

*Wildlife Pathology International*

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Mr. David R. Cormany  
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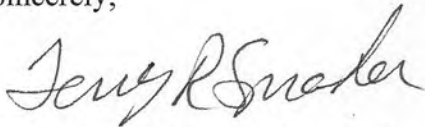
Dear Mr. Cormany

Please find enclosed the Humane Observer Report for the 1995 Northern fur seal harvest on St. Paul Island, Alaska. This year's harvest went extremely well. Animals were handled and killed in a humane fashion.

Three pelts were found with an oily substance on them, compared to the 23 pelts found last year. Two animals were detected with hyperthermia. Two females were killed this year.

There has been a general decrease in parasites and associated gastric ulcers found in the stomachs of the harvested sub-adult male fur seals. This suggests a change in diet may be occurring as fish are the intermediate host of these parasites.

Sincerely,



Terry R. Spraker, D.V.M., Ph.D., D.A.C.V.P.  
Pathologist

Enclosures

HUMANE OBSERVER REPORT  
Northern Fur Seal Subsistence Harvest  
St. Paul Island, Alaska  
July-August, 1995  
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; therefore a subsistence harvest began with only immature males taken for food. This subsistence harvest has continued for the last twelve years (1984-1995).

The harvest is a well planned and orderly procedure. Young male Northern fur 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 1995.

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 1 July through 8 August 1995 from eight haul out areas (Gorbach, Kitovi, Lukanin, Northeast Point, Polovina, Zapadni, Zapadni Sands and Zoltoi Sands). A total of 1623 subadult males and 2 adult females were killed this year (Table 1).

## ENVIRONMENTAL CONDITION

The environmental conditions of the harvest from 1 July through 8 August 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 54°F, with an overall average of 48°F. Rain occurred six times during the harvest and it was misty four times. A mild to moderate breeze was present every day and wind speed varied from 1-19 knots with an overall average of 10.6 knots. Cloud cover was heavy most of the time (18 days), light and high one day and partially cloudy four days (Table 2). The environmental conditions were similar to previous years.

#### GATHERING OF ANIMALS

Ten to fifteen men would go to a specific haul out area and quickly form a line along the shore thus preventing the seals access to the ocean. Then the seals are gathered into several pods and driven to the killing field. The animals were gathered between 9:55 am to 3:10 pm. The estimated distance of the drive ranged from 100 to 400 yards. Animals were driven from 7 to 30 yards/minute with an average of 18.5 yards/minute. The animals were usually rested during the drive. The drives were about the same speed this year as compared to previous years (Table 3).

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 (Table 3). 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. The grass was wet 19 days and dry three days (Table 3).

## HARVESTING PERIOD

The harvesting activity 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, two to three men would cut out a small pod and drive them to the stunners. The pod size usually was 5 to 8 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.

Deep body core temperatures of approximately 10% of the animals were taken throughout each harvest. 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 in individual animals from 99.7°F to 110.0+°F. Two animals died due to hyperthermia this year. One of these animals was killed and used for food.

Hyperthermia is due to overheating associated with the activity of the animals. Predisposing factors include warm environmental temperatures, lack of cloud cover and/or mist, dry grass, lack of wind, animals being driven too fast (especially uphill), long drives, animals being held too tight in the large holding pods and having too much activity or moving around in the large holding pods. Another predisposing factor is the amount of rest an animal has had before the drive. For example, an animal that has just arrived on the haulout from a feeding trip may not be "fully rested" and, if they are subjected to a harvest/drive, become exhausted quicker than a totally rested animal. 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 an animal lags behind during the gathering period they should be allowed to drop out of the pod. If the environment temperature is 55°F, great care has to be taken during the drive and 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. This year the number of animals that experienced hyperthermia was markedly reduced. When the animals were showing early signs of hyperthermia the harvest was stopped and the animals were released. This stopping of the harvest occurred three times and was initiated by the Aleuts.

#### HEALTH STATUS

The health status of the animals was evaluated by examining viscera and carcasses throughout the harvest. Stomachs 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 overall parasitic burden was comparable this years as in previous years. In general, the harvested animals appeared to be in good body condition and healthy.

#### OIL CONTAMINATION OF ANIMALS

This year 3 subadult male fur seals were found contaminated with an oily substance matted in their fur. These three sub-adult males were from Gorbatch (5 Aug). These animals had small grey to black balls of an oily substance mixed with dirt matted into the fur of the abdomen. The number of animals found with oil on their pelts last year was 23, this year the degree of oiling has markedly decreased.

#### 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. Harvest in the morning; thus avoiding warmer afternoon environmental temperatures.
5. Drive small pods to the stunners. 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" (release) older bulls during the drive.

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**Table 1:** Summary of date, location and number of fur seals killed during each harvest on St. Paul Island, Alaska 1995.

Dates	Location	No. Seals Killed		Running Total	Hyper-thermia
		Male	Female		
1 July	Gorbatch	45		45	
6 July	Zapadni	23			
7 July	Lukanin	52			
10 July	Gorbatch	47			
14 July	Lukanin	53			
17 July	Polovina	58			
18 July	Big Zapadni	44			
19 July	Zapadni Sands	32			1
20 July	Lukanin	31			
21 July	Kitovi	43	1		
22 July	Gorbatch	42			
24 July	Polovina	72			
27 July	Big Zapadni	69			
29 July	Gorbatch	68			
31 July	Zapadni Sands	37			
1 Aug	Kitovi	35			
2 Aug	Polovina	58			
3 Aug	Lukanin	48			
4 Aug	Big Zapadni	59			1
5 Aug	Gorbatch	87	1		
7 Aug	Polovina	105			
8 Aug	Zoltoi	13			
8 Aug	NEP	142			
	Total	1,263	2		2
	Total	<b>1,265</b>			



**Table 2:**

Summary of environmental conditions during the 1995 fur seal harvest on St. Paul Island, Alaska.

Date	Location	Air Temp Farenheit	Precipitation	Wind Knots and (Direction)	Cloud Co
1 July	Gorbatch	43	None	NR	comple
6 July	Zapadni	44	none	5 (S)	comple
7 July	Lukanin	43	misty	9 (S)	comple
10 July	Gorbatch	54	none	15 (N)	comple
14 July	Lukanin	46	rain	6 (SW)	comple
17 July	Polovina	51	misty	12 (N)	comple
18 July	Big Zapadni	46	none	10 (N)	partly cl
19 July	Zapadni Sands	47	none	10 (E)	high clo
20 July	Lukanin	47	rain	9 (SE)	comple
21 July	Kitovi	48	misty	7 (SE)	comple
22 July	Gorbatch	50	none	9 (N)	comple
24 July	Polovina	47	none	17 (NW)	partly cl
27 July	Big Zapadni	NR	none	NR	comple
29 July	Gorbatch	50	none	14 (W)	comple
31 July	Zapadni Sands	49	rain/mist	13 (NE)	comple
1 Aug	Kitovi	49	none	15 (NW)	comple
2 Aug	Polovina	49	rain	16 (NW)	comple
3 Aug	Lukanin	49	none	17 (W)	comple
4 Aug	Big Zapadni	51	none	6 (SW)	party cl
5 Aug	Gorbatch	50	none	14 (SW)	partly cl
7 Aug	Polovina	50	misty	10 (W)	comple
8 Aug	Zoltoi Sands	49	rain	1 (SE)	comple
8 Aug	NEP	45	rain	7 (SW)	comple

**Table 3:**

Summary of activity during the drive of the fur seals to the harvest area during the subsistence harvest, St. Paul Island, Alaska 1995.

Date	Location	Duration of Drive (Minutes)	Estimated Distance of Drive Yards	Estimated Speed of Drive Yards/Min	Terrain Type	M
1 July	Gorbatch	NR	NR	NR	+	
6 July	Zapadni	20	NR	NR	++	
7 July	Lukanin	22	400	18	+	
10 July	Gorbatch	5	150	30	++	
14 July	Lukanin	10	300	30	+	
17 July	Polovina	NR	250	NR	+	
18 July	Big Zapadni	20	400	20	++	
19 July	Zapadni Sands	21	150	7	+	
20 July	Lukanin	12	300	25	+	
21 July	Kitovi	15	200	13	+	
22 July	Gorbatch	8	150	19	+	
24 July	Polovina	14	150	11	+	
27 July	Big Zapadni	30	350	12	++	
29 July	Gorbatch	4	100	25	+	
31 July	Zapadni Sands	11	150	14	+	
1 Aug	Kitovi	7	100	14	+	
2 Aug	Polovina	11	200	18	+	
3 Aug	Lukanin	15	350	23	+	
4 Aug	Big Zapadni	21	350	17	+	
5 Aug	Gorbatch	10	100	10	+	
7 Aug	Polovina	5	150	30	+	
8 Aug	Zoltoi	20	325	16	++	
8 Aug	NEP	20	400	20	+	

**Table 4:**

Summary of deep body core temperature and number of animals suffering from hyperthermia during the 1995 fur seal subsistence harvest on St Paul Island.

Date	Location	End of Drive To Start of Harvest (Minutes of rest)	Average Deep Body Core Temperature			Nu Deat H t
			First 1/3	Middle 1/3	Last 1/3	
1 July	Gorbatch	6	NR	NR	NR	
6 July	Big Zapadni	14	NR	NR	NR	
7 July	Lukanin	11	102.2	102.3	101.3	
10 July	Gorbatch	4	100.2	NR	102.8	
14 July	Lukanin	8	101.9	101.4	103.2	
17 July	Polovina	NR	100.5	102.3	101.6	
18 July	Big Zapadni	13	9.2	102.4	102.9	
19 July	Zapadni Sands	5	104	104	105.5	
20 July	Lukanin	6	100.5	NR	102.3	
21 July	Kitovi	21	101.3	NR	102.5	
22 July	Gorbatch	7	101.6	NR	103.6	
24 July	Polovina	10	103.7	101.8	102.2	
27 July	Big Zapadni	17	101.7	102.5	103.5	
29 July	Gorbatch	5	98.8	102.1	102	
31 July	Zapadni Sands	9	101.2	NR	102.3	
1 Aug	Kitovi	6	101.9	103.2	102.9	
2 Aug	Polovina	7	101.7	101.4	100.7	
3 Aug	Lukanin	8	101.2	NR	100.6	
4 Aug	Big Zapadni	16	103.6	104.8	105.4	
5 Aug	Gorbatch	14	103.5	103.4	103.6	
7 Aug	Polovina	7	102.9	102.4	104.8	
8 Aug	Zoltoi	13	NR	NR	NR	
8 Aug	NEP	12	101	102.7	102.7	

NR = No Temperature Recorded

**Table 5:**

Summary of the rate of kill of Northern Fur seals during the 1995 subsistence harvest on St. Paul Island.

Date	Location	Number Killed	Length of Time of Harvest (Minutes)	Average No. Animals Killed per Minute
1 July	Gorbatch	45	16	2.8
6 July	Big Zapadni	23	NR	NR
7 July	Lukanin	52	80	0.7
10 July	Gorbatch	47	39	1.2
14 July	Lukanin	53	53	1
17 July	Polovina	58	45	1.3
18 July	Big Zapadni	44	58	0.8
19 July	Zapadni Sands	32	60	0.5
20 July	Lukanin	31	34	1.1
21 July	Kitovi	44	50	0.9
22 July	Gorbatch	42	42	1
24 July	Polovina	72	1	0.8
27 July	Big Zapadni	69	79	0.9
29 July	Gorbatch	68	63	1.1
31 July	Zapadni Sands	37	30	1.2
1 Aug	Kitovi	35	19	1.8
2 Aug	Polovina	58	29	2
3 Aug	Lukanin	48	34	1.4
4 Aug	Big Zapadni	59	42	1.4
5 Aug	Gorbatch	88	77	1.1
7 Aug	Polovina	105	62	1.7
8 Aug	Zoltoi	13	2	6.5
8 Aug	NEP	142	88	1.6