



**The Subsistence Harvest of Northern Fur Seals
on the
Pribilof Islands in 2005**

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by
¹Aquilina D. Lestenkof, ¹Phillip A. Zavadil, ²Andrew Malavansky and ²Max Malavansky

¹Aleut Community of St. Paul Island
Tribal Government
Ecosystem Conservation Office
PO Box 86
St. Paul Island, Alaska 99660
907-546-3200 (voice)
907-546-3253/3254 (fax)

²Aleut Community of St. George Island
St. George Traditional Council
Kayumixtax Eco-Office
PO Box 940
St. George Island, Alaska 99591
907-859-2447 (voice)
907-859-2251 (fax)

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Rolf Ream

Subsistence Fur Seal Harvest Foreman, St. Paul Island

Tom Gelatt

Traditional Council of St. George Island

Tribal Council, Aleut Community of St. Paul Island

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INTRODUCTION

Northern fur seal (*Callorhinus ursinus*) is an important customary traditional food for Unangan of St. George and St. Paul Islands, Alaska. U.S. National Marine Fisheries Service, the Traditional Council of St. George, and Aleut Community of St. Paul Island Tribal Government work together in recent efforts to safeguard the existence of the northern fur seal. Documentation plays an important role in this effort and this report will assist in this process.

Traditionally, Unangan (aka. Aleuts) hunted seals at sea in the Aleutian Islands and use of the whole animal was practiced out of necessity and respect. The commercial harvesting of large numbers of fur seals on the Pribilof Islands was foreign to the traditional value systems of indigenous peoples of the Bering Sea. Unangam sealers participated in a commercial harvest that was contrary to their traditional values and beliefs, and dealt with the alteration of customary “one-with-one” hunting. They attempted to impress their conservative, subsistence-based principles for respectful controls as best they could in the commercial harvest process. For example, Unangam sealers strongly opposed the scientific and commercial harvest of females that led to the population decline for the following 15-20 years.

Today Unangam sealers must balance the present subsistence sub-adult male fur seal harvest on the Pribilofs with the interest to reintroduce traditional management and regulation of harvests. This balance must accommodate and transition with the current needs of the Aleut Communities of St. George and St. Paul Islands within the context of the current and transitioning population dynamics of northern fur seals and the dramatic environmental changes occurring in the Bering Sea. The compilation and reporting of fur seal subsistence harvest information is an important element of this balance.

METHODS

The Tanam Amgîgnaa (Island Sentinel) of the St. George Traditional Council Kayumixtax Eco-Office and the Tribal Government of St. Paul's Ecosystem Conservation Office (ECO) monitored the 2005 subsistence fur seal harvest for the Aleut Communities of St. George and St. Paul Islands in accordance with their respective Co-management Agreements and contracts with National Marine Fisheries Service. Island Sentinels recorded the following information during the 2005 subsistence fur seal harvest on both islands on:

- a) the number of sub-adult male fur seals harvested,
- b) incidence of by-products and waste during the harvest process,
- c) the occurrence of males 124.5 cm or more in length,
- d) females seals killed during the harvest operation,
- e) the number of seal deaths due to overheating,
- f) number of seals entangled in marine debris and the number of seals disentangled,
- g) evidence of oil contaminated seal pelts,
- h) other types of fur seal mortality,
- i) weather conditions at the time of the harvest,
- j) any other unusual conditions related to the harvest,
- k) research conducted during the harvest and visitors requesting to view or film the harvest.

RESULTS

Fur Seals Harvested

The 2005 subsistence fur seal harvest season on the Pribilof Islands was conducted in 17 harvests; nine on St. George Island and eight on St. Paul Island. The harvest season began on 24 June 2005 on St. George Island and on 16 July 2005 on St. Paul Island. Although several seals were rounded up for a harvest at North Rookery on St. George Island on 24 June 2005, no seals were harvested due to an inadequate number of small sub-adult male fur seals in the round-up. The first harvest on St. George Island in which fur seals were taken for subsistence was conducted on 06 July 2005. The final St. George and St. Paul Island harvests occurred on 8 August and 10 August 2005, respectively.

The 2005 subsistence fur seal harvest was conducted in accordance with 50 CFR §216 Subpart F on St. George Island. A letter dated July 25, 2005 was sent by the President of the St. Paul Tribal Council to NOAA Fisheries requesting the harvest be extended until August 16, 2005. A National Marine Fisheries Service representative responded with a verbal decline of the requested extension. However, an unnamed individual proceeded with two additional harvests on St. Paul on August 9 and 10, 2005 after the August 8th deadline without approval of either the Tribal Council of St. Paul Island or the National Marine Fisheries Service. An investigation into this communication exchange and alleged violation of 50 CFR §216 Subpart F is ongoing.

Additionally, the 2005 subsistence fur seal harvest on St. Paul Island failed to abide by harvest management practices identified in the approved Northern Fur Seal Subsistence Harvest Management Plan of the Aleut Community of St. Paul Island. These local plan violations include the lack of an elder observer present at the harvests, failure to follow the suggested harvest start time, failure to develop and distribute a harvest schedule, failure to properly notify the harvest monitors-the Human Observer and the ECO, and inconsistent harvest methods that increase the chance for heat strokes, unnecessary disturbance to seal pods, and a disturbance to nearby rookery.

A total of 605 sub-adult male fur seals were taken for subsistence on the Pribilof Islands during 2005 (Table 1). A total of 139 sub-adult male fur seals were taken on St. George Island during nine harvests at North and Zapadni haulouts. On St. Paul Island, 466 sub-adult male fur seals

were taken during eight harvests at five different haulouts (Zapadni Sands, Reef/Gorbatch, Polovina, Zapadni Reef Sands, and Lukanin). Refer to Appendices A and B for harvest monitoring logs.

Table 1: Locations, numbers of harvests and sub-adult male fur seals harvested at the locations for the 2005 Subsistence Fur Seal Harvest on the Pribilof Islands, Alaska.

LOCATION	NUMBER OF HARVESTS	NUMBER OF SEALS HARVESTED
Location	Number of Harvests	Number of seals harvested
St. George Island		
North	5	67
Zapadni	4	72
Subtotal STG	9	139
St. Paul Island		
Zapadni Sands	1	48
Reef/Gorbatch	2	107
Polovina	3	193
Zapadni Reef Sands	1	68
Lukanin	1	50
Subtotal SNP	8	466
Total	17	605

By-products and Waste

Fur seal pelts, throats, teeth, and whiskers were taken for the creation of arts and crafts on both islands during the 2005 subsistence fur seal harvest. No waste occurred on the harvest field under 50 CFR §216 Subpart F on both St. George and St. Paul Islands.

Males 124.5 cm or More in Length and Female Seals Killed or Struck

Precautions are taken to avoid the killing of males 124.5 cm or more in length and females, however it is difficult to accurately assess the length of every seal during the selection process and occasionally over-sized seals are accidentally harvested.

No male fur seals 124.5 cm or more in length were struck and/or killed on St. George Island in 2005; however one male fur seal 135 cm in length was killed on St. Paul Island.

During the 2005 subsistence fur seal harvest no female fur seals were struck and/or killed on either island.

Heat Strokes

Fur seals can die due to overheating (heat stroke) during the round-up and drive of the seals to the killing field or during the harvest. Multiple factors contribute to heat stroke and include duration and distance of round-up drive, ambient temperature, wind speed, precipitation, moisture on vegetation, animal health, duration of harvest, and harvest group density. No deaths of any fur seal occurred due to heat stroke during the 2005 subsistence fur seal harvest on St. George Island. One death due to heat stroke occurred during the 2005 St. Paul Island subsistence harvest.

Entanglement

Thirteen entangled male seals were observed during this year's subsistence fur seal harvest on the Pribilof Islands (two on St. George Island and eleven on St. Paul Island). Neither of the two entangled fur seals on St. George Island were captured and disentangled. Nine of the eleven (82%) entangled fur seals on St. Paul Island were successfully disentangled and released. One male fur seal with a scar indicating evidence of previous entanglement was observed at a harvest on St. George Island.

Oil Contamination

No evidence of oil contamination on fur seals pelts of harvested animals during the subsistence fur seal harvest was observed on either island.

Other Mortality

No other fur seal mortality occurred during this year's subsistence fur seal harvest on either island.

Anomalies

No anomalies occurred during the subsistence fur seal harvest on St. Paul Island. The St. George Island Sentinel observed an adult male fur seal chase three sub-adult male fur seals off a short cliff at North Rookery during a harvest round-up (Appendix B). St. George residents harvested a juvenile male Steller sea lion at Zapadni rookery during the fur seal subsistence harvest on 8 August 2005..

Research

Research projects were conducted in conjunction with the subsistence harvests on both islands. Island Sentinels collected snouts and extracted upper canine teeth for National Marine Mammal Laboratory (NMML) in Seattle, Washington. The NMML processes the canine teeth for estimating the age composition of the harvest. Andrew Malavansky collected 137 snouts with upper canines intact from the St. George Island subsistence harvest under Contract No. AB133FO5SE3O47 with NMFS.

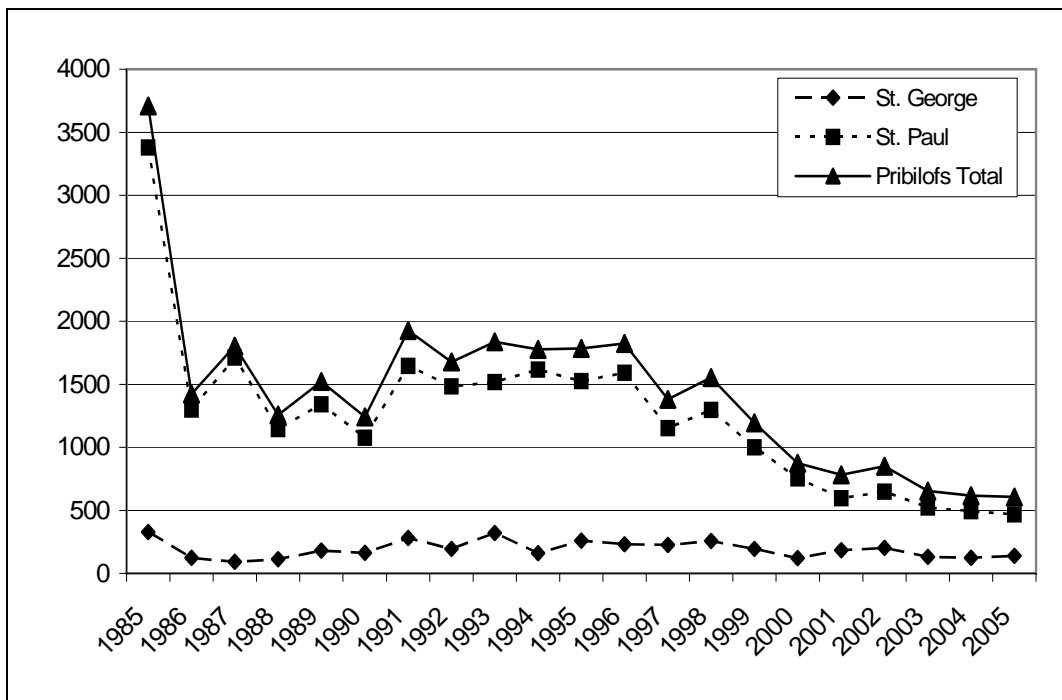
On St. Paul Island the upper canines were taken randomly by sampling every 5th seal at each harvest. A total of 72 snouts (~15% of the harvest) with upper canines intact were collected. ECO staff collected and processed snouts, extracted, cleaned, and shipped teeth to NMML under Contract No. AB133F05SE4240.

DISCUSSION AND CONSIDERATIONS

Fur Seals Harvested

The subsistence take of northern fur seals on St. Paul Island decreased by approximately 5.5% from 493 fur seals in 2004 to 466 fur seals in 2005 (**Figure 1**). The 2005 harvest level represents a continuation of a downward trend in harvest levels observed in recent years. Current harvest levels are less than half of the long-term harvest level observed from the late 1980s to the late 1990s. On St. George Island, the number of sub-adult male fur seals harvested increased by approximately 13% from 123 fur seals in 2004 to 139 fur seals in 2005. The number of fur seals harvested on St. George Island has remained relatively consistent over the last two decades.

Figure 1: Numbers of sub-adult male fur seals harvested, Subsistence Fur Seal Harvest 1986 – 2005, Pribilof Islands, Alaska (Lestenkof and Zavadil, 2001; NMFS, 2004; Zavadil and Lestenkof 2003a and 2003b).



From 1985 to 2005 a total of 30,004 sub-adult male fur seals have been taken in 21 annual subsistence fur seal harvest on the Pribilof Islands. St. Paul Island represents 86.58% of the entire Pribilof Islands subsistence harvest of northern fur seals with a total of 25,978 seals harvested from 1985 to 2005. The subsistence harvest of northern fur seals on St. George Island

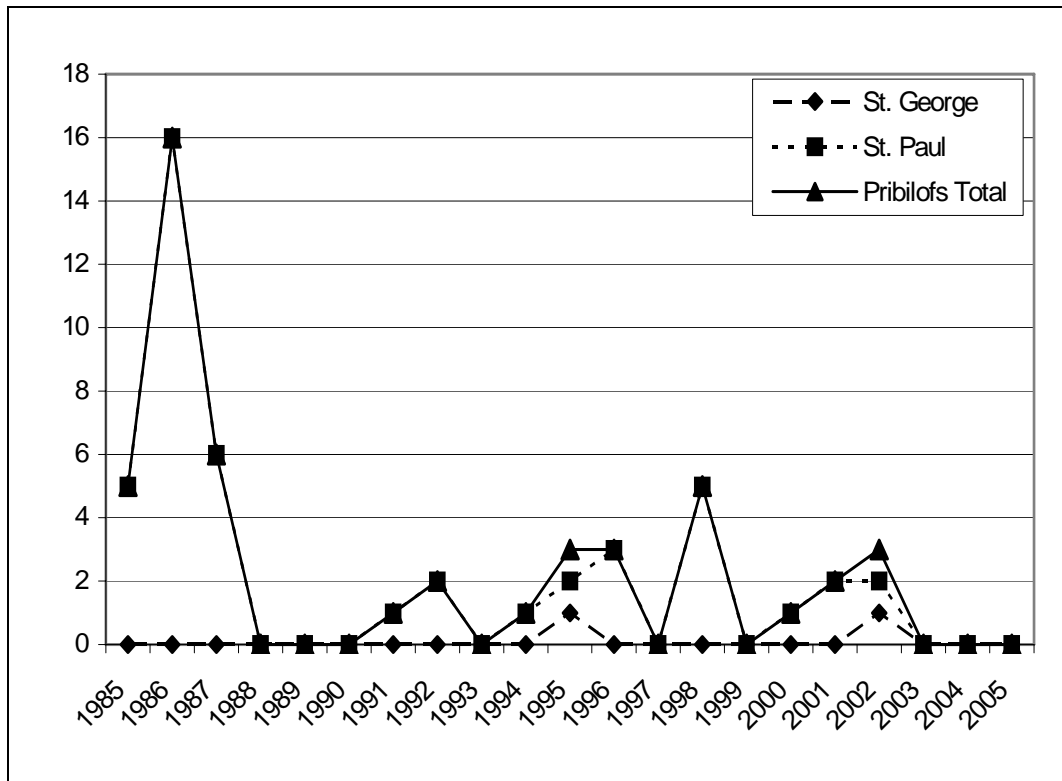
represents 13.42% of the entire Pribilof Islands subsistence harvest with a total of 4,026 seals harvested from 1985 to 2005.

Federal regulations state that the subsistence harvest of northern fur seals not begin before June 23 and that sub-adult male fur seals taken do not exceed 124.5 centimeters in length. Federal regulations further state that harvesting methods are to include organized drives of sub-adult males to killing fields similar to those used during the commercial harvest. However, due to the long-term decline of the Pribilof fur seal population, it is increasingly difficult to find a reasonable number of legally harvestable sub-adult male fur seals to warrant drives to killing fields early in the season (June 23 through early July). Based on local observations, there has either been a decrease in the survival of sub-adult males, or behavior has changed. The change in behavior could include increased at-sea foraging trips, decreased haulout duration, reduced density or some combination of these. Consistently lower numbers of seals on land during the summer season may be associated with changes in the distribution or amount of available prey in the local environment, leading to longer foraging trips for juvenile males. Based on local observations, numbers of legally harvestable sub-adult males during the late-season also appear lower and seals appear less concentrated than they were historically. In addition, the haulouts from which drives begin contain higher ratios of adult males to sub-adult males than were previously witnessed during the era of the commercial fur seal harvest. Taken together, these observations indicate changes in the population composition found on land in the Pribilofs. These changes affect our ability to harvest fur seals as described in the 1985 subsistence harvest regulations and must be considered when managing and planning future harvests.

Female Seals Killed

Female fur seals are never intentionally taken during the subsistence harvest. The number of female fur seals accidentally killed during the subsistence harvest of sub-adult males has varied since the beginning of the 1985 subsistence-only harvest. In St. Paul accidentally harvested 16 female fur seals in 1996. No female fur seals have been accidentally harvested during the past 3 years on either island. From 1985 to 2005, a total of 48 female fur seals were killed during the annual subsistence harvests of sub-adult males on the Pribilof Islands; 46 females (95.8%) were killed on St. Paul Island and two females (4.2%) were killed on St. George Island (**Figure 2**).

Figure 2: Numbers of female fur seals killed, Subsistence Fur Seal Harvest 1985 – 2005, Pribilof Islands, Alaska (NMFS unpublished; Zavadil and Lestenkof 2003a and 2003b).



Overall, the number of female fur seals killed as part of the subsistence harvest on the Pribilof Islands is small (0.16%; 48/30,052) relative to the total number of fur seals harvested. While the number of females killed is small the biological significance of killing females is compounded when compared to the loss of males during the sub-adult male harvest. In any particular year less than half of the reproductively mature males breed. In contrast greater than 80% of the reproductively mature females breed. When young female fur seals are accidentally killed the loss of future reproductive potential is far greater than that of young males. Therefore minimizing accidental female deaths in the harvest is important for management of human impacts on a declining population.

Presently, the sub-adult male fur seals are harvested for the subsistence needs of the members of the Aleut Communities of St. George and St. Paul Islands. The Tribal Governments of St. Paul and St. George govern the harvest processes of their respective communities on behalf of the U.S. federal Government and in abidance with and because of U.S. federal regulations for the subsistence harvest of northern fur seals on the Pribilof Islands.

It is not an easy task to balance federal harvest regulations with traditional governance: the latter is of necessity more flexible and responsive to local needs and conditions. In a local context, existing federal regulations contain provisions which are outdated in regards to local ecological and cultural conditions. The current federal regulations originated from the era of the commercial harvest of northern fur seals operated by the U.S. federal government until 1983. These regulations do not stem from the traditional ways of the Pribilof communities. Therefore, relative to other subsistence harvests throughout the state of Alaska, the current system of harvest managements restrains the ability of local indigenous subsistence practices to adapt to changing cultural and environmental conditions. The Tribal Governments of St. Paul and St. George feel constrained by an outdated management system and yet are required to attempt to apply and balance it with consideration and respect for all aspects of the Aleut communities they represent-past, present and future. In turn, community members must respect the fact that fellow community members who are the sealers/harvest crew, perform harvest duties governed by U.S. federal regulations and on behalf of all; and that all animals harvested reflect the subsistence activity of the community as a whole. Community members must conduct themselves accordingly. In tandem the seal harvest crew must respect the process as representational of their fellow community members as a whole and conduct themselves accordingly. To assist the Tribal Governments of both islands in this process, the recommended harvest guidelines listed in Appendix D have been developed for conducting the subsistence harvest..

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Appendix B: 2005 St. George Island northern fur seal harvest log

Harvest Identification Number	Harvest Date	Harvest Location	Drive Time	Harvest Time	Temperature (F)	Wind Direction	Wind Speed (MPH)	Weather Condition	Grass Condition
STGNFSHV0501	24-Jun-05	North	17:10	N/A	47	East	10	Fog/drizzle	Wet
STGNFSHV0502	6-Jul-05	North	9:30AM	10:15AM	50	Variable	5	Fog	Wet
STGNFSHV0503	11-Jul-05	Zapadni	12:30PM	1:45PM	51	SouthSW	15	Fog	Wet
STGNFSHV0504	20-Jul-05	North	9:15AM	10:00AM	52	South	25	Rain	Wet
STGNFSHV0505	28-Jul-05	Zapadni	10:45AM	11:50AM	48	Variable	5	Cloudy	Wet
STGNFSHV0506	29-Jul-05	North	11:55AM	12:30PM	50	South	5	Cloudy	Damp
STGNFSHV0507	3-Aug-05	Zapadni	9:30AM	10:10AM	49	West	15	Cloudy	Damp
STGNFSHV0508	4-Aug-05	North	2:30PM	3:10PM	50	Southwest	15	Drizzle	Wet
STGNFSHV0509	8-Aug-05	Zapadni	6:30PM	7:00PM	50	South	30	Rain	Wet

Harvest Identification Number	# Seals Harvested	# Entangled Seals	# Seals Disentangled	# Scarred Seals	# Bulls Stunned	# Bulls Killed	# Females Killed	# Heat Strokes	Comments
STGNFSHV0501	None	0	0	0	0	0	0	0	Seals too large, herd released unharmed
STGNFSHV0502	19	0	0	0	0	0	0	0	Collected snouts. Collected lower right jawbones for Mike Etnier
STGNFSHV0503	12	0	0	2	0	0	0	0	Collected snouts. Collected lower right jawbones for Mike Etnier, observed 2 sams with scars
STGNFSHV0504	19	0	0	0	0	0	0	0	Collected snouts. Two seals had unusually small hearts
STGNFSHV0505	15	0	0	0	0	0	0	0	Collected snouts.
STGNFSHV0506	16	0	0	0	0	0	0	0	Collected snouts.
STGNFSHV0507	15	0	0	0	0	0	0	0	Collected snouts.
STGNFSHV0508	13	0	0	0	0	0	0	0	Collected snouts. Collected lower right jawbones for Mike Etnier. Crew observed 3 young males get chased off a cliff by a bull
STGNFSHV0509	30	2	0	0	0	0	0	0	Collected snouts. One Steller sea lion taken.

Appendix C: 2005 St. Paul Island northern fur seal teeth collection log

Location (Haulout)	Date	Number	Length (cm)	Age
Reef	7/16/2005	5	101	3
Reef	7/16/2005	10	114	3
Reef	7/16/2005	15	111	5
Reef	7/16/2005	20	107	4
Reef	7/16/2005	25	102	4
Reef	7/16/2005	30	102	3
Reef	7/16/2005	35	112	4
Big Zapadni	7/25/2005	40	106	3
Big Zapadni	7/25/2005	45	106	3
Big Zapadni	7/25/2005	50	104	3
Big Zapadni	7/25/2005	55	110	4
Big Zapadni	7/25/2005	60	98	3
Big Zapadni	7/25/2005	65	99	4
Polovina (Halfway)	7/26/2005	70	110	4
Polovina (Halfway)	7/26/2005	75	103	3
Polovina (Halfway)	7/26/2005	80	98	3
Polovina (Halfway)	7/26/2005	85	101	3
Polovina (Halfway)	7/26/2005	90	105	4
Polovina (Halfway)	7/26/2005	95	104	3
Polovina (Halfway)	7/26/2005	100	112	3
Polovina (Halfway)	7/26/2005	105	102	5
Polovina (Halfway)	7/26/2005	110	99	3
Polovina (Halfway)	7/26/2005	115	93	3
Zapadni Reef	8/5/2005	120	107	3
Zapadni Reef	8/5/2005	125	121	4
Zapadni Reef	8/5/2005	130	112	4
Zapadni Reef	8/5/2005	135	110	3
Zapadni Reef	8/5/2005	140	105	3
Zapadni Reef	8/5/2005	145	105	3
Zapadni Reef	8/5/2005	150	104	3
Zapadni Reef	8/5/2005	155	101	4
Zapadni Reef	8/5/2005	160	104	3
Zapadni Reef	8/5/2005	165	101	3
Zapadni Reef	8/5/2005	170	111	3
Zapadni Reef	8/5/2005	175	106	3
Polovina (Halfway)	8/6/2005	180	106	3
Polovina (Halfway)	8/6/2005	185	108	3
Polovina (Halfway)	8/6/2005	190	107	3
Polovina (Halfway)	8/6/2005	195	108	4
Polovina (Halfway)	8/6/2005	200	106	3
Polovina (Halfway)	8/6/2005	205	103	4
Polovina (Halfway)	8/6/2005	210	106	3
Polovina (Halfway)	8/6/2005	215	93	3
Polovina (Halfway)	8/6/2005	220	105	3

Location (Haulout)	Date	Number	Length (cm)	Age
Polovina (Halfway)	8/6/2005	225	105	3
Polovina (Halfway)	8/6/2005	230	98	3
Reef	8/8/2005	235	108	3
Reef	8/8/2005	240	102	3
Reef	8/8/2005	245	101	3
Reef	8/8/2005	250	118	3
Reef	8/8/2005	255	104	3
Reef	8/8/2005	260	115	4
Reef	8/8/2005	265	107	3
Polovina (Halfway)	8/9/2005	270	103	3
Polovina (Halfway)	8/9/2005	275	99	4
Polovina (Halfway)	8/9/2005	280	103	3
Polovina (Halfway)	8/9/2005	285	103	3
Polovina (Halfway)	8/9/2005	290	110	3
Polovina (Halfway)	8/9/2005	295	107	3
Polovina (Halfway)	8/9/2005	300	105	3
Polovina (Halfway)	8/9/2005	305	108	3
Polovina (Halfway)	8/9/2005	310	96	3
Polovina (Halfway)	8/9/2005	315	135	5
Polovina (Halfway)	8/9/2005	320	103	3
Polovina (Halfway)	8/9/2005	325	102	3
Polovina (Halfway)	8/9/2005	330	108	4
Lukanin	8/10/2005	335	107	3
Lukanin	8/10/2005	340	99	3
Lukanin	8/10/2005	345	102	3
Lukanin	8/10/2005	349	107	3
Lukanin	8/10/2005	355	111	4
Lukanin	8/10/2005	360	104	3

Appendix D: Suggested subsistence harvest guidelines

The following are subsistence harvest guidelines from the St. George Traditional Council Kayumixtax ECO-Office:

1. Community members should dress their own seal at the harvest or make arrangements for a friend or family member to do so for them.
2. Transport to and from the harvest is up to each individual.
3. Put forth ideas to avoid waste such as trading or sharing parts with one another.
4. Harvest must take place early in the morning or when the weather is sufficiently cool to prevent overheating of the fur seals.
5. No harvests will occur when the sun is out or when the air temperature may induce heat stroke or undue stress.

The following are recommendations from the Tribal Government of St. Paul's Ecosystem Conservation Office Co-Directors:

1. Community members should pick up their seal meat from the harvest field or make their own arrangements for someone (family or friend) to provide transport to and from the seal harvest.
2. Community members should provide their own salt, buckets, bags, etc.
3. Barter and trade by community members within the community and with other communities should be encouraged and promoted, including trading parts with one another to avoid wastage.
4. Encourage progression of ideas, such as an individual compensating another individual for labor such as cutting meat if they're unable to.
5. Tribal Government employees may participate in the harvest as community members on their personal time, except for specific paid positions such as researchers, research assistants, Island Sentinel, or Harvest Monitor.
6. Harvest should take place at a respectable time for the seals in order to prevent the overheating of seals which are likely to occur as temperatures warm up throughout the day.

7. Some harvests should be conducted in the evening to allow for community members who work during the day to participate in the harvest.
8. The Harvest Plan should be reviewed each year prior to the next harvest season.
9. The Harvest Plan must be adhered to.