



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
P.O. Box 21668  
Juneau, Alaska 99802-1668

November 20, 1992

Mr. Richard Zacharof  
P.O. Box 85  
St. Paul Is., Alaska 99660

Dear Richard,

Here is the humane observer report from Dr. Terry Spraker for the 1992 northern fur seal subsistence harvest that you requested during my recent visit. The harvest data and report is not yet available but Brad Hanson will be writing up the results soon and I will send you the report when it is completed.

Regarding your request for me to look into the possibility of increasing the amount of the contract we have with the tribal council to assist us with the collection of data during the harvest, I regret to inform you that the amount cannot be increased. We are restricted by contracting regulations from entering into a contract beyond a certain dollar amount and the process for contracts beyond that limit is extremely complicated and time consuming. In addition, this process would require us to bid the contract out, which could lead to many problems regarding the harvest and who would be participating in it.

I am still working on a summary of our conversations and ideas about upgrading the conservation officer position and other ways we can work together to bring about some of the changes we would both like to see regarding the subsistence harvest on St. Paul. I will provide you with an outline and general plan for your review and comment as to how we might approach these changes as soon as it is completed.

Once again, I want to thank you, and your father, for taking the time to meet with me during my visit, and for the concern you both expressed regarding the future of the subsistence fur seal harvest. I continue to believe that we have a unique opportunity to implement some changes that will be of considerable benefit to the community and natural resources of St. Paul.

Sincerely,

*David R. Cormany*

David R. Cormany  
Resource Management Specialist

Enclosures



HUMANE OBSERVER REPORT  
Northern Fur Seal Subsistence Harvest  
St. Paul Island, Alaska  
July-August, 1992  
Terry R. Spraker

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 Privilovians 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 nine years (1984-present). The harvest is a remarkably well planned and orderly procedure. The young male seals are gathered by driving them from their haul out area to a specific killing field where they are held in a large pod. Five to ten seals are then cut from this large pod and driven to a group of three to four men who stun the animals by hitting them on the skull or upper neck with a solid wooden club. The animals are dragged a short distance away from the killing area where the chest and heart are cut open. The animal is then skinned and butchered for human consumption. For a more detailed description of the procedures of the harvest, see Humane Observer Report: Stoskopf 1984; Letcher, 1985; Dorsey, 1986; Zimmerman et. al., 1986. This report will be limited to my observations of the humane activities of the fur seal harvest for July and August 1992.

Multiple factors were evaluated during this harvest. These factors included: environmental conditions, methods of gathering and herding animals, and the harvesting of animals. These three areas will be discussed separately.

Fur seals (Callorhinus ursinus) were harvested from 30 June through 7 August 1992 from seven haul out areas (Gorbatch, Lukanin, Polovina, Zapadni, Little Zapadni, Zapadni Reef Sands and Northeast Point). A total of 1482 animals were killed this year including two adult lactating females. One female was killed on 25 July from Zapadni and the other on 4 August from Polovina. The remaining

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1480 were subadult males ranging in age from 2 to 4 years (Table 1).

#### ENVIRONMENTAL CONDITION

The environmental conditions of the harvest were monitored including the average air temperature, degree of precipitation, wind and cloud cover. The air temperature was taken when the drive began and ranged from 43°F to 75°F, with an overall average of 51.5°F. It was misty 15 times. No mist was noted 9 times. A mild to moderate breeze was present 23 days and no wind was present 4 days. Cloud cover was heavy most of the time (15 days), light to high 4 days and sunny 2 days (Table 2). Overall the temperatures were a little warmer as compared to previous years.

#### GATHERING OF ANIMALS

The gathering of the animals was started in the morning from 10:30 to 11:00 am. Ten to fifteen men would go to a specific haul out area and quickly form a line along the shore line to prevent the seals access to the ocean. They then herded the seals into several pods and drove them to the killing field. The estimated distance of the drive ranged from 150 to 400 yards and the animals were driven an average of 22 yards/minute. The animals were sometimes rested during this drive. The drives were about the same speed this year as compared to previous years.

An estimated difficulty of the drive was graded on a scale of 1+ to 3+, with 1+ being the easiest, and 3+ 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 as this is believed to be an important cooling factor for the animals (Table 3).

#### HARVESTING PERIOD

The harvesting period was characterized by holding the animals in a large pod approximately 30 to 40 yards from the stunning area. While a few young boys held the seals, one to two men would cut out a small pod and drive them to the stunners (usually 3 to 4 men). The overall pod size averaged eight animals. 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 times, the animals were hit just once. These animals would immediately drop and were hit again on the skull. However, sometimes the first hit missed its mark and one or two more hits were required. The number of double- and triple- hits were not counted this year, but my overall impression was that the accuracy was about the same this year as in previous years. The number of double- and triple-hits are relatively few.

Deep body core temperatures of the animals were taken throughout the harvest from the first animal killed to the last. About ten percent of the animals were checked. The temperatures were then divided into three equal time slots during the harvest for each day. The average body temperatures are presented in Table 4. Temperatures ranged from 100.0°F to 107.0°F. Seven animals died in the holding pods or were killed because they had a deep body core temperature of 107.0°F causing them to be hyperthermic.

Hyperthermia has been a problem for the last six years. About 0.5% to 1% of the animals harvested died or were killed because of hyperthermia. Hyperthermia is due to overheating associated with the activity of the animals. Predisposing factors include warm environmental temperatures, lack of cloud cover, lack of mist, dry grass, animals being driven too fast (especially uphill), long drives, being held too tight in large pods and having too much activity or moving around too much in the large holding pods. I believe another predisposing factor to be the amount of rest an animal has had before the drive. For example, an animal that has

just arrived on the haul out area from a feeding trip may not be "fully rested" and, if he is subjected to a harvest/drive, becomes exhausted quicker than a totally rested animal. The bottom line is that hyperthermia is a continuing problem. To avoid this problem animals need to be driven slowly, rested at least 10-15 minutes after the drive and the holding pods should be kept loose. If the environment temperature is 55°F, great care should be taken during the harvest and if the temperature is  $\geq 60^\circ\text{F}$ , no cloud cover, wind or mist, the harvest should not be done that day.

#### HEALTH STATUS

The health status of the animals was evaluated by examining viscera and carcasses throughout the harvest. Stomachs (929) were opened and checked for parasites and ulcers. Gastric parasites were Contracaecum sp. and Anisakis sp., both of which have been reported previously in fur seals. The parasite load in the stomachs was light in 862 (93%), moderate in 0 and heavy in 0. No parasites were found in 67 (7%) stomachs. A light load was considered to be from 1 to 25 parasites, 26 to 100 was moderate and over 100 was considered heavy. An ulcer was defined as a grossly visible crater in the gastric mucous at least 1-2 mm in diameter. Using this definition of an ulcer, 202 animals (22.0%) had gastric ulcers and 123 (13%) had healed ulcers. The number of ulcers and parasitic burden seems to have decreased during the last several years. Stomachs contained squid beaks (32), pollack otoliths (8), shells (12) and tar balls (8). Two animals had abscesses in the subcutaneous tissues; probably secondary to bite wounds. One "orange" animal was killed on Polovina. The reason for this orange discoloration to the blubber was not determined, but was probably due to some type of metabolism defect within the animal or diet. One seal had been contaminated with oil. This animal had small tar balls on the hair of the chest. In general, the harvested animals seemed to be in good body condition and healthy.

#### SUMMARY

In summary the harvest went well and was done in an orderly and humane fashion. Points to be remembered during the harvest include:

1. Drive the animals slowly 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. Do the harvest in the morning; thus avoiding warmer afternoon environmental temperatures.
5. Drive small pods to the stunner. Five to seven animals are good, but not 10 to 15 animals at a time.
6. Take a little more time to isolate the selected animals to be killed.
7. If environmental temperatures are 55°F to 60°F, give the seals frequent rests during the drive and keep the holding pods loose. If environmental temperature is 60°F or above, do not have a harvest.
8. Try to "weed out" older bulls during the drive.

REFERENCES

1. Dorsey, A.S., 1986. Humane Observer Report, Pribilof Island Fur Seal Harvest. National marine Fishery, Juneau Alaska.
2. Letcher, J.D., 1985. Humane Observer Report, Pribilof Fur Seal Harvest, National Marine Fishery, Juneau, Alaska.
3. Spraker, T.R., 1987. Humane Observer Report, Pribilof Fur Seal Harvest, National Marine Fishery, Juneau, Alaska.
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8. Stoskopf, M.K., 1984. Humane Observer Report, Pribilof Fur Seal Harvest.
9. Zimmerman, S.T., and J.D. Letcher, 1986. The 1985 Subsistence Harvest of Northern Fur Seals, Callorhinus ursinus, in St. Paul Island, Alaska. National Marine Fishery, Juneau, Alaska.

Table 1. Summary of location and number of animals killed during the 1992 Northern fur seal subsistence harvest.

Dates	Location	No. Seals Killed		Running Total
		Males	Females	
30 June	Gorbatch	60	0	60
2 July	Zapadni	55	0	115
3 July	Polovina	40	0	155
6 July	Gorbatch	56	0	211
8 July	Lukanin	40	0	251
9 July	Polovina	60	0	311
10 July	Zapadni	57	0	368
13 July	Reef	70	0	438
14 July	Polovina	73	0	511
15 July	Lukanin	28	0	539
16 July	Little Zap	20	0	559
17 July	Zapadni	75	0	634
21 July	Reef	44	0	677
22 July	Lukanin	39	0	717
23 July	Polovina	46	0	763
24 July	Northeast Point	53	0	816
25 July	Zapadni	54	1	871
28 July	Reef	79	0	950
29 July	Lukanin	67	0	1017
30 July	Polovina	48	0	1065
31 July	Zapadni/Reef	70	0	1135
1 Aug	Zapadni	36	0	1171
3 Aug	Lukanin	22	0	1193
4 Aug	Polovina	43	1	1237
5 Aug	Zapadni/Sand Reef	48	0	1285
6 Aug	Zapadni	52	0	1337
7 Aug	Reef	145	0	1482
Total		1480	2	1482



**Table 2: Summary of environmental conditions during the 1992 fur seal harvest on St. Paul Island, Alaska.**

Date	Location	Air temp. °F	Precipitation	Wind	Cloud Cover
30 June	Gorbatch	NT	NT	NT	NT
2 July	Zapadni	NT	NT	NT	NT
3 July	Polovina	NT	NT	NT	NT
6 July	Gorbatch	48	Misty	Light	Complete/low
8 July	Lukanin	NT	Misty	Light	Complete/low
9 July	Polovina	43	Misty	Light	Complete/low
10 July	Zapadni	47	Misty	Light	Complete/low
13 July	Gorbatch	47	Misty	Light	Complete/low
14 July	Polovina	50	Misty	Light	Complete/low
15 July	Lukanin	59	None	Light	Moderate/high
16 July	Little Zapadni	75	None	Light	Sunny
17 July	Zapadni	45	Misty	Light	Complete/low
21 July	Gorbatch	47	Misty	Light	Complete/low
22 July	Lukanin	52	None	Light	Sunny
23 July	Polovina	52	Misty	Light	Complete/low
24 July	Northeast Point	47	None	Light	Complete/high
25 July	Zapadni	47	Misty	Light	Complete/low
28 July	Gorbatch	53	None	Light	Complete/high
29 July	Lukanin	51	Misty	Light	Complete/low
30 July	Polovina	50	Misty	Light	Complete/low
31 July	Zapadni Reef Sands	45	Misty	Moderate	Complete/low
1 Aug	Zapadni	58	None	Moderate	Sunny
3 Aug	Ketovia	47	Misty	Moderate	Complete/low
4 Aug	Polovina	47	Misty	Moderate	Complete/low
5 Aug	Zapadni Reef Sands	48	None	Moderate	Light
6 Aug	Zapadni	53	None	Calm	Light/high
7 Aug	Gorbatch	47	None	Light	Complete/high

Table 3: Summary of activity during the drive of the fur seals to the harvest area during the subsistence harvest, St. Paul Island, Alaska 1992.

Date	Location	Beginning of Drive a.m.	Duration of Drive (minutes)	Estimated Distance of Drive (yards)	Estimated Speed of Drive (yds/min)	Terrain Type	Terrain Moisture
30 June	Gorbatch	NT	NT	NT	NT	NT	NT
2 July	Zapadni	NT	NT	NT	NT	NT	NT
3 July	Polovina	NT	NT	NT	NT	NT	NT
6 July	Gorbatch	10:36	9	175	19	++	Wet
8 July	Lukanin	10:55	16	300	19	++	Wet
9 July	Polovina	11:10	15	250	17	+	Wet
10 July	Zapadni	11:09	15	350	23	++	Wet
13 July	Gorbatch	11:25	10	175	18	++	Wet
14 July	Polovina	10:40	9	200	22	+	Wet
15 July	Lukanin	11:11	9	250	28	++	Wet
16 July	Little Zapadni	11:30	10	100	10	+	Wet
17 July	Zapadni	10:55	15	350	23	++	Wet
21 July	Gorbatch	10:35	8	150	19	++	Wet
22 July	Lukanin	11:06	9	250	28	++	Wet
23 July	Polovina	11:37	8	150	19	+	Moist
24 July	Northeast Point	NT	NT	NT	NT	+	Wet
25 July	Zapadni	12:07	18	500	28	++	Wet
28 July	Gorbatch	11:16	12	225	19	++	Dry
29 July	Lukanin	11:12	8	250	31	++	Wet
30 July	Polovina	11:32	12	200	17	+	Wet
31 July	Zapadni Reef Sands	11:35	9	275	31	+	Wet
1 Aug	Zapadni	12:27	15	400	27	++	Wet
3 Aug	Ketovia	12:25	8	200	25	+	Wet
4 Aug	Polovina	11:51	8	200	25	++	Wet
5 Aug	Zapadni Reef Sands	4:17	14	250	18	+	Wet
6 Aug	Zapadni	12:05	28	500	18	++	Wet
7 Aug	Gorbatch	11:25	10	250	25	++	Wet

**Table 4: Summary of deep body core temperature and number of animals suffering from hyperthermia during the 1992 fur seal subsistence harvest on St. Paul Island.**

Date	Location	End of Drive To Start of Harvest (Min. Rest)	Start of Harvest (a.m.)	Average Deep Body Core Temperature			Number of Deaths due to Hyperthermia
				First 1/3	Middle 1/3	Last 1/3	
30 June	Gorbatch	NR	NT	NR	NR	NR	0
2 July	Zapadni	NR	NT	NR	NR	NR	0
3 July	Polovina	NR	NT	NR	NR	NR	0
6 July	Gorbatch	5	10:50	100.0	100.8	103.0	0
8 July	Lukanin	9	11:20	101.2	100.8	103.4	0
9 July	Polovina	15	11:40	100.8	101.4	102.0	0
10 July	Zapadni	12	11:36	101.8	103.0	101.8	0
13 July	Gorbatch	10	11:45	100.7	102.2	105.0	1
14 July	Polovina	9	11:02	101.4	101.1	102.7	0
15 July	Lukanin	10	11:30	101.2	NT	103.8	0
16 July	Little Zapadni	5	11:45	102.6	NT	103.0	0
17 July	Zapadni	15	11:25	101.5	102.3	103.5	0
21 July	Gorbatch	14	10:57	100.5	101.4	101.1	0
22 July	Lukanin	10	11:25	102.3	102.9	103.7	0
23 July	Polovina	5	11:50	101.4	102.6	103.7	0
24 July	Northeast Point	NR	NT	NR	NR	NR	0
25 July	Zapadni	10	12:35	100.0	NT	NT	0
28 July	Gorbatch	8	11:36	102.9	104.5	104.6	2
29 July	Lukanin	5	11:25	101.5	103.5	101.6	0
30 July	Polovina	8	11:52	101.7	102.0	103.6	0
31 July	Zapadni Reef Sands	11	11:58	103.0	102.7	102.6	0
1 Aug	Zapadni	10	12:52	103.2	NT	105.0	0
3 Aug	Ketovia	5	11:38	102.8	102.4	NT	0
4 Aug	Polovina	9	12:08	101.3	101.1	101.7	0
5 Aug	Zapadni Reef Sands	7	11:38	102.7	102.6	102.4	0
6 Aug	Zapadni	12	12:40	103.1	104.1	105.3	4
7 Aug	Gorbatch	10	11:45	102.1	103.8	103.4	0

NR = Not Recorded

Table 5: Summary of the rate of kill of Northern Fur seals during the 1992 subsistence harvest on St. Paul Island.

Date	Location	No. Killed	Length of Time of Harvest (minutes)	Average No. Animals Killed per Minute
30 June	Gorbatch	60	NR	NR
2 July	Zapadni	55	NR	NR
3 July	Polovina	40	NR	NR
6 July	Gorbatch	56	95	.59
8 July	Lukanin	40	78	.51
9 July	Polovina	60	123	.49
10 July	Zapadni	57	116	.49
13 July	Gorbatch	70	131	.53
14 July	Polovina	73	76	.96
15 July	Lukanin	38	33	.85
16 July	Little Zapadni	20	35	.57
17 July	Zapadni	75	93	.81
21 July	Gorbatch	43	66	.65
22 July	Lukanin	39	60	.65
23 July	Polovina	46	57	.81
24 July	Northeast Point	53	NR	NR
25 July	Zapadni	54	82	.66
28 July	Gorbatch	79	83	.95
29 July	Lukanin	67	65	1.03
30 July	Polovina	48	54	.89
31 July	Zapadni Reef Sands	70	60	1.17
1 Aug	Zapadni	36	28	1.29
3 Aug	Ketovia	22	27	.81
4 Aug	Polovina	43	40	1.08
5 Aug	Zapadni Reef Sands	48	45	1.07
6 Aug	Zapadni	52	36	1.44
7 Aug	Gorbatch	145	105	1.38

NR = Not recorded