

HUMANE OBSERVER REPORT
Northern Fur Seal Subsistence Harvest
St. Paul Island, Alaska
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Report

INTRODUCTION

Northern Fur seals (Callorhinus ursinus) have been harvested for their pelts for the last 200 years on the Pribilof Islands. During this time period, the native Pribilovians could freely take the meat of the harvested animals for food. On St. Paul Island, the commercial harvest for pelts ceased in 1984; thus a subsistence harvest began with only immature males taken for food. This subsistence harvest has continued for the last 3 years (1984, 1985, 1986). The harvest is a remarkably well planned and orderly procedure. The young male seals are gathered, driven from their haulout area and held in a large pod. Five to 15 seals are then cut from this large pod and driven to a group of 3 to 4 men who stun the animals by hitting them on the skull or in the upper neck region with a solid wooden club. The animals are dragged a short distance away from the killing area and a person cuts the chest and heart open. The animal is skinned and then butchered for human consumption. For a more detailed description of the procedures of the harvest see Humane Observers Reports (Stoskopf, 1984; Letcher, 1985; Dorsey, 1986) and Zimmerman (1986). This report will be limited to my observations of the humane activities of the entire harvest procedure.

Multiple factors were evaluated during this harvest. These factors include: environmental conditions, methods of how animals were gathered and herded, and the harvesting of animals. These three areas will be discussed separately.

Fur seals (Callorhinus ursinus) were harvested from 14 July through 7 August 1987 from 7 haulout areas (Gorbatch, Lukanin, Polovina, Big Zapadni, Big Polovina, Northeast Point, Ketovia). A total of 1600 animals were taken including 1599 males and one adult non-lactating female (Table 1).

Environment condition

The environmental conditions of the harvest were monitored. These included the average air temperature, degree of precipitation, wind and cloud cover. The air temperature was taken when the drive began and when the harvest ended and then averaged (Table 2). The temperature ranged from 42°F to 52°F with an overall average of 47.0°F. Rain occurred twice during the harvest, it was misty six times, and no precipitation was observed 11 times. A moderate breeze was present 4 days, a mild breeze was present 8 days and no wind was present 7 days. Cloud cover was heavy most of the time (16 days) and only light to partly sunny 3 times. Overall the weather conditions were favorable for this type of driving and harvest of animals.

Gathering of animals

The gathering of the animals was started in the morning (from 8:30 - 9:00 a.m.). Fifteen to 18 men would go to a specific haulout area and quickly form a line to prevent the seals access to the ocean. Then they herded the seals into several pods and drove them to the killing field. The estimated

distance of the drive ranged from 100 to 300 yards and took approximately 8 to 15 minutes. The animals were driven an average of approximately 19 yards/minute. The animals were sometimes rested during this drive.

An estimated difficulty of the drive was used on a scale from +, ++, +++, with + being the easiest, to +++ being the most difficult. These same paths have been used for driving seals to the killing field for several hundred years and were all fairly easy drives. The degree of wetness to the grass/terrain was monitored and estimated. This was believed to be important, but the degree of importance was most difficult to ascertain (Table 3).

My only suggestion in this area is to drive the animals slower, especially uphill. During the 1984 and 1985 harvest, drives were recorded and they were much longer than the drive times observed this year. The reason for this was undetermined. No cases of hyperthermia were observed during the drives. One problem noticed was that the young boys who helped during the drive would occasionally harass the seals more than necessary.

Harvesting period

The harvesting period was characterized by holding the animals in a large pod approximately 30 to 40 yards from the stunning area. Two to three young boys usually held the seals then one to two people would cut out a small pod and drive them to 3 to 4 men that did the stunning. The overall pod size

averaged 8 animals and approximately 3 animals were killed per pod. Animals were killed by hitting them on the skull at the level of the ears or over the 1st/2nd cervical vertebra. The majority of the times animals were hit just once. These animals would immediately drop. Then the animal was hit again on the skull. However, sometimes the first hit missed its mark and 1 to 2 more hits were required. When this happened, these were called double hits. The number of double hits were observed. A double hit was defined as a hit that did not kill the animal and that if he had not been hit again would have been totally capable of escaping. All animals in this tabulation were hit either one or two more times and killed. None of these animals escaped. The percentage recorded in Table 4 were derived from a ratio of the number of times double hitting occurred to the number of animals presented to the stunners. An average of 0 to 7.8% was observed with an overall average of 3.8%. About 3.8% of the animal kills or 61 animals had to be hit 1 or 2 more times.

Another category of animals that were hit and escaped was also observed. These animals received a fairly hard blow and escaped. This figure was obtained by a ratio of the number of animals observed hit and escaped over the total number of animals presented to the stunners. This ratio was then multiplied by 100 to get a percentage. The percentage ranged from 0 to 1.4% with an overall average of .5%. This means that for every 1000 animals presented to the stunner an average of 5 animals would be hit and escape (or 1 in every 200 animals would be hit and

escape). It should be noted that this is 1 in 200 animals presented to the stunners, not animals killed (Table 4).

In regard to the animals that received double hits and hits/escaped, it seemed as if a good percentage of them occurred when two animals were hit at one time. This could be reduced by taking a little more time to somewhat isolate the animal before stunning it. It also seemed that more double hits/hits and escapes occurred when pod sizes were larger. Thus, taking more time to isolate animals prior to stunning and having fewer animals in the pod would be helpful. One comment about this by most observers is the inexperience of the stunner. They said the inexperienced cause a big problem with stunning. I am sure that experience does play a role, but what I observed was that the inexperienced stunner took fewer animals than the experienced ones. As the inexperienced stunners spent more time on the killing line, he began to kill more animals. Experience does play a big factor, but taking more time to isolate animals and having smaller pod sizes would decrease the number of double hits and hits/escapes for both experienced and inexperienced stunners.

Another problem I observed during this period was that sometimes the large pod holders would seem to get bored and sometimes harass the seals more than necessary to hold them or they would not pay attention to them and have to keep herding them back into the main pod. One suggestion here is to make sure the pod holders stay attentive and watch the seals a little closer.

Deep body core temperatures of the animals were taken throughout the harvest from the first animal killed to the last. About 10 to 20% of the animals were checked. The average body temperatures are presented in Table 4. The temperatures were then divided into the first half and second half of the harvest for each day. There is a slight suggestion that the temperatures were slightly lower in the animals that were rested 10 minutes or more before harvest. Harvest that started nine minutes or less following driving had an average temperature of 102.0 and the average temperature of animals rested 10 minutes or more had an average temperature of 101.3. The temperature also seemed to rise during the last part of the harvest. This is probably related to the length of time the animals are held in the pod and the weather conditions (Table 5).

Suggestions I have in this area are that the animals should be rested 10 to 15 minutes before the harvest begins and during the harvest the large seal pod should be held "loosely" and not crowded to close together.

Health status

The health status of the animals was evaluated by examining viscera and carcasses throughout the harvest. Nearly all the animals had gastric parasites and about half had varying degrees of active to healing gastric ulcers. These gastric parasites were Contracaecum sp. and Anisakis sp. These have been reported previously in fur seals. These gastric parasites seem to cause

little to no harm to the animal. The gastric parasitic load was considered light. Nearly all animals had tapeworms in the caecum. These too seemed to cause little harm. One animal was found to have a small artherosclerotic plaque just past the arch of the aorta. This plaque was extremely small and caused no harm to the animal. This lesion was found on the first day of the harvest and about 600 more animals were examined and no more such lesions were found. One animal had a diffuse orange discoloration to the adipose tissue. This animal had a body temperature of 102.4 (thus he was not hyperthermic). This animal was necropsied and no lesions were found to account for this orange discoloration. Greg Fratis (field harvest forman) told me that he has seen 2 to 3 animals like this each year during the harvest. One 6 to 7 year old male fur seal was found that had aplasia of the left front flipper. Greg Fratis said that he has observed this animal for the last 6 years. This animal walked fairly well and was fairly large and appeared to be in good body condition. In general these harvested animals seem to be in good body condition and healthy.

In summary the harvest went well and was done in an orderly and humane fashion. Suggestions for future harvest include:

- 1) Drive the animals slower to the killing field.
- 2) Do not unnecessarily harass the seals during the drive.
- 3) Rest the animals 10 to 15 minutes prior to the harvest.
- 4) Keep the harvest in the morning thus avoiding warm environmental temperatures.

- 5) Drive smaller pods to the stunner. Five to 7 animals are good, but not 10-15 animals at a time.
- 6) Take a little more time to isolate the selected animals to be killed.

REFERENCES

1. Dorsey, A.S. 1986. Humane Observer Report Pribilof Island Fur Seal Harvest.
2. Letcher, J.D. 1985. Humane Observer Report Pribilof Fur Seal Harvest.
3. Stoskopf, M.K. 1984. Humane Observer Report Pribilof Fur Seal Harvest.
4. Zimmerman, S.T., and J.D. Letcher. 1986. The 1985 subsistence harvest of northern fur seals, Callorhinus ursinus, in St. Paul Island, Alaska. Marine.

Table 1. Dates, location of, number of Callorhinus ursinus killed during the harvest 1987 St. Paul Island, Alaska.

Dates	Location	Total # Males	Killed Females
14 July	Gorbatch	88	0
15 July	Lukanin	35	0
16 July	Polovina	52	0
17 July	Big Zapadni	55	0
20 July	Big Polovina	52	0
21 July	Lukanin	29	0
22 July	Polovina	60	0
23 July	Big Zapadni	87	0
24 July	Gorbatch	90	0
27 July	Lukanin	29	0
28 July	Polovina	108	0
29 July	Northeast Point	57	0
30 July	Zapadni	85	0
31 July	Gorbatch	101	0
3 Aug	Ketovia	98	0
4 Aug	Polovina	97	0
5 Aug	Northeast Point	147	0
6 Aug	Zapadni	167	1
7 Aug	Gorbatch	162	0
Total		1599	1

Date	Location	Air temp. °F	Precipitation	Wind	Cloud cover
14 July	Gorbatch	42	Mist	None	Heavy
15 July	Lukanin	52	None	Mild	Partly Sunny
16 July	Polovina	47	None	Moderate	Heavy
17 July	Big Zapadni	45	None	None	Heavy
20 July	Big Polovina	46	None	Moderate	Heavy
21 July	Lukanin	45	Rain	Moderate	Heavy
22 July	Polovina	46	None	Moderate	High Overcast
23 July	Zapadni	46	None	Mild	Heavy
24 July	Gorbatch	44	Light Rain	Mild	Heavy
27 July	Lukanin	45	Mist	None	Heavy
28 July	Polovina	45	None	None	Heavy
29 July	Northeast Point	50	None	None	High Overcast
30 July	Zapadni	51	None	Mild	Heavy
31 July	Gorbatch	49	Mist/None	Mild	Heavy
3 Aug	Ketovia	48	Misty	Mild	Heavy
4 Aug	Polovina	48	None	None	Heavy
5 Aug	Northeast Point	48	Misty	Mild	Heavy
6 Aug	Zapadni	48	Misty	Mild	Heavy
7 Aug	Gorbatch	48	None	None	Heavy

Table 2. Summary of environmental conditions during the 1987 subsistence harvest St. Paul Island, Alaska.

Date	Location	Average time of drive (min)	Estimated distance yards	Estimated time yards/min	Terrain type	Terrain moisture
14 July	Gorbatch	11	200	18	++	Wet
15 July	Lukanin	8	150	19	++	Light
16 July	Polovina	11	200	18	+	Wet
17 July	Big Zapadni	8	100	13	+	Wet
20 July	Big Polovina	15	150	10	+	Wet
21 July	Lukanin	14	200	14	++	Wet
22 July	Polovina	7	200	28	++	Wet
23 July	Zapadni	8	100	12	+	Wet
24 July	Gorbatch	8	200	25	++	Wet
27 July	Lukanin	8	200	25	+++	Wet
28 July	Polovina	12	200	17	+	Wet
29 July	Northeast Point	8	100	17	++	Wet
30 July	Zapadni	11	175	16	++	Wet
31 July	Gorbatch	11	250	23	++	Light
3 Aug	Ketovia	5	100	20	++	Wet
4 Aug	Polovina	11	250	23	+	Wet
5 Aug	Northeast Point	12	150	13	++	Moist
6 Aug	Zapadni	16	300	19	++	Light
7 Aug	Gorbatch	10	250	25	++	Light

Table 3. Summary of data for the humans gathering of Northern fur seals 1987 subsistence harvest on St. Paul Island, Alaska.

Date	Location	Average pod size	Average killed per pod	% Double hit/ total # animals presented to stunner	% Animal hit and escaped/total/ # animals presented to stunners
14 July	Gorbatch	8	3 to 4	5	0
15 July	Lukanin	7	2 to 3	1	0
16 July	Polovina	9	2 to 3	5.5	0
17 July	Big Zapadni	9	2 to 3	7.8	.5
20 July	Big Polovina	8	1 to 2	2.8	0
21 July	Lukanin	8	1 to 2	6.3	.6
22 July	Polovina	8	1 to 2	3.4	0
23 July	Zapadni	9	3 to 4	6.2	0
24 July	Gorbatch	8	4 to 5	4.5	.5
27 July	Lukanin	7	1 to 2	0	0
28 July	Polovina	7	2 to 3	6.8	.7
29 July	Northeast Point	8	2 to 3	4.6	1.3
30 July	Zapadni	8	2 to 3	1.7	.8
31 July	Gorbatch	8	2 to 3	3.1	0
3 Aug	Katovia	8	3 to 4	2.0	1.2
4 Aug	Polovina	9	3 to 4	4.8	1.3
5 Aug	Northeast Point	9	3 to 4	2.4	0
6 Aug	Zapadni	10	3 to 4	2.1	1.4
7 Aug	Gorbatch	9	3 to 4	1.7	1.2
Overall Average		8	3	3.8%	.5%

Table 4. Summary of stunning data for the subsistence 1987 harvest of Northern fur seals St. Paul Island, Alaska.

Date	Location	Time from end of drive to start of harvest (min)	Average deep body core temperature		Length of time of harvest (min)	Average animals killed per minute
			1st half	2nd half		
14 July	Gorbatch	18	101.4	103.6	105	.83
15 July	Lukanin	5	102.5	103.3	51	.69
16 July	Polovina	13	100.6	100.7	50	1.0
17 July	Big Zapadni	11	101.2	102.4	66	.83
20 July	Big Polovina	6	102.0	102.6	83	.62
21 July	Lukanin	8	101.1	100.8	44	.65
22 July	Polovina	19	101.5	102.2	87	.69
23 July	Zapadni	16	101.5	102.5	83	1.0
24 July	Gorbatch	10	101.6	102.0	74	1.2
27 July	Lukanin	13	101.7	102.2	58	.52
28 July	Polovina	4	101.4	102.8	134	.81
29 July	Northeast Point	9	102.0	102.9	85	.67
30 July	Zapadni	7	102.5	103.5	97	.88
31 July	Gorbatch	5	102.0	103.4	106	1.0
3 Aug	Katovia	15	101.3	102.3	111	.88
4 Aug	Polovina	9	101.2	102.3	77	1.26
5 Aug	Northeast Point	14	101.6	102.1	119	1.24
6 Aug	Zapadni	6	102.7	103.8	155	1.07
7 Aug	Gorbatch	9	102.7	103.1	124	1.31

Table 5. Summary of the time interval between the end of the gathering period, body temperatures, length of time of harvest and average number of animals killed per minute (speed of harvest) for the 1987 subsistence harvest of Northern fur seals on St. Paul Island, Alaska.