

# **The Subsistence Harvest of Sub-adult Northern Fur Seals on St. Paul Island, Alaska in 2017**

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by

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## INTRODUCTION

Northern fur seal or laaquuda{ (*Callorhinus ursinus*) is a vital resource for the Unangan (Aleut people) of St. Paul Island, Alaska. The National Marine Fisheries Service (NMFS) manages the subsistence harvest of northern fur seals under Federal regulations (50 CFR 216.71-.74) established under the Fur Seal Act (FSA). In 1985, when the commercial harvest for pelts ceased, NMFS determined that an emergency interim rulemaking was necessary to regulate a subsistence-only harvest of fur seals on St. Paul Island. The emergency interim rule maintained all aspects of the commercial harvest including the methods of killing (i.e., rounding up and clubbing followed by exsanguination), which were adopted in the 1986 final rule. The regulations restrict subsistence harvest to sub-adult male seals (approximately 2-4 years old) during a 47-day harvest season (June 23 to August 8). The subsistence harvest has occurred annually since 1985 with little changes to the regulations.

In June 2000, under the authority of Section 119 of the Marine Mammal Protection Act (MMPA), NMFS and the Aleut Community of St. Paul Island Tribal Government (ACSPI), a federally recognized tribe of Alaskan Natives, entered into a co-management agreement for northern fur seal and Steller sea lion on St. Paul Island. The agreement includes roles and responsibilities of the ACSPI and NMFS in co-managing the subsistence harvest. However, the regulations have yet to be revised to reflect the co-management process established under the MMPA. The regulations under the FSA continue to limit traditional subsistence practices of harvesting fur seals. Unangan have traditionally and historically engaged in subsistence hunting of fur seals in the spring and winter, and subsistence harvesting of laaquadaa{ (pups) in the fall. In 2007, the ACSPI petitioned NMFS to change the regulations to allow St. Paul Unangan greater flexibility to meet their customary and nutritional subsistence needs, and to manage the harvest under the authority of the co-management framework established under the MMPA rather than the authority of the 1986 final rule established under the FSA.

Since 2001 the ACSPI has monitored and reported on the subsistence harvest of fur seals for NMFS, an important element of our co-management agreement. Subsistence harvest reports can be found online at <https://alaskafisheries.noaa.gov/pr/fur-seal>. In this report, the ACSPI describes the subsistence harvest of sub-adult male fur seals on St. Paul Island in 2017.

## **METHODS**

The subsistence harvest method involves organized herding of sub-adult male northern fur seals. At a specific haulout area, five to ten volunteers quickly form a line along the shore to prevent fur seal access to the ocean. Male fur seals are then gathered by driving them from their haulout areas to a specific killing field where they are held in a large group. Five to ten seals are then separated from the large group and guided to a group of three to four volunteers who stun the seals by hitting them on the skull or upper neck with a solid wooden club. The seals are brought a short distance away from the killing area where the chest and heart are immediately cut open, allowing exsanguination and a humane death. The seals are then skinned and butchered for human consumption. For a more detailed description of the harvest procedure, see the following humane observer reports: Stoskopf, 1984; Letcher, 1985; Dorsey, 1986; Zimmerman and Letcher, 1986; and Spraker, 1987-2010.

This year harvests were scheduled to occur once per week during the June 23 to August 8 season. The ACSPI takes requests for seals for a period of one week before the scheduled day of the harvest, and concluding before the roundup of sub-adult males from the haulout. The ACSPI's Ecosystem Conservation Office (ECO) staff work with a harvest foreman and volunteers to fulfill the community's subsistence needs. ECO monitored and performed the humane observer functions for the subsistence fur seal harvest for the ACSPI in accordance with the co-management agreement with NMFS (NMFS 2000). In 2017 the subsistence harvest of northern fur seals occurred during eight harvest events beginning on June 30 and ending on August 8, 2017.

## **RESULTS**

### **Number and Sex of Harvested Animals**

All harvested fur seals were sexed during the skinning and butchering process. A total of 217 sub-adult male fur seals were harvested on St. Paul Island from three different haulout areas (Table 1). No female fur seals were accidentally struck or killed, and no other mortality occurred during this year's harvest season. No haulout was harvested more than once per week.

Table 1.--Date, location, and number of male and female northern fur seals killed during the subsistence harvest on St. Paul Island, Alaska in 2017.

<b>Date</b>	<b>Location</b>	<b>Number Males Killed</b>	<b>Number Females Killed</b>
30 June	Big Zapadni	27	0
06 July	Polovina	14	0
14 July	Big Zapadni	40	0
21 July	Polovina	28	0
28 July	Lukanin	26	0
04 August	Polovina	31	0
07 August	Lukanin	23	0
08 August	Big Zapadni	28	0
Total		217	0

### **Harvest and Weather Conditions**

Fur seals were gathered between 08:49 and 09:12 am during all eight of the harvests this season. Drive durations ranged from 8 to 17 minutes with an average duration of 10 minutes. Rest durations after herding ranged from 5 to 16 minutes with an average duration of 11 minutes (Appendix 1). To avoid mortality from hyperthermia seals are driven slowly and given adequate rest following herding. The resting duration is determined based on the behavioral signs of the fur seals held in the group; once seals do not exhibit early signs of hyperthermia (including flipper fanning, open mouth breathing, and lying down), subsequent harvest activities commence.

The following weather conditions were monitored prior to each harvest: air temperature, wind speed, wind direction, and current conditions. Air temperatures were measured before fur seals were herded and ranged from 43° F to 50° F, with an overall average temperature of 47° F. Wind speed varied from 1-3 mph to 13-18 mph with an overall average wind speed of 4-7 mph (Appendix 1). Degree of wetness of the grass at each harvest area was estimated and recorded; wet grass is believed to be an important cooling factor for fur seals. The grass was wet at each of the killing fields during all harvests.

### **Biological Sample Collections**

ECO personnel collected samples to assess body condition and contaminant loads from a proportion of harvested fur seals. The following samples and measurements were collected:

canine teeth, body length, blubber thickness, vibrissae, blubber, liver, blood, and fur. Fur seal teeth were collected for age estimation. Body length and blubber thickness measurements will provide information on sub-adult male fur seal body condition, including length at age. Vibrissae will be archived for future stable isotope analysis to assess seasonal feeding trends pending additional funding. Blubber and liver samples were collected for the Alaska Marine Mammal Tissue Archival Project (AMMTAP), an interagency project involving the collection, archival and analysis of tissues from marine mammals from Alaska for retrospective research on contaminant levels and animal health. Blood and fur were collected for Dr. Lorrie Rea (Research Professor, Water and Environmental Research Center, UAF) to assess mercury concentrations in sub-adult male fur seals.

Teeth, vibrissae, body length, and blubber thickness measurements were collected from 207 fur seals (95% of total harvested) during this year's harvest season. The teeth were aged independently in St. Paul and were shipped to the Marine Mammal Laboratory (MML) for validation and archival in early October. The overall fur seal length statistics were as follows: the minimum length was 93.5 cm, the maximum length was 130.5 cm, and the average length was 108.2 cm.

Blubber and liver samples were collected from 8 harvested fur seals (Appendix 1). Samples were processed immediately in the NOAA laboratory facility following the *Tissue Sampling Protocol for the National Marine Mammal Tissue Bank* (Becker et al. 1999). Samples will be shipped to Hollings Marine Laboratory in Charleston, S.C. for long term storage in mid-October.

Blood and fur were collected from 15 harvested fur seals, including from 4 seals sampled above for blubber and liver. Samples were processed immediately in the NOAA lab following the MML protocol. Samples were hand delivered to Dr. Lorrie Rea for analysis in mid-September.

#### Entangled and Flipper-Tagged Seals

Two entangled male fur seals were observed during the harvest season. One fur seal was disentangled and released. One entangled sub-adult male estimated to be 4-5 years old was captured and a disentanglement attempted (Appendix 1). The severity of the wounds prevented volunteers from being able to access the packing band that was entangled around the neck of the animal. The decision was made to kill the animal due to the severity of the wound. ECO staff

performed a necropsy on this animal and completed and submitted Level A forms to the NMFS Alaska Regional Stranding Coordinator and Technical Monitor for both animals.

Two tagged sub-adult males were sighted at Big Zapadni on 08 August 2017. One sub-adult male with white flipper tag 4177E was sighted in a pod, captured, weighed (26.6 kg) by M. Williams and P. Melovidov and released. One sub-adult male with white flipper tag 5093E was accidentally killed (Appendix 1). No other tagged fur seals were sighted during this year's harvest.

### **Utilization of Fur Seal Parts**

Some fur seal pelts, esophagus, whiskers, and teeth were taken for the creation of arts and crafts on St. Paul Island during this year's harvest. The harvest was not accomplished in a wasteful manner under §216.71(b).

### **Harvest-Viewing Permits**

The Aleut Community of St. Paul Island has a tribal ordinance that requires non-tribal members, except those who are legally married to a tribal member, to obtain a permit to observe the fur seal harvest. The ACSPI issued a total of 45 permits to non-tribal members this harvest season.

## **DISCUSSION**

In recent years our community has observed rapid and dramatic changes in the distribution and abundance of fur seals. The ACSPI is finding it more difficult to fulfill the community's subsistence needs due to low densities of sub-adult male seals. The regulations restrict subsistence harvest to sub-adult male seals during the short 47-day harvest season. Until the regulations are changed the ACSPI must alter and adapt subsistence harvests to meet subsistence needs. Subsistence takes of fur seals on St. Paul Island have declined in parallel with the historical decline of the species (Figure 1). Since 1998, overall pup production on the Pribilof

Islands has declined by 49.7%, or at an annual rate of 3.5%. The reasons for the recent decline are poorly understood and the identification of factors that may influence fur seal population dynamics are a high priority for resource managers at both the local and regional levels. As the primary customary/ traditional users of fur seals and sea lions in the Bering Sea region, the ACSPI is committed to long term sustainable use of these animals for cultural continuity, food, clothing and arts and crafts.

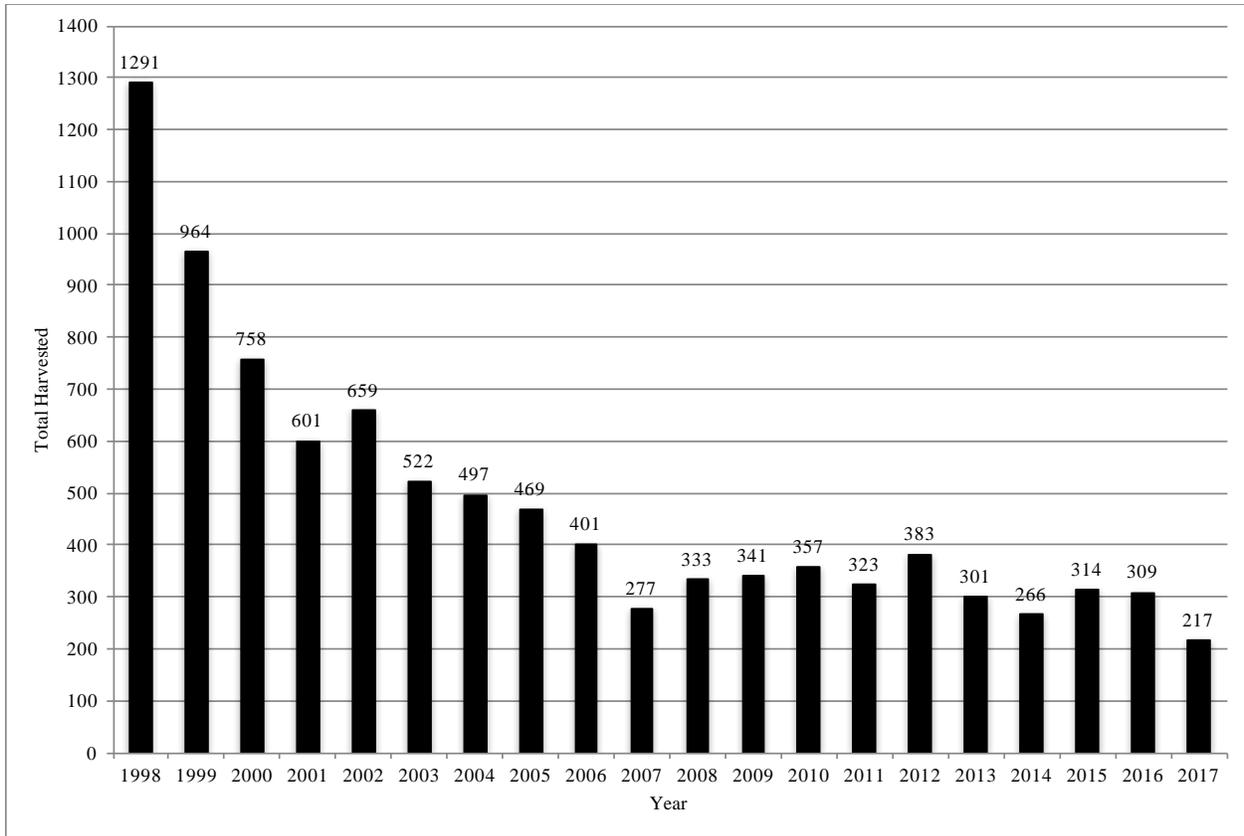


Figure 1: Subsistence harvest of northern fur seals, St. Paul Island, Alaska, 1998 – 2017.

## CONCLUSION

In summary, eight harvests were conducted within the 2017 harvest season. A total of 217

sub-adult male fur seals were harvested, with zero females struck or accidentally killed. Zero cases of mortality due to hyperthermia occurred, no inhumane acts were during the harvest, and the harvest was not accomplished in a wasteful manner.

## **ACKNOWLEDGEMENTS**

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