11 August 2005

Dr. Kaja Brix
NMFS/Alaska Region/Protected Resources
P.O. Box 21668
Juneau, Alaska 99802-1668

Dear Kaja

Please find enclosed the Humane Observer Report for the 2005 northern fur seal subsistence harvest on St. Paul Island, Alaska.

The 2005 northern fur seal harvest was similar to last year. I was on St. Paul Island from 13 July through 16 August 2005 (35 days). The harvest started on 16 July and ended on 10 August. Eight harvests were conducted. A total of 479 subadult males were taken this year. No females were killed during this time. One seal died from hyperthermia. All of the harvests started late, between 2:30PM to 4:00PM in the warmest times of the day. Animals were gathered, handled, and killed in a humane fashion at all harvests.

The reasons that only 8 harvests were done were multiple. Many of the sealers are also fisherman and were fishing during good weather. Also it seemed like the seal orders were down. There appeared to lots of construction jobs on the island again this summer. This activity was similar to last year.

Wastage was again observed this summer. I usually discard necropsied pups in the blubber dump where the seal carcasses from the harvest are discarded. On 11 August 2005 I noticed 6 sets of hearts and livers and one whole seal in the blubber dump. They were fresh and probably came from the harvest on the 9th or 10th of August. I had reports of other carcasses, but could not verify any of them.

Pelts were not found this season that had been contaminated with oil from beaches. In 1994:23 seals, in 1995:3 seals, in 1996:4 seals, and in 1997:1 seal were found with oil contamination. From 1998 to 2005 pelts of seals were not found with oil contamination.

Thank you for allowing me to be the humane observer this season.

Sincerely

Terry R. Spraker, DVM, PhD, DACVP

HUMANE OBSERVER REPORT
Northern Fur Seal Subsistence Harvest
St. Paul Island, Alaska
July-August, 2005
Terry R. Spraker

INTRODUCTION

Northern fur seals (*Callorhinus ursinus*) have been harvested for their pelts for the last 250 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 twenty-two years (1984-2005). The harvest is a well-planned and orderly procedure. Young male northern fur seals are gathered by driving them from their haul-out 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, Spraker 1987-2004. This report will be limited to my observations of the humane activities of the northern fur seal harvest from 16 July to 10 August 2005.

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.

Northern fur seals were gathered and harvested 8 times this year from 16 July through 10 August 2005 from five haul-out areas (Polovina-three times, Gorbatch-twice, Big Zapadni–once, Zapadni Reef-once, and Lukanan-once). A total of 479 subadult male animals were killed between 16 July and 10 August 2005. Females were not killed in the harvest this year (Table 1).

ENVIRONMENTAL CONDITION

The environmental conditions of the harvest from 16 July through 10 August 2005 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 52^{o}F to 55^{o}F, with an overall average of 53.8^{o}F. The air was relative dry 7 times,

and there was heavy rain once. A breeze was present at all harvests. The wind speed varied from 5 to 23 knots with an overall average of 15 knots. Cloud cover was complete and high four times; and complete and low four (Table 2). The environmental conditions were slightly warmed with more wind as compared to last year.

GATHERING OF ANIMALS

Five to ten 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 were gathered into several pods and driven to the killing field. Gathering of the animals started between 12:24PM to 4:22PM this summer, but most drives started between 3:00 to 4:00PM. Estimated distance of the drives ranged from 200 to 300 yards. Animals were driven from 12 to 25 yards/minute with an average of 20 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 and terrain was monitored and estimated as this is believed to be an important cooling factor for the animals. The grass was wet twice, dry twice, and moist four times. This was also similar as compared to previous years (Table 3).

HARVESTING PERIOD

The harvesting activity was characterized by holding the animals in a large pod approximately 10 to 20 yards from the stunning area. While a few young boys held the seals, three to four young men would cut out a small pod of seals and drive them to the stunners. The pod size usually was 8 to 15 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 30-50% 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 99.8 to 105.2^{o}F. One animal was found dead in the holding pod when the seals were released and his temperature was 109.5^{o}F and had died from hyperthermia (05CuA-11).

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 haul-out 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 seals should be driven slowly; rested at least 15-20 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^{o}F, great care has to be taken during the drive and the harvest and if the temperature is $\geq$60^{o}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.

HEALTH STATUS

The health status of the animals was evaluated by examining viscera and carcasses throughout the harvest. In general, the harvested animals appear to be thinner during the last several years as previously observed. This may suggest that the over-all nutrition of these animals is decreasing. There also appears to be very few small 2 year old animals.

OIL CONTAMINATION OF ANIMALS

This year (as last year) animals were not found with oil on their pelts. The number of animals found with oil on their pelts has decreased since 1994 when 23 contaminated animals were found. In 1994:23 seals, in 1995:3 seals, in 1996:4 seals, and in 1997:1 seal were found with oil contamination. From 1998 to 2005 pelts of seals were not found with oil contamination.

SUMMARY

This was a relatively uneventful season. Eight harvests were conducted from 16 July through 10 August 2005 taking 479 subadult (14 animals less than late year) males from 5 haul-outs. One seal died from hyperthermia this season. Females were not killed in the harvest this summer. No inhumane acts were observed this season.

Points to be remembered during the harvest:

1. Drive the animals slowly to the killing field.

2. Do not unnecessarily harass the seals during the drive.

3. If an animal lacks behind during the drive, leave it alone, because this animal is already exhausted because it has probably just returned from a feeding trip. These are the animals that will develop hyperthermia first and most likely die.

4. Rest the animals 10 to 15 minutes prior to the harvest.

5. Harvest in the morning; thus avoiding warmer afternoon environmental temperatures.

6. Drive small pods to the stunners. Five to seven animals are good, but not 10 to 15 animals at a time.

7. Take a little more time to isolate the selected animals to be killed. This will reduce the number of 5 year old seals killed.

8. If environmental temperatures are 50^{o}F to 55^{o}F, give the seals frequent rests during the drive and keep the holding pods loose. If environmental temperature is 55^{o}F or above, do not have a harvest. If the temperature is 50^{o}F with no wind a harvest should not take place.

9. Try to "weed out" (release) older animals and females during the drive.

10. When the animals in the holding pod show early signs of hyperthermia (flipper fanning, open mouth breathing, and lying down) the seal should be rested or the harvest should be stopped and the animals released slowly.

11. Discuss driving plans with drivers before drive starts. If drive plans change during the drive because not enough animals are gathered or too many big bulls or females are in the group, the animals should be released in a safe area not near cliffs. I am not sure what to do if animals are running towards a cliff. My impression is that they should be left alone and not disturbed. I think the animals if not pushed will avoid cliffs, but if scared will go over the cliff.

12. Do not allow intoxicated persons to work in any of the positions at the harvest or even to be on the killing field because of the disruption that they cause and the danger to themselves and others especially if they have a knife.

REFERENCES

1. Dorsey, A.S., 1986. Humane Observer Report, Pribilof Island Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

2. Letcher, J.D., 1985. Humane Observer Report, Pribilof Fur Seal Harvest, National Marine Fisheries Service, Juneau, Alaska.

3. Spraker, T.R., 1987. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

4. Spraker, T.R., 1988. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

5. Spraker, T.R., 1989. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

6. Spraker, T.R., 1990. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

7. Spraker, T.R., 1991. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

8. Spraker, T.R., 1992. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

9. Spraker, T.R., 1993. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

10. Spraker, T.R., 1994. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

11. Spraker, T.R., 1995. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

12. Spraker, T.R., 1996. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Services, Juneau, Alaska.

13. Spraker, T.R., 1997. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

14. Spraker, T.R., 1998. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Services, Juneau, Alaska.

15. Spraker, T.R., 1999. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

16. Spraker, T.R., 2000. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Services, Juneau, Alaska.

17. Spraker, T.R., 2001. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

18. Spraker, T.R., 2002. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

19. Spraker, T.R., 2003. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

20. Spraker, T.R., 2004. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

21. Stoskopf, M.K., 1984. Humane Observer Report, Pribilof Fur Seal Harvest. National Marine Fisheries Service, Juneau, Alaska.

22. 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 Fisheries Service, Juneau, Alaska.

Table 1. Table of dates, locations, and number of northern fur seals killed during the 2005 subsistence harvest on St. Paul Island, Alaska.

DATE	LOCATION	SEALS KILLED MALES	SEALS KILLED FEMALE	RUNNING TOTAL KILLED
16 July	Gorbatch	59	0	59
25 July	Big Zapadni	48	0	107
26 July	Polovina	65	0	172
5 Aug	Zapadni Sands	69	0	241
6 Aug	Polovina	55	0	296
8 Aug	Gorbatch	48	0	344
9 Aug	Polovina	89	0	433
10 Aug	Lukanan	46	0	479
Total		479	0	479

Table 2. Summary of environmental conditions during the 2005 northern fur seal subsistence harvest on St. Paul Island, Alaska.

DATE	LOCATION	AIR TEMP (F°)	PRECIPITATION	WIND: KNOTS/DIRECT	CLOUD COVER
16 July	Gorbatch	55	None	16 W	Complete/high
25 July	Big Zapadni	52	None	15 NW	Complete/high
26 July	Polovina	52	None	15 NNW	Complete/high
5 Aug	Zapadni Sands	55	None	16 S	Complete/low
6 Aug	Polovina	55	None	19 S	Complete/low
8 Aug	Gorbatch	54	Raining	23 SE	Complete/low
9 Aug	Polovina	54	None	12 SE	Complete/low
10 Aug	Lukanan	53	None	5 SE	Complete/high

Table 3: Summary of activity during the drive of northern fur seals to the killing field during the 2005 subsistence harvest St. Paul Island, Alaska.

DATE	LOCATION	DURATION OF DRIVE (min)	ESTIMATED DISTANCE OF DRIVE (yards)	ESTIMATED SPEED OF DRIVE – yards/min	TERRAIN TYPE AND WETTNESS OF GRASS, (OVERALL DIFFICULTY OF DRIVE)
16 July	Gorbatch	11	200	18	Dirt uphill, downhill grass, moist (+)
25 July	Big Zapadni	18	215	12	Flat sandy, flat grass, up hill, grass, flat grass, moist (++)
26 July	Polovina	16	250	16	Uphill grass, rocky; flat, grass, moist (+)
5 Aug	Zapadni Sands	8	200	25	Sand flat, up hill at end, flat grass, dry (+)
6 Aug	Polovina	15	250	18	Uphill, grass rocky; flat grass, dry (+)
8 Aug	Gorbatch	10	250	25	Dirt uphill, downhill grass, moist (+)
9 Aug	Polovina	12	300	25	Uphill grass, rocky; flat, grass, moist (+)
10 Aug	Lukanan	12	250	21	Uphill dirt, flat grass, wet, (+)

Table 4: Summary of the deep body core temperatures and number of seals dying from hyperthermia during the 2005 northern fur seal subsistence harvest on St. Paul Island, Alaska.

DATE	LOCATION	REST TIME (min)	AVERAGE DEEP BODY CORE TEMP F° (First 1/3)	AVERAGE DEEP BODY CORE TEMP F° (Middle 1/3)	AVERAGE DEEP BODY CORE TEMP F° (Last 1/3)	HYPER-THERMIC ANIMALS
16 July	Gorbatch	11	103.9	102.9	103.6	0
25 July	Big Zapadni	8	102.8	101.1	102.4	0
26 July	Polovina	11	102.9	104.2	103.4	0
5 Aug	Zapadni Sands	15	103.2	102.5	102.3	1
6 Aug	Polovina	18	102.3	103.0	103.2	0
8 Aug	Gorbatch	10	101.1	100.6	101.0	0
9 Aug	Polovina	6	102.7	103.2	103.1	0
10 Aug	Lukanan	12	102.2	102.3	103.1	0

Table 5: Summary of the rate of kill of northern fur seals during the 2005 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
16 July	Gorbatch	59	93	0.6
25 July	Big Zapadni	48	42	1.1
26 July	Polovina	65	68	1.0
5 Aug	Zapadni Sands	69	103	0.7
6 Aug	Polovina	55	72	0.8
8 Aug	Gorbatch	48	50	1.0
9 Aug	Polovina	89	80	1.1
10 Aug	Lukanan	46	52	0.9