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Progress Report: 1984 Walrus Harvest, Health and Welfare
Study at Savoonga, Alaska.

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Norma Haubenstock
Marine Mammal Project
U.S. Fish and Wildlife Service
1011 East Tudor Road
Anchorage, Alaska 99503

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ABSTRACT

Walrus harvest data was collected in the spring of 1984 from 26 April to 20 June in Savoonga, Alaska. The total number of animals harvested was 1011, comprised of 557 males (55.1%), 219 females (21.7%), 203 calves (20.1%), and 32 unknown sex (3.2%). Nineteen days of hunting occurred in the 55 day monitoring period, during which time an estimated 1.0 man-hour per animal harvested was calculated. One hundred and forty-four pairs of lower canine teeth were collected from individual walruses. Four complete sets of tissue samples, including heart, liver, kidney and fat were also collected, along with teeth from these animals. Age composition data will be compiled through analysis of the teeth samples and tissue samples will be analyzed for environmental contaminants. The magnitude and sex ratio of the harvest differed from previous years, with a greater number of animals and a higher proportion of calves being harvested.

INTRODUCTION

This report provides results from a study of the health and status of the Pacific walrus, which took place during the walrus harvest at Savoonga, Alaska in the spring of 1984. Savoonga is a Siberian-Yupik Eskimo village located on the north central coast of Saint Lawrence Island in the Bering Sea. Hunting, and the subsequent utilization of birds, walrus and other marine mammals, plays an integral part in the economy and existence of the island residents. 1984 marked the fifth year of this particular phase of the program contracted by the U.S. Fish and Wildlife Service.

The objectives of this study were:

- 1) To record the number and sex composition of the walruses harvested by Savoonga hunters.
- 2) To collect teeth for age determination of harvested animals.
- 3) To collect tissue samples from the animals to determine levels of heavy metal and organo-chlorine environmental contamination.
- 4) To record the harvest of other marine mammals and birds.

The field technician sent to Savoonga by the U.S. Fish and Wildlife Service (FWS) monitored the harvest and collected sample specimens from the harvested animals. Lydia Akeya, a village assistant, was also contracted by the FWS and by the Eskimo Walrus Commission (EWC) to monitor the harvest.

In Savoonga, the beginning of the spring harvest of walrus is mainly dependent on the extent and condition of the shore ice. Throughout the winter, ice piles up along the northern shore of the island where its movement is greatly restricted

by currents and prevailing onshore wind during winter and early spring. Break-up generally occurs in the late spring as the wind shifts to a southwesterly direction. Though the shore ice usually remains until the end of May, hunting may begin earlier as enough ice moves out to provide access to the water. At the onset of the hunting season, the walrus are within approximately 20 miles of the village, however, as the season progresses, the hunters must venture further and further from shore. At these greater distances, the effort and expense may outweigh the potential benefits from hunting.

The completion of the whaling season may also determine when walrus hunting will begin. The success and early completion of the 1984 whaling season by the Savoonga hunters, appeared to be beneficial to the walrus harvest. The bowhead harvest in Savoonga was nearly complete by mid-April.

I would like to thank the people of Savoonga for all their help and friendliness. A special thanks to Lydia Akeya, whose presence and assistance helped to bridge the gap between the FWS field technician and the hunters.

METHODS

A boat captains meeting was held prior to the beginning of the walrus hunting season, following the return of all the hunters from Poowooliak, Savoonga's whaling camp on the southwest side of St. Lawrence Island. The purpose of this meeting was to introduce the captains to the FWS field technician. Information on the walrus population from the 1983 spring harvest and from the US-USSR arial surveys was discussed, as was information on population dynamics and food habits from studies done in 1980 on reproductive tracts and stomach contents. Details of the 1984 monitoring program were also discussed. Hunter kits, to be used for collecting teeth were distributed. Boat captains who were not present at the meeting were visited at their homes and informed of the monitoring program.

On hunting days, the Akeya C.B. radio was monitored and Lydia kept me informed of hunting activity. When boats began returning from a day of hunting, Lydia and I traveled to the water's edge to meet the hunters. The total number and sex of animals harvested were recorded as each boat returned, as well as hunt duration, distance and direction traveled and the general weather and ice conditions.

The lower pair of canine teeth from 150 adult walrus were to be purchased for \$8.00 per pair with an additional \$2.00 per pair paid to the Savoonga Native Store for handling receipts. A limit of four sets of teeth from each boat was established at the beginning of the harvest in order to allow all the boat captains who had interest in selling the teeth to do so, and also to spread the teeth collection out over the entire harvest period. Plastic bags were distributed to those hunters showing interest in collecting tissue samples of liver, kidney, heart and fat. The tissue samples were frozen for future analysis.

RESULTS AND DISSUSSION

The first good day of hunting in Savoonga occurred on 10 May, approximately two days after prevailing winds shifted from northeast to southwest. Previously, north winds kept the ice packed against the shore, obstructing hunter access to the water. During the late spring, thin ice, strong winds and currents create a potentially dangerous situation for the hunters.

The FWS monitoring period occurred from 26 April to 20 June. Data from the later part of June was collected by Lydia Akeya. Hunting occurred on 19 of the 55 days, very similar to the 20 days of hunting which occurred in 1983.

1011 animals were harvested, comprised of 557 males, 219 females, 203 calves and 32 unknown sex (Appendix A). 1030 hours of hunting occurred during 157 hunts, averaging 6.6 man-hours per hunt. An estimated 1.0 man-hour per animal harvested was calculated.

The magnitude and composition of the harvest differed from previous seasons. A greater number of animals and a higher percentage of males were harvested during the 1984 season than during 1983. Although, on 16 May, many more females (75) than males (18) were harvested (Table 1). Also noted during this season's harvest, was a particularly higher proportion of calves being taken. The height of the 1984 harvest occurred from 10 May - 30 May, compared to the 1983 season when the majority of the harvest occurred from 15 May - 11 June.

Utilization of meat and other parts of harvested animals varied with the sex and age of the animal, time of the season and by individual crews. Tusks from both male and female walrus and oosiks from all male walrus were taken for handicrafting. Liver and heart was brought back from male walrus, especially at the beginning of the season, and intestine, breast, stomach, heart blubber and flippers were saved from female walrus.

Table 1. Comparison of the spring walrus harvest at Savoonga, 1980-84. Data from West (1980), Smith (1981), Stengle (1982) and Gardner (1983).

<u>Year</u>	<u>Male</u>	<u>Female</u>	<u>Calf</u>	<u>Unknown</u>	<u>Total</u>
1980					
Number	417	34	5	-	456
% of Total	91.4	7.5	1.1	-	
% of Adults	92.5	7.5	-	-	
1981					
Number	302	258	81	21	662
% of Total	45.6	39.0	12.2	3.2	
% of Adults	53.9	46.1	-	-	
1982					
Number	79	63	19	6	167
% of Total	47.3	37.7	11.4	3.6	
% of Adults	55.6	44.4	-	-	
1983					
Number	178	204	106	135	623
% of Total	28.6	32.7	17.0	21.7	
% of Adults	46.6	53.4	-	-	
1984					
Number	557	219	203	32	1011
% of Total	55.1	21.7	20.1	3.2	
% of Adults	71.8	28.2	-	-	

As the season progressed, smaller amounts of edible parts were returned to the village, however, all boats returned with some meat. The hide from large females was saved, stretched, split and dried to be used for covering skin boats. (Skin boats appear to be used exclusively for whaling.) Clams from walrus stomachs were consumed when available. A walrus stomach filled with clams was not very common this season. Walrus calves were generally brought back whole, split in half and hung to dry for later consumption. When needed, the hide of calves was cut in strips in a spiral fashion long enough to be used for rope. Mukluks, or bearded seal, the largest and most abundant of the seals harvested, provided both meat and skins for the hunters. If the skins were needed, the bearded seal may be brought back whole to be carefully skinned at a later time. In more cases, however, due to their large size, only the meat was returned to the village. The mukluk meat was either frozen or dried and the skins were generally used for making boot soles. Most other types of seals were brought back whole and later skinned. The seal skin was stretched and dried to be used eventually for clothing and/or handicrafts. The meat was generally frozen for later use. Most of the harvested birds were skinned and hung to dry for a week or two prior to being eaten. Polar bears were carefully skinned and the hides used for clothing and handicrafts. The polar bear meat was consumed in small amounts due to its richness.

A total of 144 pairs of walrus lower canine teeth were purchased from the hunters over the entire season (90 male, 54 female). Limiting the acquisition to four pairs of teeth per boat at the beginning of the season, was effective in spreading the teeth collection over most of the hunting season. The last set of teeth was purchased on 4 June. Notices, as to the status of the sample collection, should be posted periodically, to prevent any false expectations.

At the request of FWS, some boat captains volunteered samples of liver, kidney, heart, and fat and the lower canine teeth of the walrus. Only the teeth were purchased. Four complete sets of samples for contaminant analysis were collected and nine partial sets. Each of the specimens was trimmed to remove surface contamination accumulated in transit to the village and wrapped in aluminum foil and stored in a freezer in ziplock bags for the remainder of the season. It was difficult to convey sampling technique to the hunters and the need for a larger sample size.

As during the previous season, most of the hunters used 15 - 18 foot aluminum boats, with the exception of a couple of the crews who used wooden boats. There was no appreciable change in the boat or motor size from 1983. Motor sizes for all the boats ranged from approximately 15 Hp to 70 Hp, with some of the smaller motors used as back-ups. The mean crew size was four, and ranged from two to seven. A list of all the boat captains can be found in Appendix B.

The distance and direction traveled by the hunters varied tremendously throughout the season depending on the movement of the ice and the northerly migration of the different walrus herds (Fay 1982). During late April and early May, hunting took place primarily on the southwest coast of the island, although in rare instances, hunters traveled the shore ice by snow machine on the north side of the island where walrus would sometimes gather. Beginning 10 May, after the first part of break-up occurred and some of the thin ice had moved away from the island, hunting took place by boat to the north approximately 3 - 20 miles offshore. As the season progressed, hunters traveled 30 - 50 miles from the village in a north-northwest direction. By June, the hunters had

to struggle over the sloshy and rotting shore ice to launch their boats. Hunting took place in a northeasterly direction up to 80 miles from the village. Total break-up occurred around 6 June. By 9 June, the hunters were readying to go to the northeast side of the island and to Punuk Islands, where they would camp and hunt for a few days before returning to the village. Some ice lingered near the northeast shore of St. Lawrence Island after this time.

Other marine mammals and birds harvested during the study period included 118 bearded seals, Erignathus barbatus, of which 17 were young animals, 4 ribbon seals, Phoca fasciata, 24 ringed seals, Phoca hispida, and 5 polar bears, Ursus maritimus (Appendix C). Although no accurate count of the number of birds harvested was generated, numerous were taken. Some of the more common birds include common murre, Uria aalge, thick-billed murre, Uria lomvia and crested auklets, Aethia cristatella. Hunting for birds and other marine mammals seemed to be opportunistic when walrus hunting was less feasible and/or during early morning hours.

Appendix A. Recorded numbers and sex of walruses harvested during the spring
of 1984 from 26 April to 20 June.

Date	Male	Female	Calf	Unknown	Total
April					
26	4	0	0	0	4
May					
1	0	0	0	0	0
2	1	0	0	0	1
3	0	0	0	0	0
4	0	0	0	0	0
5	8	0	0	0	8
10	58	16	20	0	94
12	16	5	1	0	22
13	84	16	6	6	112
15	71	48	79	0	198
16	18	75	71	0	164
28	120	11	13	0	144
30	81	14	9	26	130
June					
2	36	23	2	0	61
3	1	0	0	0	1
4	13	4	0	0	17
9	24	4	2	0	30
16	12	3	0	0	15
17	<u>10</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>10</u>
Total	557	219	203	32	1011

Appendix B. List of Walrus Boat Captains

Alexander Akeya	Anthony Pelowook
Roland Alowa	Wayne Penayah
Merrill Annogiyak	Ivan Pungowiyi
Ray Gologergan	Bryan Rookok
Patrick Gologergan	Clyde Rookok
Gordon Iya	Cecil Seppilu
Larry Kava	Melvin Seppilu
Truman Kava	Raymond Toolie
Kermit Kingeekuk	Walter Toolie
Mike Kiyuklook	Clarence Waghiyi
Martin Kogassagoon	John Waghiyi Sr.
Marvin Kulowiyi	Elmer Wongittilin
Floyd Martin	Jerry Wongittilin
Mark Miklahook	
Jackson Mikiyuk	
Davis Mikiyuk	
Chester Noongwook	
Elvin Noongwook	
Dwight Noongwook	
Henry Noongwook	
Joe Noongwook	
Nathan Noongwook	
Wilson Okoomealingok	

Appendix C. Total recorded number of seals and polar bears harvested during
spring 1984 from 26 April to 20 June.

<u>Date</u>	<u>Seals</u>				<u>Polar bear</u>
	<u>Bearded</u>	<u>Bearded pups</u>	<u>Ringed</u>	<u>Ribbon</u>	
May					
2	6	0	0	0	0
3	4	0	0	0	0
4	3	0	0	0	0
10	9	9	0	0	1
12	4	2	0	0	0
13	1	0	1	0	0
15	9	1	0	0	0
28	18	3	3	0	2
30	1	1	0	0	2
June					
2	9	1	3	1	0
3	2	0	0	2	0
4	7	0	3	1	0
9	11	0	7	0	0
Total	101	17	24	4	5

LITERATURE CITED

- Fay, F.H. 1982. Ecology and biology of the Pacific walrus, Odobenus rosmarus divergens Illiger. N. Am. Fauna 74. 279 pp.
- Gardner, C. 1983. Progress Report: Walrus harvest, health, and welfare study at Savoonga, Alaska. Unpubl. rept. on file. U.S.F.W.S. Anchorage, Alaska.
- Smith, T. 1981. Progress Report: Walrus harvest, health/welfare study at Savoonga, Alaska. Unpubl. rept. on file. U.S.F.W.S. Anchorage, Alaska.
- Stengle, J.B. 1982. Progress Report: Walrus harvest, health and welfare study at Savoonga, Alaska. Unpubl. rept. on file. U.S.F.W.S. Anchorage, Alaska.
- West, R. 1980. Field report for walrus project at Savoonga Alaska. Unpubl. rept. on file. U.S.F.W.S. Anchorage, Alaska.

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