

## *Aleut Marine Mammal Commission*

*The Aleut Marine Mammal Commission (AMMC) is a tribally authorized non-profit Organization established in 1997 by the eleven federally recognized Aleut Tribes of; Akutan, Atka, Belkofski, False Pass, Nelson Lagoon, Nikolski, Pauloff Harbor (Sanak), Sand Point, Unalaska and Unga; for the conservation, co-management and sustained use of marine mammals for subsistence purpose by Aleut and Alaska natives of the Aleutian Islands and Alaska Peninsula Region (AMMC Region)*

### **New Report on History of Sea Lion Declines**

Between 1977 and 1988 Stellar sea lions (SSL) declined from 250,000 to 100,000 in the Gulf of Alaska and Aleutian Islands. The decline proceeded at a slower rate through the 1990s and levelled off with fewer than 40,000 sea lions remaining at the turn of the century. (Fritz and Brown 2005). However, the western population of SSL has continued to decline in the western and central Aleutian Islands.

A number of theories have been offered to explain their decline. Among them are: fisheries competition, environmental change, predation, anthropogenic effects and disease.

Scientific knowledge about sea lions dates back only 55 years when the first population census was made. Subsequent counts and surveys were performed during the

1960s and 1970s and became the benchmark for what is commonly considered to be pristine numbers of sea lions (the numbers that would be present in the absence of the commercial fisheries or harvests of the last 40 years). Conversely, the oral histories told by the Aleut native people of the Aleutian Islands and Gulf of Alaska and the archaeological data from the villages of their ancestors suggest that this assumption about the pristine numbers may be inaccurate.

Aleuts are one of the least known or studied northern peoples. They have occupied the Pribilof Islands for the past 200 years and have lived on the eastern Aleutian Islands, Alaska Peninsula and Shumagin Islands for more than 10,000 years. They have a long oral history and archaeological record of sea lion harvesting that provide a

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**Section 101b of the MMPA**

*(b) Exemptions for Alaskan natives Except as provided in section 1379 of this title, the provisions of this chapter shall not apply with respect to the taking of any marine mammal by any Indian, Aleut, or Eskimo who resides in Alaska and who dwells on the coast of the North Pacific Ocean or the Arctic Ocean if such taking—(1) is for subsistence purposes; or (2) is done for purposes of creating and selling authentic native articles of handicrafts and clothing: Provided, That only authentic native articles of handicrafts and clothing may be sold in interstate commerce: And provided further, That any edible portion of marine mammals may be sold in interstate commerce: And provided further, That any edible portion of marine mammals may be sold in native villages and towns in Alaska or for native consumption. For the purposes of this subsection, the term “authentic native articles of handicrafts and clothing” means items composed wholly or in some significant respect of natural materials, and which are produced, decorated, or fashioned in the exercise of traditional native handicrafts without the use of pantographs, multiple carvers, or other mass copying devices. Traditional native handicrafts include, but are not limited to weaving, carving, stitching, sewing, lacing, beading, drawing and painting; and(3) in each case, is not accomplished in a wasteful manner.*

**NOAA Stranding Network**

**Concerned about an injured or stranded marine mammal?**

**Call**

**1-888-774-SEAL**

**(1-888-774-7325)**

**Toll-free 24 hour stranded hotline**



## Aleut Marine Mammal Commission

**New Report on History of Sea Lion Declines**

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historical background for understanding the causes of the sea lion decline. Modern day Aleut hunters and fishermen also have insights to provide as they continue to attain detailed ecological knowledge of the coastline, currents, weather and the frequency and behavior of marine species that populate the region.

In 2004, 52 interviews were conducted with young and old fishermen in the western Gulf and southern Bering Sea communities of King Cove, Sand Point, False Pass, Akutan and Nelson Lagoon. The commentary obtained provided a rich body of qualitative assessments and observations that, when combined with the ethno historic and the quantitative archaeological data provide important contributions to the major hypotheses that have been proposed to explain the decline of the Steller sea lion in the Gulf of Alaska and Aleutian Islands.

All of the Aleuts that we interviewed who were over 50 years of age said that the current decline of sea lions was not the first time

there have been major declines in the numbers of sea mammals in the region. Some of the oldest fishermen also mentioned directly that there were periods in their father's or grandfather's times when sea lion populations were low, particularly before the 1940s. Aleut oral histories and the ethno historic records describe significant previous declines of sea mammals in the 1870s. Over 90% (47 of 52) of the Aleut interviewed felt that predation by killer whales was the ultimate cause of the most recent Steller sea lion decline. In 2003, a giant pod of killer whales was repeatedly spotted moving through False Pass. Estimated numbers by local fishermen ranged from 200 to 400 individuals. There was general consensus that there were no seals, sea lions or sea otters in the area after they left.

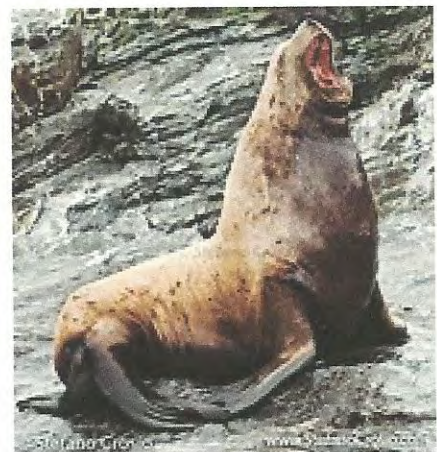
Killer whales have recently been investigated for predatory attacks on sea lions. Field observations of killer whales in the eastern Aleutian Islands reveal that there are three types of killer whales – one referred to as “residents” only eats fish, - a second type referred to as “transients” eats only marine mammals,

and a third called “off shores” with an uncertain diet. The fish eating whales, seen more frequently and outnumbered the marine mammal eating whales, so as a result it is thought that killer whales were unlikely to have caused the recent decline in the sea lion population.

Data that has been collected indicate that declines in sea lion abundance occurred during periods of hemispheric warming and the greatest density of Stellar sea lions occur during cooler periods.

For more information go to:

[www.marinemammal.org](http://www.marinemammal.org)



*Stellar Sea Lion*

## Bidarkie (chiton) Recipes

Recipe by Elaine Dey (Sand Point Women's Club Cookbook Centennial Edition)

Wash bidarkies. Cover with water and steam until tender. Be careful not to overcook. Remove from water. Clean. Dip in melted butter or pickle juice.

Or:

On the beach, pick bidarkie, rinse in salt water. Clean and eat.



*bidarkie*

## Blueberry Pie

Recipe by Sophia Ludvick (Sand Point Women's Club Cookbook Centennial Edition)

4 c fresh picked blueberries

1 1/2 c. sugar

3 Tbsp. cornstarch

1 tsp. lemon juice

1 Tbsp. butter

Dash of salt

1/2 tsp. cinnamon

or nutmeg

Prepare pastry for two crust 9-inch pie. Line pie plate with pastry. Mix sugar, cornstarch, cinnamon and salt. Mix with berries. Fill pie pan. Sprinkle with 1 teaspoon lemon juice. Dot with butter. Put top crust with slits for escape of steam. Seal. Bake at 400 degrees for 35 to 40 minutes.



## Seal Oil

Recipe by Sophia Ludvick (Sand Point Women's Club Cookbook Centennial Edition)



Remove seal fat from seal meat. Remove all blood, don't put in water. Slice or grind seal fat (don't cook). Put fat in jars. Let render for about a week. Put jars in brown paper bags to keep out of light to keep from getting rancid. Keep in freezer to keep fresh. Use for boiled fish, berries and wild celery (Putchkies).

**Marine Word Search**

O	D	Z	O	S	S	A	L	M	O	N	R	Z	C	H
X	K	P	P	R	J	Y	R	O	T	S	I	H	G	A
B	G	L	M	E	T	S	Y	S	O	C	E	S	J	L
Q	E	P	N	T	C	L	A	M	S	U	F	N	N	I
K	X	A	E	N	V	A	Y	R	V	H	E	O	T	B
I	Z	O	C	U	K	N	Q	N	N	L	I	I	A	U
S	U	V	F	H	K	O	B	M	R	P	M	T	T	T
E	P	H	S	W	H	I	S	K	E	R	S	I	I	B
Q	B	I	C	U	L	T	U	R	A	L	L	D	B	D
M	Z	C	R	A	M	I	Y	W	E	T	S	A	A	Y
F	L	G	G	I	D	R	X	H	P	G	P	R	H	M
M	G	O	Y	M	T	T	A	X	G	F	A	T	B	Q
I	O	I	N	W	K	U	K	A	Y	A	K	L	Q	Y
N	I	G	O	T	Y	N	A	U	Y	M	H	U	I	D
P	O	L	L	O	C	K	N	L	C	E	O	S	N	A

**BEACH****CLAMS****CULTURAL****ECOSYSTEM****HABITAT****HALIBUT****HISTORY****HUNTERS****KAYAK****KELP****LAGOON****NUTRITIONAL****POLLOCK****REGALIA****SALMON****SPIRITUAL****TRADITIONS****WHISKERS**

## Harbor Seal Research In The Aleutian Islands 2015

A team composed of eight biologists from the National Marine Mammal Laboratory's (NMML) Polar Ecosystems Program, a veterinarian from the Marine Mammal Center of Sausalito, California, and a traditional ecological knowledge expert from the Aleut village of Atka, Alaska, conducted a research project on harbor seals in the Aleutian Islands aboard the chartered research vessel *Norseman* during 5-23 September 2015. The goal of this project was to collect baseline information on harbor seal health, behaviors, and genetics in the eastern and central Aleutian Islands to increase our understanding of this population's status, ecology, and structure.

The research team captured a total of 31 seals at six different locations between Unalaska and Atka Islands. The seals comprised a fairly representative sample of sexes and The research team captured a total of 31 seals at six different locations between Unalaska and Atka Islands. The seals comprised a fairly representative sample of sexes and

age classes. Captured seals were examined, measured, and weighed to assess their physical condition. Blood and tissue samples were collected to analyze their health, physiology, diet, and genetic composition.

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*Harbor Seal*

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Satellite tags were glued to hair on the heads or backs of 27 seals that had sufficiently completed their annual "molt" (shedding and regrowth of hair and skin). These tags will transmit the seals' movement, dive, and haul-out behaviors for up to 1 year and then will fall off during next year's molt. Smaller satellite



*Harbor Seals*

tags were also attached to 25 of the sub-adult and adult seals whose hind flippers were large enough to accommodate the tags. These tags will remain attached throughout the molt cycle and continue to transmit location and haul-out data during this important time of year.

A similar project was conducted during September 2014 in Clam Lagoon, Adak Island, Alaska, where 15 harbor seals were captured, sampled, and tagged. Another research cruise covering the central and western Aleutian Islands is planned for September 2016 to expand the spatial and temporal range of our dataset.

Written by:  
Shawn Dahle

For more information go to:

[NOAA Fisheries@noaa.gov](mailto:NOAA.Fisheries@noaa.gov)

## Bogoslof Island Research: 2015



*Bogoslof Island*

Bogoslof Island is a small, remote, volcanic island in the Bering Sea, approximately 60 nautical miles west of Dutch Harbor, Alaska. Despite its small size, Bogoslof Island teems with wildlife and is home to seabird, Steller sea lion, and northern fur seal breeding colonies. Northern fur seals only colonized the island relatively recently, but the species has thrived there over the past three decades. From 1976 to 1982, small numbers of northern fur seals were documented on Bogoslof Island, with only two and three pups recorded in 1980 and 1982, respectively. However, despite significant volcanic activity on Bogoslof Island in 1992, the growth of the northern fur seal population on the island has been rapid and con-

tinuous since then, resulting in dense aggregations that are typical for the species at other established breeding colonies. The most recent northern fur seal pup production estimate for Bogoslof Island in 2011 was 22,905 pups.

During 10-15 August 2015, personnel from NMML's Alaska Ecosystems Program, the Pacific Islands Fisheries Science Center, and the Protected Resources Division at NOAA Fisheries' Alaska Regional Office conducted studies of northern fur seals from a temporary camp on Bogoslof Island. Shear-sampling, a mark-recapture process, was used throughout the study to estimate pup production, which is the standard index used to assess northern fur seal population trends. Satellite transmitters were attached to 10 adult females and fecal and tissue samples were obtained for studies of northern fur seal foraging behavior and diet. Nasal swabs and blood samples were also collected to evaluate the prevalence of disease in the population.

Preliminary analysis of the 2015 data indicates continued growth in northern fur

seal pup production on Bogoslof Island (Fig. 3). The Pribilof Islands of St. Paul and St. George in the Bering Sea contribute approximately half of the world's northern fur seal pup production. However, pup production has been declining at approximately 3.71% per year on the Pribilof Islands since 1998. Comparably, northern fur seal pup production on Bogoslof Island has increased 11.7% per year from 1997 to 2011, and estimates of pup production at Bogoslof Island have exceeded those at St. George Island. While immigration to Bogoslof from the Pribilofs has contributed to the growth of the northern fur seal colony at Bogoslof Island, it does not fully explain the population decline on the Pribilof Islands.

Written by:

Rod Towell & Rolf Ream

For more information go to:

[NOAA Fisheries@noaa.gov](mailto:NOAA.Fisheries@noaa.gov)



*Stellar Sea Lions*

**Aleut Marine Mammal Commission**  
**P O Box 267**  
**Sand Point, Alaska 99661**

**To:**

AMMC Board of Commissioners

Timothy Shangin	Akutan
William Dushkin	Atka
Frank Marine	Belkofski
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Marvin (Big Shot) Mack	King Cove
Paul (Butch) Gundersen	Nelson Lagoon
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Peter Devine Jr.	Sand Point
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Bruce Foster Sr.	Unga

**AMMC**  
**P O Box 267**  
**Sand Point, Alaska 99661**  
**Office: 907-383-2662**  
**Fax: 907-383-2668**  
**Email: [AMMC@arctic.net](mailto:AMMC@arctic.net)**  
**[www.aleutmarinemammal.org](http://www.aleutmarinemammal.org)**

Executive Director  
Peggy Osterback

Intern  
Cathy Adams