 1987: 283 citing Wolfe 1985).

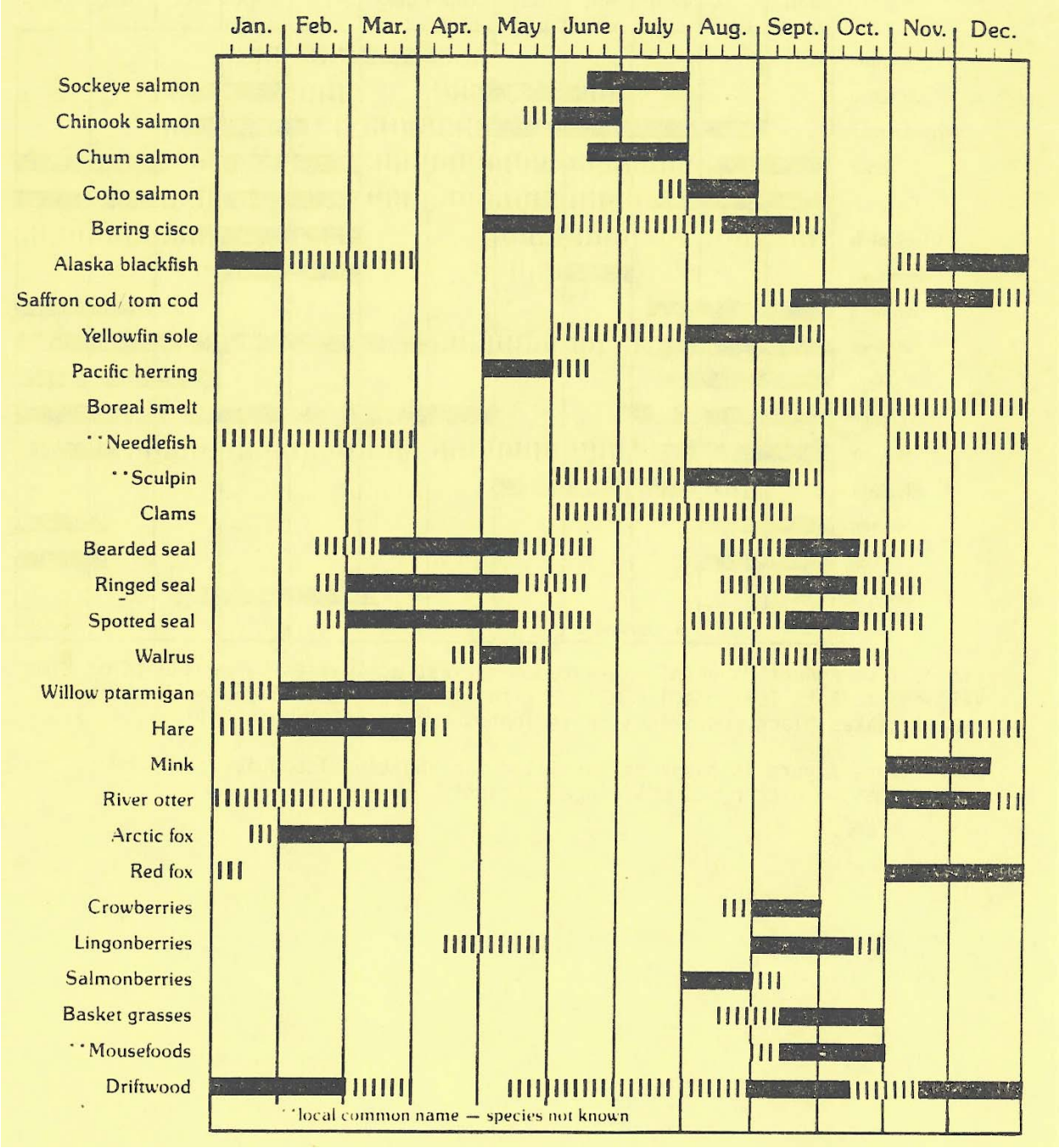

Figure 9 Contemporary seasonal round of harvest activities by Kwigillingok residents (Schroeder et al. 1987: 284 citing Stickney 1985).

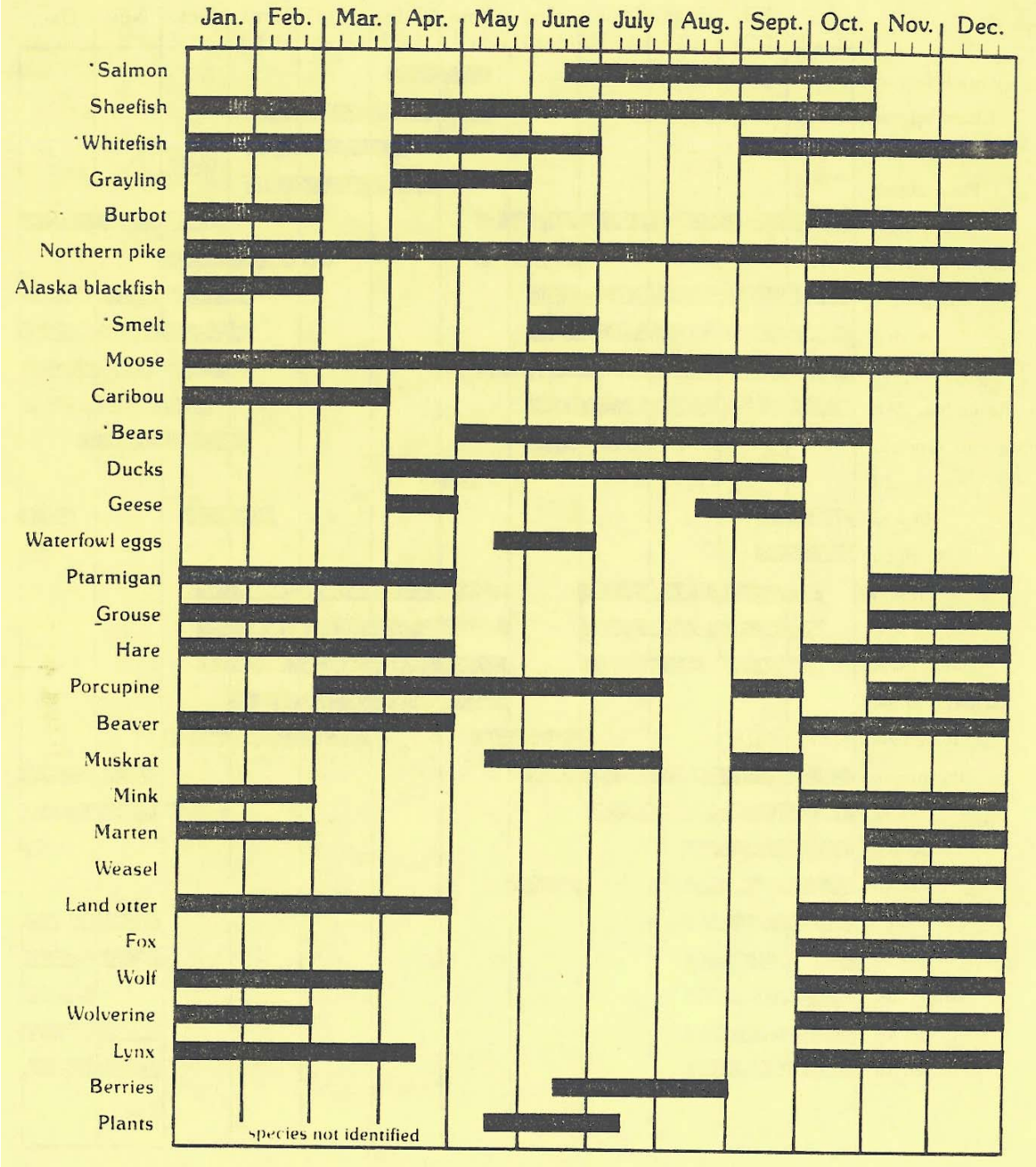

Figure 10 Contemporary seasonal round of harvest activities by Lower Kalskag residents (Schroeder et al. 1987: 286 citing Nunam Kitlutsisti 1983).

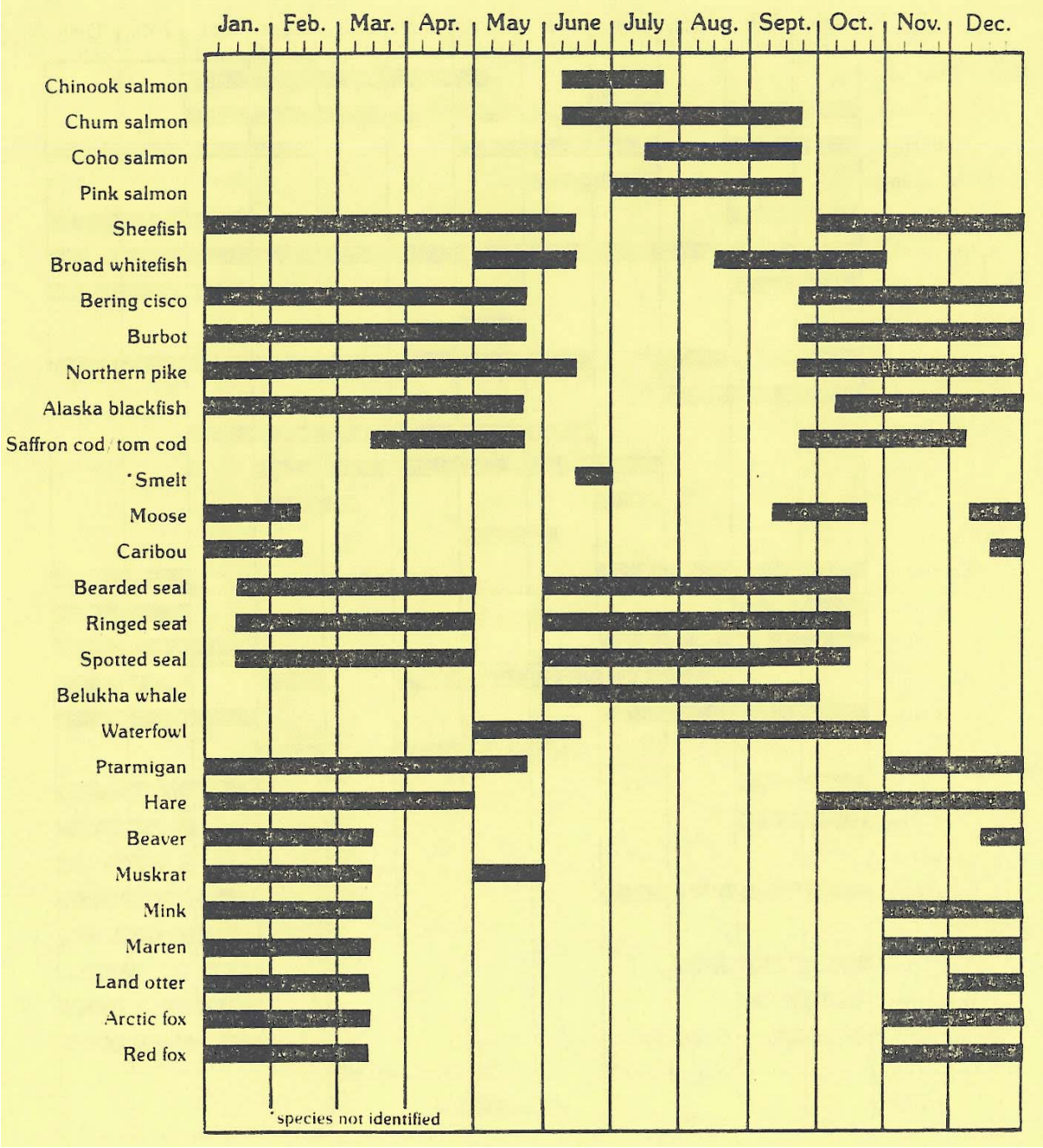

Figure 11 Contemporary seasonal round of harvest activities by Lower Yukon River residents (Schroeder et al. 1987: 287 citing Wolfe and Pete 1984).

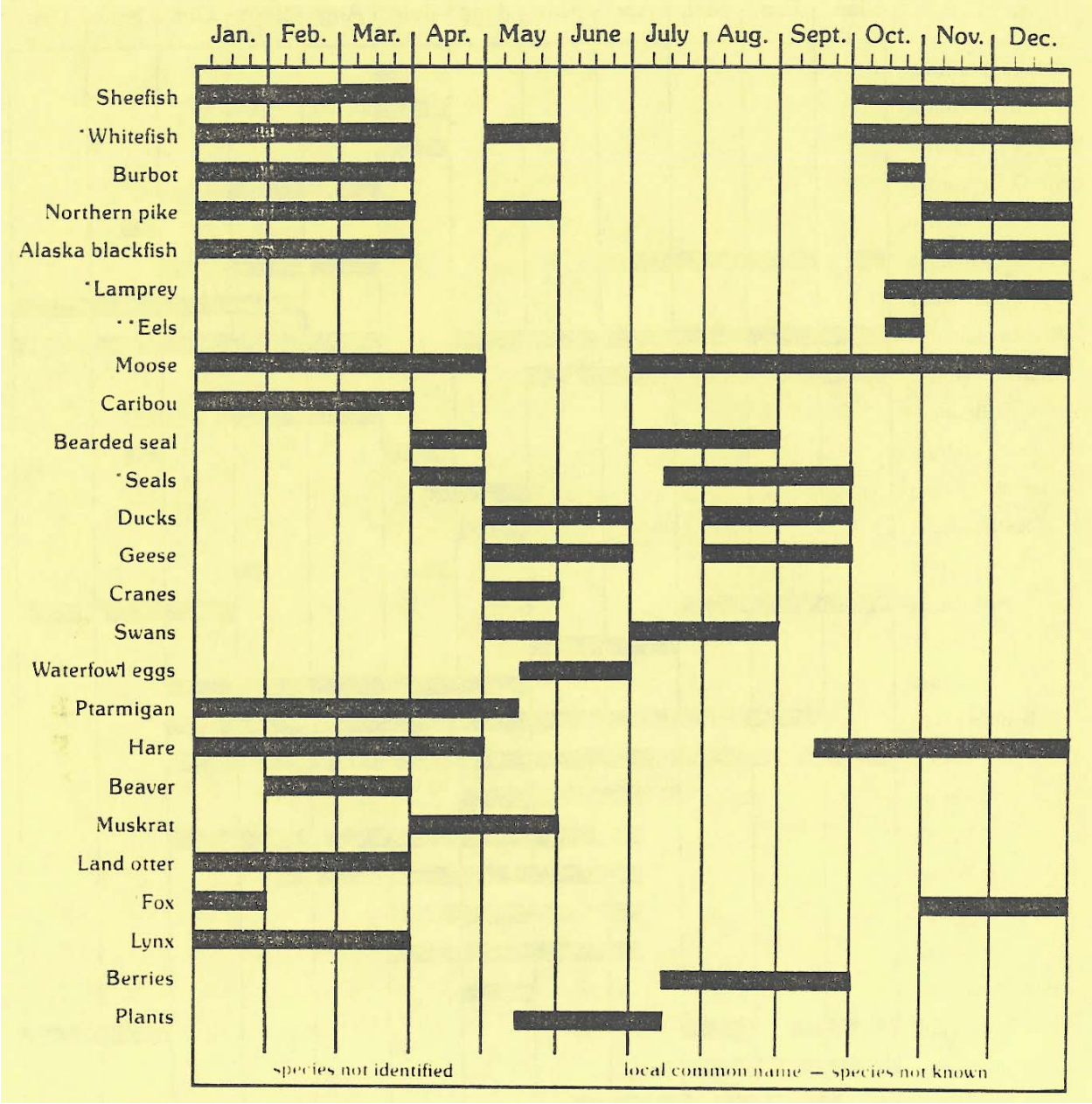

Figure 12 Contemporary seasonal round of harvest activities by Marshall residents (Schroeder et al. 1987: 288 citing Nunam Kitlutsisti 1983).

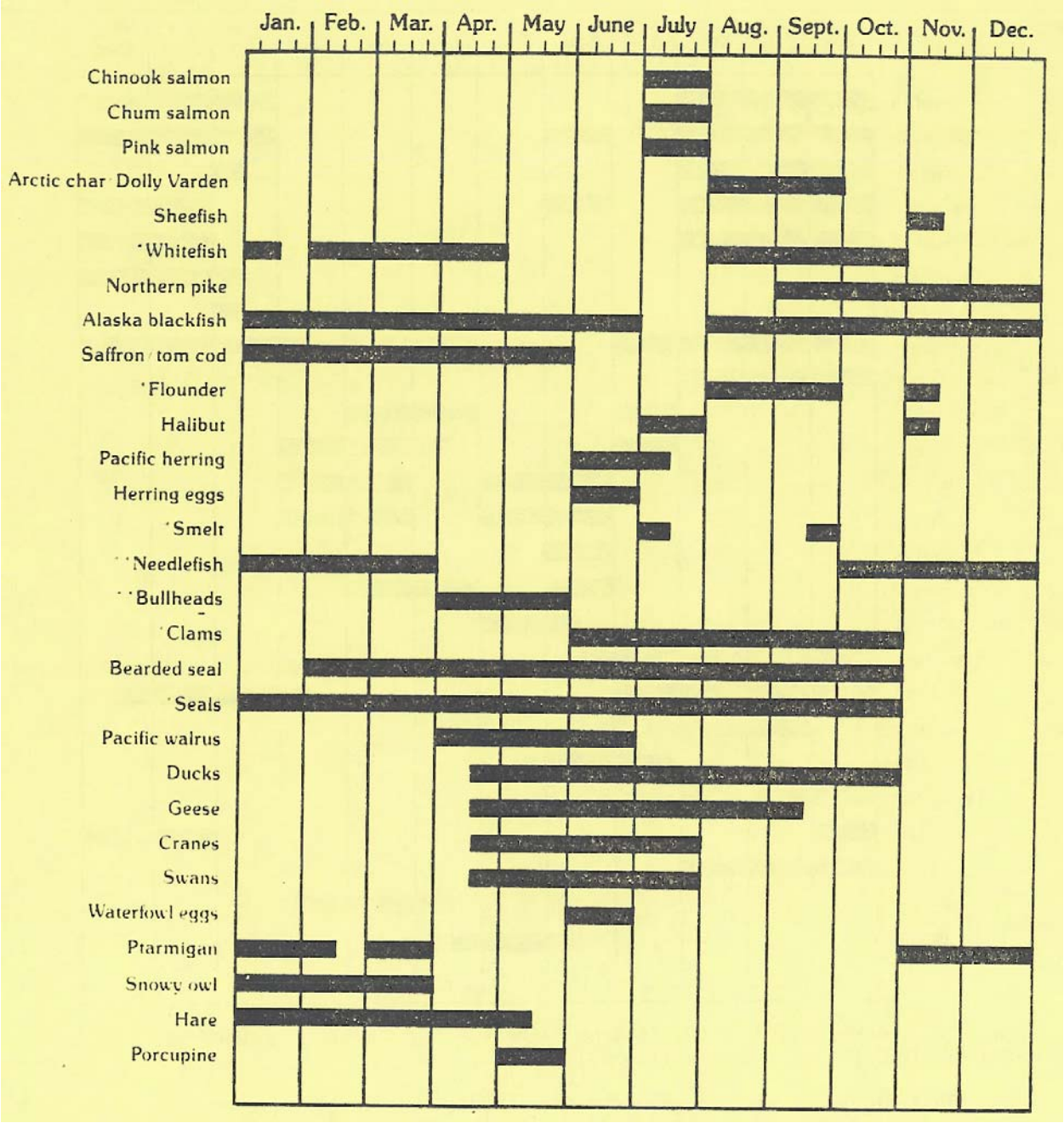

Figure 13 Contemporary seasonal round of harvest activities by Newtok residents (Schroeder et al. 1987: 289 citing Nunam Kitlutsisti 1983).

Figure 14 Contemporary seasonal round of harvest activities by Nunapichuk residents (Schroeder et al. 1987: 291 citing Andrews, pers. comm).

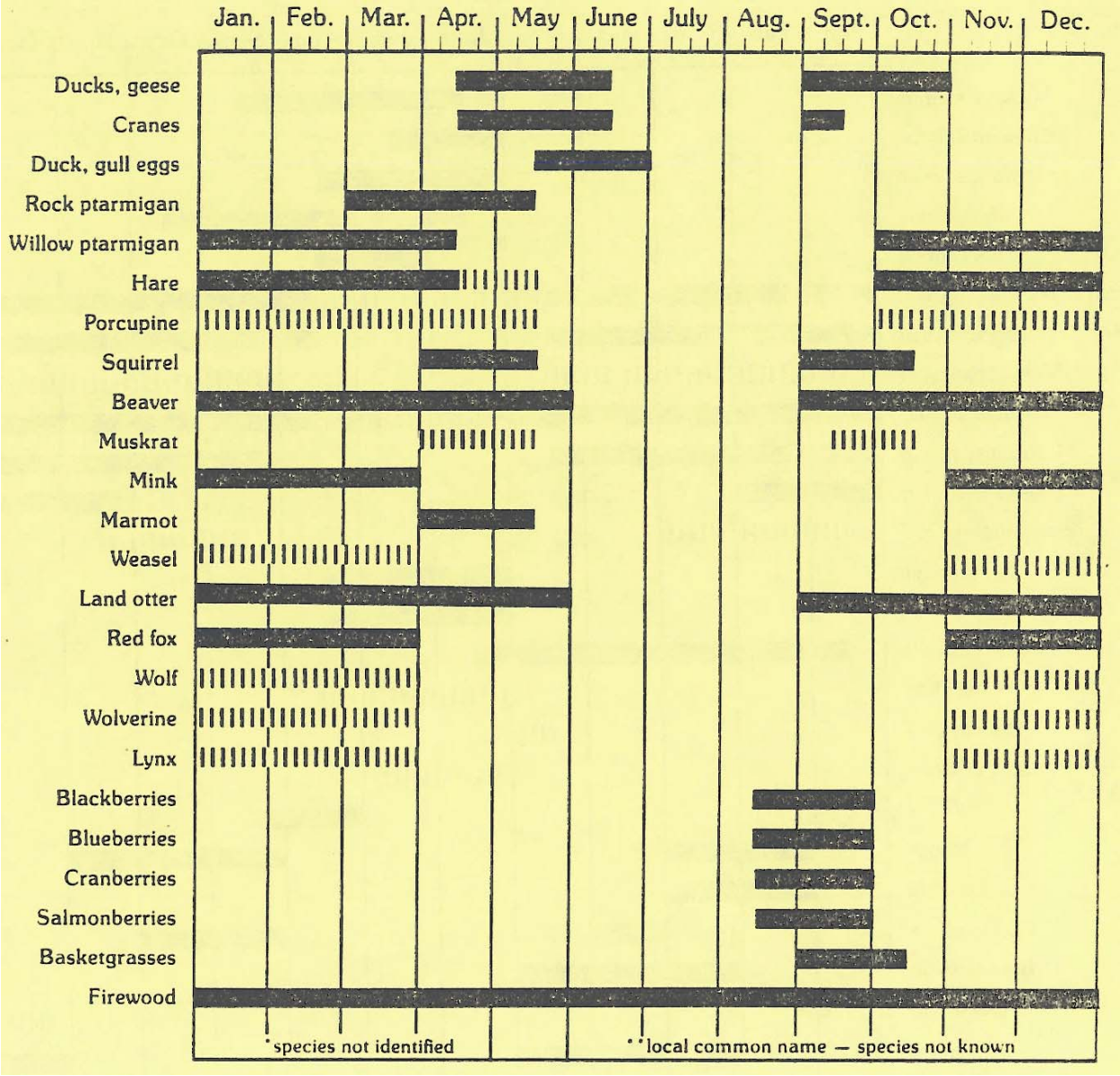

Figure 15 Contemporary seasonal round of harvest activities by Quinhagak residents (Schroeder et al. 1987: 293 citing Wolfe 1984).

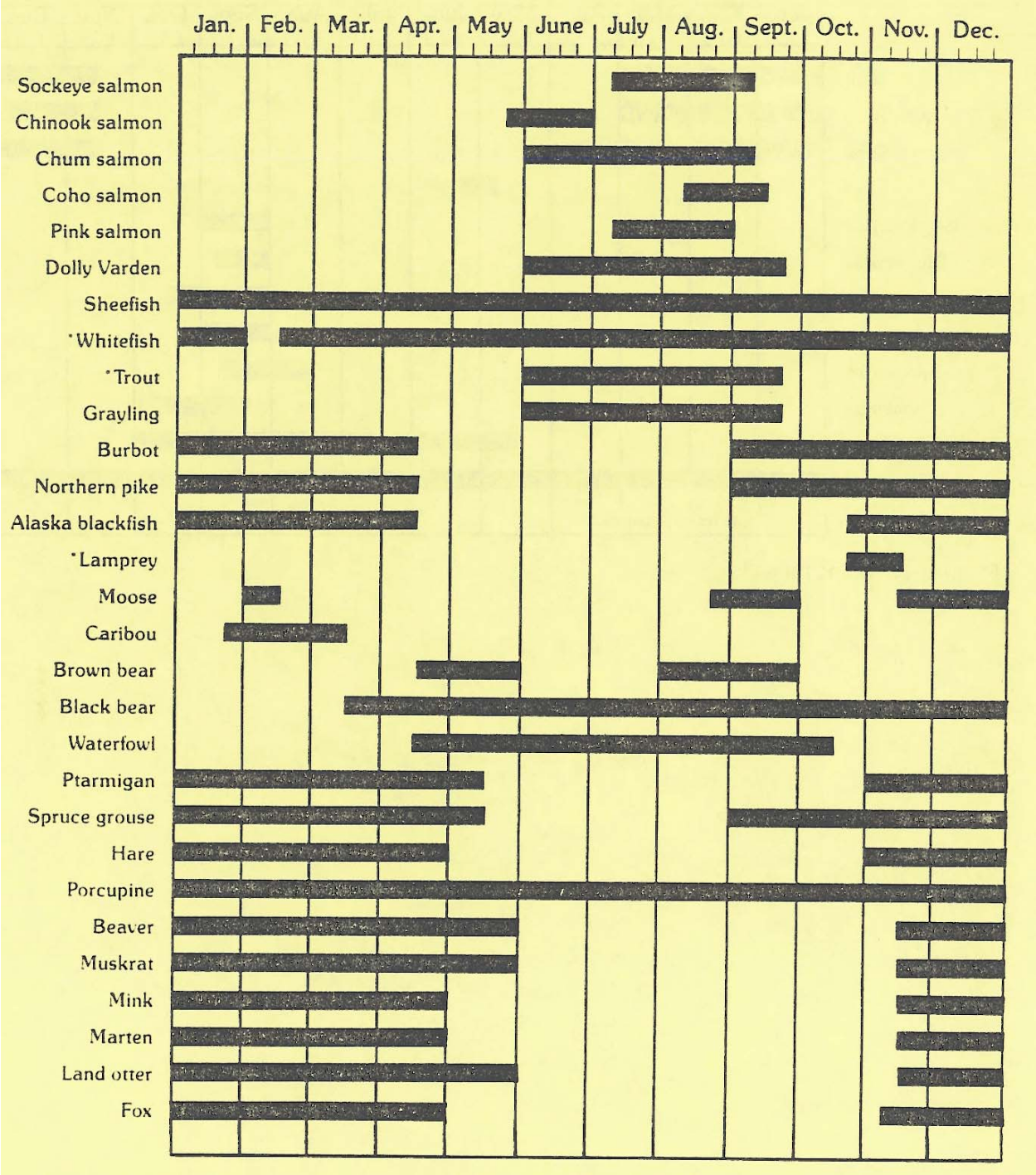

Figure 16 Contemporary seasonal round of harvest activities by Russian Mission residents (Schroeder et al. 1987: 294 citing Pete, pers. comm.).

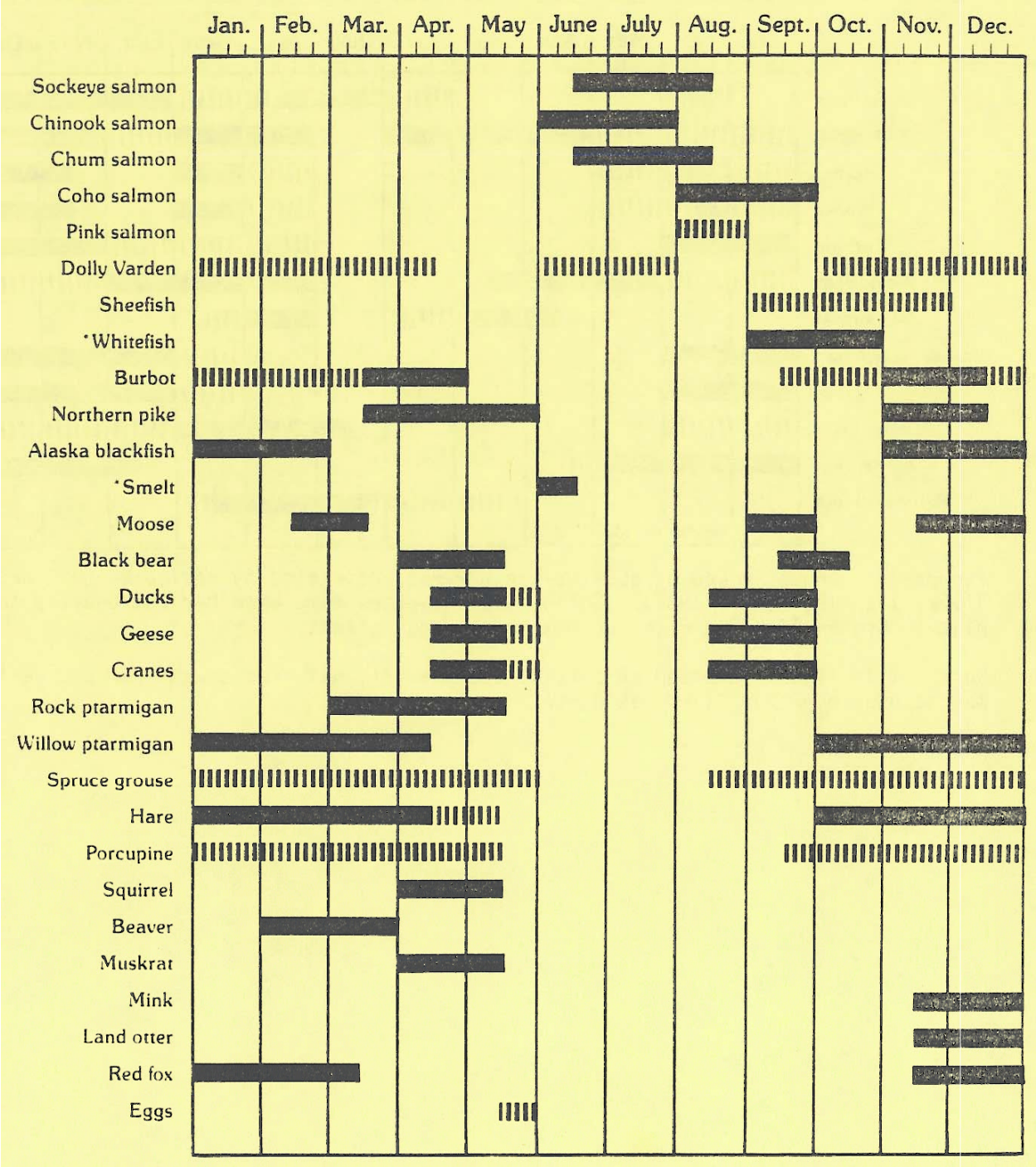

Figure 17 Contemporary seasonal round of harvest activities by Tuluksak residents (Schroeder et al. 1987: 297 citing Andrews and Peterson 1983).

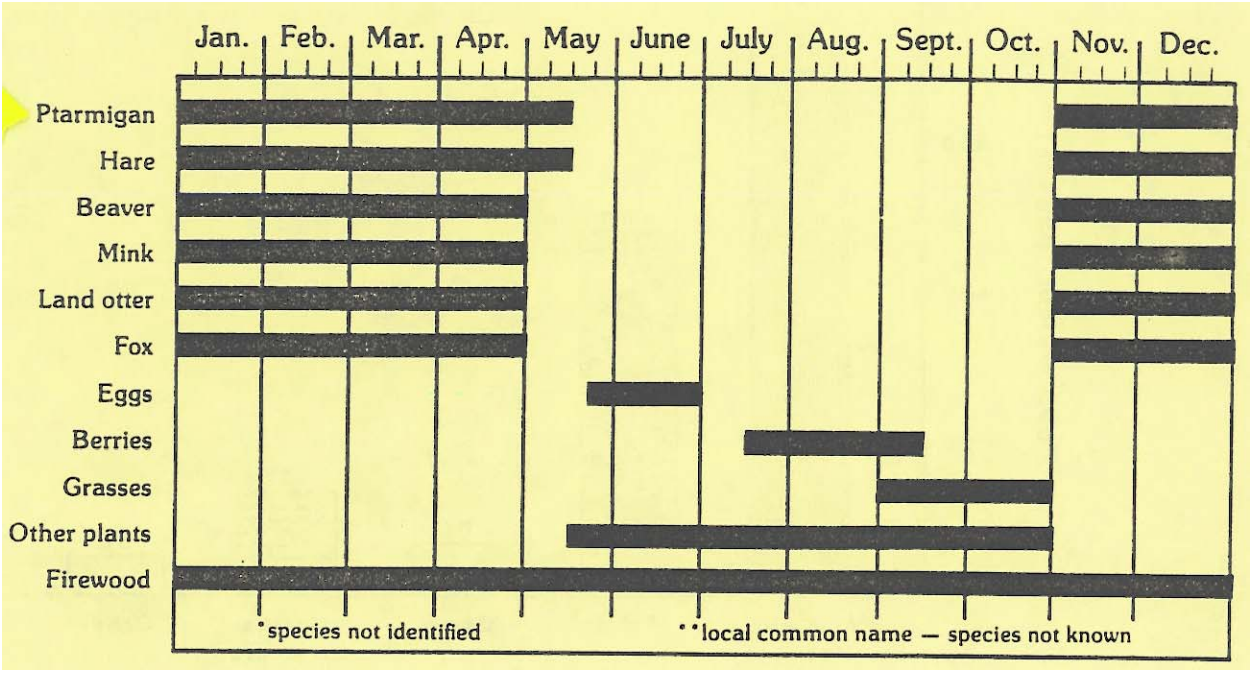

Figure 18 Contemporary seasonal round of harvest activities by Tununak residents (Schroeder et al. 1987: 299 citing Pete, pers. comm.).

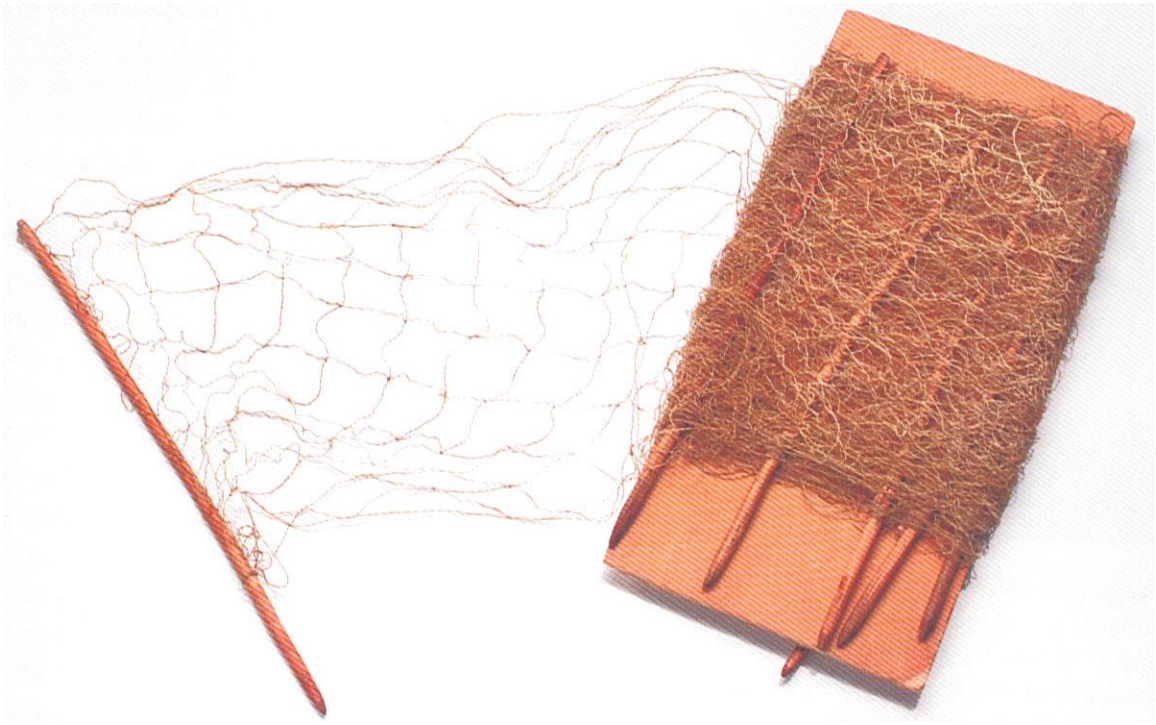

Figure 19 “Sinew ptarmigan net from the Kuskokwim. NMAI[National Museum of the American Indian, Smithsonian Institution] 9/7334. Walter Larrimore” (Fienup-Riordan 2007:199).

Ptarmigan snare with braided grass and a wooden stake, made by Pearl Johnson from Emmonak. *W. Oswalt, 1970, UAM 70-053-0224a-d (33 cm L), Barry McWayne*

Figure 20 “Ptarmigan snare with braided grass and a wooden stake, made by Pearl Johnson from Emmonak. W. Oswalt, 1970, UAM [University of Alaska Museum of the North, Fairbanks] 70-053-0224a-d (33cm L), Barry McWayne” (Fienup-Riordan 2007:201).

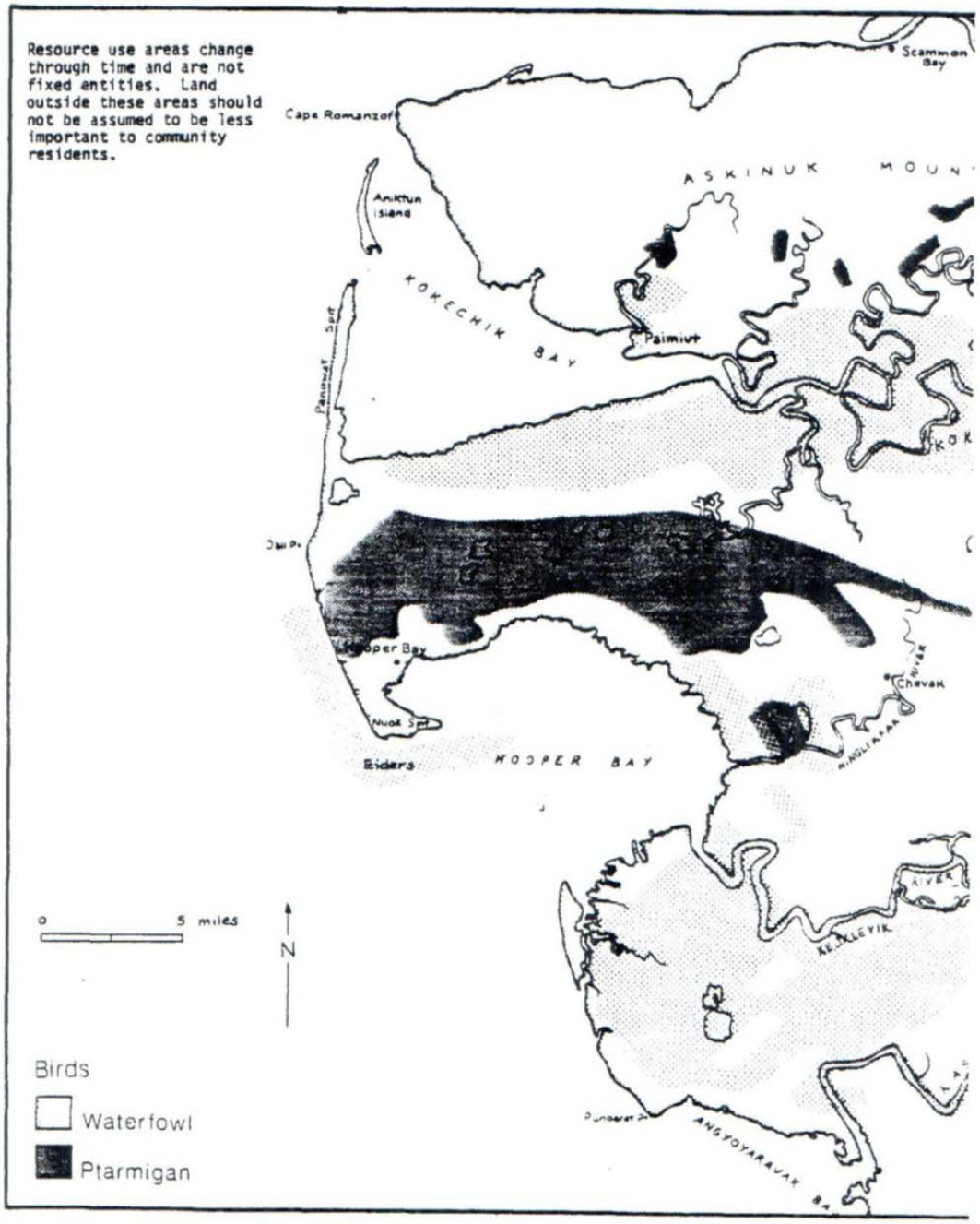

Fig. 13. Bird huting areas of Hooper Bay residents, c. 1981-1983.

Figure 21 “Bird hunting areas of Hooper Bay residents, c. 1981-1983” (Stickney 1984: 125).

Figure 22 Small game hunting area, including ptarmigans, in Bethel, Alaska (Photograph taken by Ben Balivet in October 2011).

Figure 23 Mask of Eagle with Ptarmigan. Yupiit Pyciryarait Museum YP 84.7.1. Photograph taken by Ben Balivet in October 2011 with permission of Association of Village Council Presidents (AVCP).

Figure 24 Ptarmigan feather fans. Yupiit Pyciryarait Museum YP 95.1.4ab. Photograph taken by Ben Balivet in October 2011 with permission of Association of Village Council Presidents (AVCP).

Figure 25 Eskimo activity doll, “girl spearing a ptarmigan.” Yupiit Pyciryarait Museum YP 95.1.41. Photograph taken by Ben Balivet in October 2011 with permission of Association of Village Council Presidents (AVCP).

Figure 26 Ptarmigan foot yo-yo. Yupiit Pyciryarait Museum YP 74.7.16. Photograph taken by Ben Balivet in October 2011 with permission of Association of Village Council Presidents (AVCP).

Appendix A. Interview and Literature Excerpt Pertaining to Customary and Traditional PTARMIGAN Hunting and Use Patterns in Game Management Unit 18

Following are quotations from selected literature pertaining to customary and traditional ptarmigan hunting and use patterns in Game Management Unit 18, Alaska:

Charles, J. 2011. Personal Communication to Ben Balivet, October 2011. Elder of Tuntutuliak, Yukon-Kuskokwim Delta Subsistence Regional Advisory Committee member, and Lower Kuskokwim Advisory Committee member.

Mr. Charles (2011) states: "We hunt them [ptarmigans] with .22s. Few use shotguns…mostly with .22 starting February through to April. When the waterfowl come up we stop. We only catch what we can use. In the spring, we use snow machine. Few people are catching them right now [October]. It's not like it is in winter. We see flocks …they go to the banks of the river. Few people shoot them with shotguns. They fly back and forth over the Kuskokwim. Some people used to dry ptarmigan meat. So they can catch twenty."

Fienup-Riordan, A. 1994. Boundaries and Passages: Rule and Ritual in Yup'ik Eskimo Oral Tradition. University of Oklahoma Press. Norman and London.

Ptarmigan, like rabbits, were proscribed for young men lest they likewise become fearful and easily startled (Fienup-Riordan 1994:126).

Butzin describes *ingulaq* as "a call dance" in preparation for which boys caught songbirds and ptarmigan, removing their insides but leaving the skin intact: " these were stretched and shaped with sticks. They were then taken into the kashige together with the akutak (native ice cream) and small gifts" (Fienup-Riordan 1994:281 citing Fienup-Riordan 1992:41).

Fienup-Riordan, A. 2007. Yuungnaqpiallerput The Way We Genuinely Live: Masterworks of Yup'ik Science and Survival. University of Washington Press, Seattle, Washington.

Women on the lower coast used *yaqulegcuutet* (bird nets) for hunting birds in lakes; these nets had the same mesh size as dog-salmon nets. Examining a sinew net, Willie Kamkoss (April 1997:168) described how women netted ptarmigan in spring at the mouth of the Yukon:

Those who reared me at Pastuliq called this *pugsuaq* [ptarmigan net, from *puge-*, "to emerge halfway"]. When I always followed my grandmother, she used to carry this kind. She also took a decoy in her backpack [made] of a male ptarmigan's skin stuffed with moss and wooden pegs to fasten it. When she had nothing to do or was resting from walking, she would say, "let me set the net and cool off!" Then she would spread the net and fasten it on land with

pegs, and she placed her ptarmigan decoy in the middle. From somewhere, a ptarmigan would come and circle around, and, when it got caught in the net, she would say to me, "Go and kill it." I enjoyed killing ptarmigan. When the young geese came out of the eggs, she would grab them, after she had set her ptarmigan net. Old women were never without ptarmigan nets when I saw them at that time. Only women like my grandmother used them; my grandfather never took them along.

Paul John (April 1997:168) added that netting ptarmigan in the Nelson Island area was referred to as *qungyarceciirluteng* (lit. "causing them to be jealous"): "They dry that ptarmigan and stuff it with grass, making it look alive. That decoy is called *qungyarcetaaq* [something that makes one jealous]. They say they used a female decoy; and if they wanted to put a male with it, they placed it farther away. If a male ptarmigan saw it from a distance and rushed to her to get her first, he would end up caught in the net. They say that they have been made jealous if they do that." Commenting on the abundance of ptarmigan harvested with these nets, Frank Andrew (February 2003:584) noted, "They caught lots because ptarmigan are not very wise."

People also set snares for ptarmigan and other birds…. Catherine Moore (April 1997:168) remembered setting ptarmigan snares made of braided twine with a wooden anchor driven into the ground: "When I first started, there were lots of ptarmigan. At dusk the bushes would be dotted with white across from Emmonak where the ptarmigan perched. They weren't afraid. Nowadays, I don't know what has become of them. I haven't snared ptarmigan for a long while."

Willie Kamkoff (April 1997:168) described his grandmother setting snares for ptarmigan: "When the snow melted, she set ptarmigan snares in the middle of these willow bushes. Sometimes every snare would get a ptarmigan. We set them on high mounds just behind our house, checking them in the morning." If her snares did not catch anything, she "blinded the ptarmigan" so that they could no longer see the snares. "She had a method where, if those snares kept being pushed over without getting ptarmigan, she would take along a small amount of soot. After she set it she would keep throwing soot at the snare. They said she was blinding the ptarmigan" (Fienup-Riordan 2007:199-200).

Wassilie Evan (March 2004:537) said that when ptarmigan eggs are small, they are called *uuqessngitiit* (runts) and are also bad signs portending death (Fienup-Riordan 2007:201).

Ptarmigan are also viewed as signs of what is to come. Hunters know that during April, the month when birds arrive, the wings of ptarmigan begin to get black markings. By the time the migratory waterfowl arrive in numbers, the ptarmigans' wings are dark. During winter, ptarmigan behavior is used to predict harsh weather. According to Nick Andrew (March 2004:569): "Ptarmigan [stomachs] get very full when the weather is going to get bad. They say that they go inside the snow during storms and stay without eating until the weather gets better. They are easy to spot. Some people use them to predict weather when they're out in the wilderness. They check their stomach contents, and when they are completely full, they know that the weather will get bad" (Fienup-Riordan 2007:214-215).

Nick Andrew said that eating the raw breast meat of ptarmigan could also warm a person: "After I shoot a ptarmigan I peel the skin and feathers off and eat the breast meat raw while it is warm. A person who eats the breast meat raw while it is warm. A person who eats raw ptarmigan won't

be cold all day. One feels strong and not hungry. They used to instruct us to do that" (Fienup-Riordan 2007:264).

Nelson, Edward William 1983 [1899]. The Eskimo About Bering Strait. Smithsonian Institution Press. Washington, D.C.

The Eskimo have various ingenious methods of taking ptarmigan and water fowl. During the winter small sinew snares are set among the bushes where the ptarmigan resort to feed or to rest. Sometimes little brush fences are built, with openings at intervals in which the snares are set so that the birds may be taken when trying to pass through…. It consists of a stake nearly 14 inches in length, having a rawhide running noose attached to its upper end by a sinew lashing; a twisted sinew cord about a foot in length serves to attach the snare and stake to the trunk or branch of an adjacent bush.

As spring opens the male birds commence to molt and the brown summer plumage appears about their necks. At this time they become extremely pugnacious and utter loud notes of challenge, which so excite other males within hearing that desperate battles ensue. The birds occupy small knolls or banks of snow, which give them a vantage point from which to look over the adjacent plain. If, when on his knoll, the male ptarmigan hears another uttering his call within the area he considers his own he flies to the intruder and fiercely attacks him. This habit is taken advantage of by the Eskimos, who stuff the skin of one of these birds rudely and mount it upon a stick which holds the head outstretched. This decoy is taken to the vicinity of one of the calling males, and it is planted on a knoll or snowdrift so that it forms a conspicuous object. The hunter then surrounds it with a finely made net of sinew cord supported by slender sticks. Both netting and sticks are pale yellow in color, and are scarcely discernible at a short distance. The hunter then conceals himself close by and imitates the challenge note; the bird hears it and flies straight to the spot. As he flies swiftly along within a few feet of the ground he sees his supposed rival, dashes at him, and is entangled in the net. The hunter secures him, after which he carries the decoy and the net to the vicinity of another bird (Nelson 1983[1899]:131-132).

Once when hunting near the Yukon mouth in the month of May, while patches of snow still covered the ground in places, I saw my Eskimo companion decoy ptarmigan by molding some soft snow into the form of a bird; around the part representing the neck he placed a bunch of brown moss to imitate the brown plumage. This image was placed on a small knoll; from a short distance the imitation of a ptarmigan was excellent and the hunter succeeded in calling up several birds that were in the vicinity. He told me that hunters used to call the birds in this manner to shoot them with arrows when they were hunting on the tundra and had no food (Nelson 1983[1899]:132).

After the first snow of winter great flocks of ptarmigan migrate southward … and resort to the valleys of Yukon and Kuskokwim rivers for the winter. They fly mainly at night, and usually begin to move just as it is becoming dusk, when it is still possible to distinguish objects at a distance of 75 or 100 yards…. When the migrating season commences the people take advantage of it to capture the birds with salmon nets. Each net is from 50 to 100 feet in length and is spread open by wooden rods; a man or a woman at each end and another in the middle holds the net flat

on the ground; when a flock of ptarmigan come skimming along within two or three feet of the ground, the net is suddenly raised and thrown against and over the birds, so as to cover as many as possible. The persons at the ends hold the net down, while the one in the middle proceeds to wring the necks of the captured birds. After throwing them to one side the net is again placed in position. In this manner a hundred birds or more are sometimes captured in a few minutes (Nelson 1983[1899]:132-133).