

HUMANE OBSERVER REPORT
Northern Fur Seal Subsistence Harvest
St. Paul Island, Alaska
July-August, 1997
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 fourteen years (1984-1997). The harvest is a well planned and orderly procedure. Young male Northern fur seals are gathered by driving them from their haulout areas 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 animals are 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 Northern fur seal harvest for July and August 1997.

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

Fur seals (Callorhinus ursinus) were harvested from 28 June through 7 August 1997 from eight haul out areas (Gorbatch, Kitovi, Lukanin, Marjovi, Polovina, Zapadni, Zapadni Sands and Zoltoli Sands). A total of 1153 animals were killed this year including 1150 subadult males and 3 adult females (Table 1).

ENVIRONMENTAL CONDITION

The environmental conditions of the harvest from 28 June through 7 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 44°F to 55°F, with an overall average of 49°F. Rain occurred twice during the harvests and it was misty ten times. A mild to moderate breeze was present every day and wind speed varied from 5 to 22 knots with an overall average of 11.7 knots. Cloud cover was heavy most of the time (17 days), light and high three days and partially cloudy/sunny three days (Table 2). The environmental conditions were similar to previous years.

GATHERING OF ANIMALS

Ten to fifteen men would go to a specific haulout area and quickly form a line along the shore thus preventing the seals access to the ocean. Then the seals were gathered into several pods and driven to the killing field. The animals were gathered between 11:46 am to 3:41 pm this summer. The estimated distance of the drive ranged from 100 to 475 yards. Animals were driven from 15 to 40 yards/minute with an average of 25.2 yards/minute. The animals were usually rested during the drive. The drives were similar 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 15 days, moist 6 days and dry one day (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, three to four young men would cut out a small pod seals 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 99.9°F to 110.0+°F. Seven animals died due to hyperthermia this year. Five of these animals were taken for food. This year the number of animals that experienced hyperthermia was high.

Hyperthermia is due to overheating caused by over 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 hyperthermia animals should 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. When the animals in the holding pod show early signs of hyperthermia (including, flipper fanning, open mouth breathing and lying down) the harvest should be stopped and the animals released slowly. This stopping of the harvest occurred once this year.

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 year as in previous years. In general, the harvested animals appeared to be in good body condition and healthy.

OIL CONTAMINATION OF ANIMALS

This year 1 subadult male fur seal was found contaminated with an oily substance matted in its fur. This sub-adult male was from Polovina (4 August, 1997). This animal had very 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 has decreased since 1994 when 23 contaminated animals were found.

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 animals and females during the drive.
9. When the animals in the holding pod show early signs of hyperthermia (including, flipper fanning, open mouth breathing and lying down) the harvest should be stopped and the animals released slowly.

REFERENCES

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Table 1. Table of dates, locations and number of Northern fur seals killed during the subsistence harvest on St Paul Island, Alaska 1997.

DATE	LOCATION	SEALS KILLED MALES	SEALS KILLED FEMALES	RUNNING TOTAL KILLED
28 June	Gorbatch	34	0	34
8 July	Big Zapadni	43	0	77
10 July	Polovina	51	0	128
14 July	Zapadni Sands	33	0	161
15 July	Gorbatch	43	0	204
16 July	Lukanin	54	0	258
17 July	Polovina	35	0	293
21 July	Big Zapadni	47	0	340
22 July	Zapadni Sands	58	0	398
23 July	Polovina	64	0	462
24 July	Lukanin	44	0	506
25 July	Gorbatch	51	0	557
26 July	Big Zapadni	42	0	599
28 July	Zapadni Sands	46	0	645
29 July	Polovina	32	0	677
30 July	Lukanin	32	0	709
31 July	Big Zapadni	58	1	768
1 Aug	Gorbatch	70	1	839
2 Aug	Marjovi	64	0	903
4 Aug	Polovina	45	0	948
5 Aug	Ketovi	41	0	989
6 Aug	Big Zapadni	84	1	1074
7 Aug	Zoltoli	79	0	1153

Table 2. Summary of environmental conditions during the 1997 Northern fur seal subsistence harvest on St. Paul Island, Alaska.

DATE	LOCATION	Air Temp Fahrenheit	Precipitation	Wind Knots Direction	Cloud Cover
28 June	Gorbatch	44	none	20 E	complete
8 July	Big Zapadni	47	none	9 W	complete
10 July	Polovina	48	none	13 NNE	complete
14 July	Zapadni Sands	49	none	8 S	complete
15 July	Gorbatch	48	none	15 E	complete
16 July	Lukanin	49	misty	17 N	complete
17 July	Polovina	51	none	22 N	sunny
21 July	Big Zapadni	49	misty	5 SE	complete
22 July	Zapadni Sands	50	none	7 N	complete, high
23 July	Polovina	50	none	6 W	complete, high
24 July	Lukanin	50	none	9 SW	complete, high
25 July	Gorbatch	49	misty	12 SE	complete, low
26 July	Big Zapadni	48	misty	10 SW	complete, low
28 July	Zapadni Sands	48	rain, light	12 SE	complete, low
29 July	Polovina	48	misty	5 SSW	complete, low
30 July	Lukanin	50	misty	15 NW	complete, low
31 July	Big Zapadni	51	misty	10 NW	complete, low
1 Aug	Gorbatch	47	rain, light	10 N	complete, low
2 Aug	Marjovi	50	misty	17 S	complete, low
4 Aug	Polovina	51	misty	9 N	complete, low
5 Aug	Ketovi	52	misty	13 NE	complete, low
6 Aug	Big Zapadni	55	none	13 N	partly sunny
7 Aug	Zoltoli	53	none	11 NE	partly sunny

Table 3: Summary of activity during the drive of the Northern fur seals to the killing fields during the subsistence harvest, St. Paul Island, Alaska 1997.

DATE	LOCATION	Duration of Drive (min)	Estimated Distance of Drive (yards)	Estimated Speed of Drive (yards/min)	Terrain Type and Moisture
28 June	Gorbatch	11	NR	NR	uphill dirt, wet grass (+)
8 July	Big Zapadni	10	300	30	downhill dirt rocky, sandy, wet grass (++)
10 July	Polovina	5	175	35	uphill dirt, moist grass (+)
14 July	Zapadni Sands	7	200	29	sandy, dry grass (+)
15 July	Gorbatch	6	175	29	uphill dirt, moist grass (+)
16 July	Lukanin	8	200	25	uphill dirt, wet grass (+)
17 July	Polovina	6	150	25	uphill dirt, moist grass (+)
21 July	Big Zapadni	13	400	31	downhill dirt rocky, sandy, wet grass (++)
22 July	Zapadni Sands	9	200	22	uphill sandy, wet grass (+)
23 July	Polovina	8	200	25	uphill dirt, moist grass (+)
24 July	Lukanin	10	250	25	uphill dirt, moist grass (+)
25 July	Gorbatch	5	100	20	uphill dirt, wet grass (+)
26 July	Big Zapadni	18	475	26	downhill dirt rocky, sandy, wet grass (++)
28 July	Zapadni Sands	9	200	22	uphill sandy, wet grass (+)
29 July	Polovina	7	150	21	uphill dirt, wet grass (+)
30 July	Lukanin	5	200	40	uphill dirt, wet grass (+)
31 July	Big Zapadni	17	425	25	downhill dirt rocky, sandy, wet grass (++)
1 Aug	Gorbatch	8	125	16	uphill dirt, wet grass (+)
2 Aug	Marjovi	13	225	17	flat sandy, moist grass (+)
4 Aug	Polovina	6	150	25	uphill dirt, wet grass (+)
5 Aug	Ketovi	5	150	30	flat dirt wet grass (+)
6 Aug	Big Zapadni	21	450	21	downhill dirt rocky, sandy, dry grass (++)
7 Aug	Zoltoli	17	225	15	uphill sandy, hilly sand and grass (++)

Table 4: Summary of deep body core temperature and number of animals suffering from hyperthermia during the 1997 Northern fur seal subsistence harvest on St Paul Island.

DATE	LOCATION	Rest Time (min)	Average Deep Body Core Temp F ^o First 1/3	Average Deep Body Core Temp F ^o Middle 1/3	Average Deep Body Core Temp F ^o Last 1/3	Hyperthermic Animals
28 June	Gorbatch	7	NR	NR	NR	0
8 July	Big Zapadni	27	102.2	101.6	103.2	0
10 July	Polovina	17	102.1	103.5	103.8	4
14 July	Zapadni Sands	11	102.6	103.9	104.4	0
15 July	Gorbatch	6	102.3	NR	103.1	0
16 July	Lukanin	8	101.2	101.2	102.3	0
17 July	Polovina	11	102.1	NR	103.6	0
21 July	Big Zapadni	18	100.8	101.8	101.8	0
22 July	Zapadni Sands	10	101.9	102.2	104.4	0
23 July	Polovina	12	101.8	102.8	103.7	0
24 July	Lukanin	4	102.8	102.3	102.6	0
25 July	Gorbatch	7	100.4	NR	102.9	0
26 July	Big Zapadni	9	102.2	103.7	102.7	0
28 July	Zapadni Sands	12	100.4	NR	102.1	0
29 July	Polovina	10	99.9	NR	102.5	0
30 July	Lukanin	13	101.0	NR	101.2	0
31 July	Big Zapadni	15	100.6	101.5	101.3	0
1 Aug	Gorbatch	10	100.9	101.6	103.3	0
2 Aug	Marjovi	16	102.1	102.1	103.4	0
4 Aug	Polovina	6	102.9	102.5	103.7	0
5 Aug	Ketovi	13	100.3	NR	101.9	0
6 Aug	Big Zapadni	9	102.8	102.6	104.5	2
7 Aug	Zoltoli	12	102.4	103.3	104.1	1

NR = No Temperature Recorded

Table 5: Summary of the rate of kill of Northern fur seals during the 1997 subsistence harvest on St. Paul Island.

DATE	LOCATION	Number of Animals Killed	Length of time of harvest (minutes)	Average No. of Animals Killed per minute of harvest
28 June	Gorbatch	34	7	5
8 July	Big Zapadni	43	75	0.6
10 July	Polovina	51	60	0.8
14 July	Zapadni Sands	33	18	1.8
15 July	Gorbatch	43	32	1.3
16 July	Lukanin	54	58	0.9
17 July	Polovina	35	33	1.0
21 July	Big Zapadni	47	46	1.0
22 July	Zapadni Sands	58	54	1.0
23 July	Polovina	64	53	1.2
24 July	Lukanin	44	31	1.4
25 July	Gorbatch	51	33	1.5
26 July	Big Zapadni	42	35	1.2
28 July	Zapadni Sands	46	32	1.4
29 July	Polovina	32	31	1.0
30 July	Lukanin	32	27	1.2
31 July	Big Zapadni	59	60	1.0
1 Aug	Gorbatch	71	65	1.0
2 Aug	Marjovi	64	66	1.0
4 Aug	Polovina	45	29	1.5
5 Aug	Ketovi	41	31	1.3
6 Aug	Big Zapadni	85	82	1.0
7 Aug	Zoltoli	79	72	1.0

Mr. David Cormany
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Dear Dave

Please find enclosed the Humane Observer Report for the 1997 Northern fur seal subsistence harvest on St Paul Island, Alaska.

The 1997 Northern fur seal harvest went well this year. The harvest started on 28 June and ended on 7 August, 1997. A total of 1153 animals were killed including 1150 subadult males and three females. Animals were gathered, handled and killed in a humane fashion.

Only one subadult male was found this season that had been contaminated with oil. In 1994 23 animals were found, in 1995 3 animals were found and in 1996 four animals were found. This animal was found on Polovina on 4 August, 1997. This also was a fairly mild case.

I hope all of the work with the co-management organization is working out. Please keep me informed. Have a great day.

Sincerely

Terry R. Spraker, DVM, PhD, DACVP