10 August 2011

Mr. Mike Williams
NMFS/Alaska Region/Protected Resources
Anchorage, Alaska

Dear Mike

Please find enclosed the Humane Observer Report for the 2010 Northern fur seal subsistence harvest on St. Paul Island, Alaska.

The 2010 northern fur seal harvest was similar to last year. I was on St. Paul Island from 8 July through 10 August 2010. The harvest started on 2 July and ended on 6 August. Eight harvests were conducted. A total of 289 seals including the subadult males killed on 2 and 6 July. Seals did not die from hyperthermia this season. All of the harvests started around 9:00AM during the cooler times of the day and was conducted each Friday. Animals were gathered, handled and killed in a humane fashion at all harvests.

Wastage was not observed this summer.

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 2010 pelts of seals were not found with oil contamination.

Not all of the typical data were collected and/or recorded this year, but this break in communication will be corrected this next year.

Thank you for allowing me to be a part in the humane observer this season. Improvements in transfer of data and communication will be addressed and improved during the harvest of 2011.

Sincerely

Terry R. Spraker, DVM, PhD, DACV

HUMANE OBSERVER REPORT
Northern Fur Seal Subsistence Harvest
St. Paul Island, Alaska
July-August, 2006
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-four years (1984-2010). 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 1987-2009. This report will be limited to my observations of the humane activities of the northern fur seal harvest from 2 July to 6 August 2010.

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: Polovina on 2 July and 4 August, Big Zapadni on 9 July; Marjovi on 16 July, Zapadni Sands on 23 July, Gorbatch on 30 July, Little Zapadni on 5 August and Toltoli on 6 August. A total of 286 subadult male seals were killed this season, but the number of seal killed on 2 and 6 July. Females were not killed in the harvest this year (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 39^{o}F to 47^{o}F, with an overall average of 44.4^{o}F. The air was relative dry five times and moist three

times. A breeze was present at all, but one harvest. The wind speed varied from calm to 18 knots with an overall average of 9.3 knots. Cloud cover was broken and high once, complete and high three times and complete and low four times (Table 2). The environmental conditions were similar to previous years.

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 around 9:00PM for all of the harvests. Estimated distance of the drives ranged from 100 to 500 yards. Animals were driven from 12 to 30 yards/minute with an average of 18 yards/minute. The animals were usually rested during the drive. The drives were similar this year as compared to previous years (Table 3). Except for harvests at Little Zapandi and Zoltoni in which animals were cut into small groups and not kept together. They too were rested several times during the harvest. This dividing into small groups appeared to be better than keeping the seals in a single group.

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 at least a 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 or moist in all harvests this year. This was 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 100.0 to 106.5^{o}F. Cases of hyperthermia were not found this season.

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 few 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 2010 pelts of seals were not found with oil contamination.

SUMMARY

This was a relatively uneventful season. Eight harvests were conducted from 2 July through 6 August 2007 taking 286 subadult males plus the animals killed on 2 and 6 July. Females were not

killed this year. Seal did not die from hyperthermia this season. 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.

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Table 1. Table of dates, locations, and number of northern fur seals killed during the 2010 subsistence harvest on St. Paul Island, Alaska.

DATE	LOCATION	SEALS KILLED MALES	SEALS KILLED FEMALE	RUNNING TOTAL KILLED
2 July	Polovina		0	
9 July	Big Zapadni	21	0	
16 July	Marjovi		0	
23 July	Zapadni Sands	48	0	
30 July	Gorbatch	41	0	
4 August	Polovina	31	0	
5 August	Little Zapadni	53	0	
6 August	Zoltoli	95	0	
Total				

Table 2. Summary of environmental conditions during the 2010 northern fur seal subsistence harvest on St. Paul Island, Alaska.

DATE	LOCATION	AIR TEMP (F°)	PRECIPITATION	WIND: KNOTS/DIRECT	CLOUD COVER
2 July	Polovina	39	None	Calm	Complete/high
9 July	Big Zapadni	46	None	18/NE	Broken/high
16 July	Marjovi	41	None	6/SE	Complete/high
23 July	Zapadni Sands	44	Misty	14/W	Complete/low
30 July	Gorbatch	47	Misty	6/W	Complete/low
4 August	Polovina	46	None	7/SE	Complete/low
5 August	Little Zapadni	46	Misty	5/SSW	Complete/low
6 August	Zoltoli	46	None	18/SW	Complete/high

Table 3: Summary of activity during the drive of northern fur seals to the killing field during the 2010 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)
2 July	Polovina		150		Uphill sandy/dirt flat, grass, wet (+)
9 July	Big Zapadni	20	250	12	Flat sandy, flat grass, up hill, grass, flat grass, grass dry
16 July	Marjovi		200		Flat dirt, flat grassy
23 July	Zapadni Sands	5	150	30	Slight uphill for 100 yards, slightly down hill for 100 yards
30 July	Gorbatch	5	100	20	Dirt uphill, downhill grass, wet (+)
4 August	Polovina	6	100	17	Dirt slight uphill, flat grass, wet (+)
5 August	Little Zapadni	15	200	13	Flat dirt, flat tall grass, wet (+)
6 August	Zoltoli	30	500	17	200 yards flat sand, 300 yards grass hills

Table 4: Summary of the deep body core temperatures and number of seals dying from hyperthermia during the 2010 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
2 July	Polovina					
9 July	Big Zapadni	15	XXX.X	XXX.X	XXX.X	0
16 July	Marjovi	16				0
23 July	Zapadni Sands	15				0
30 July	Gorbatch	10				0
4 Aug	Polovina	14				0
5 Aug	Little Zapadni	10				0
6 Aug	Zoltoli	15				0

Table 5: Summary of the rate of kill of northern fur seals during the 2010 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
2 July	Polovina			
9 July	Big Zapadni	21	60	0.35
16 July	Marjovi		116	
23 July	Zapadni Sands	47	105	0.45
30 July	Gorbatch	41	75	0.55
4 Aug	Polovina	31	70	0.44
5 Aug	Little Zapadni	53	75	0.71
6 Aug	Zoltoli	95	150	0.63