

**Special Publication No. SP1988-001**

---

---

# **The Production and Exchange of Seal Oil in Alaska**

by

**James Magdanz**

and

**Robert J. Wolfe**

---

---

1988

Alaska Department of Fish and Game

Division of Subsistence



## Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the *Système International d'Unités* (SI), are used without definition in the reports by the Division of Subsistence. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

<b>Weights and measures (metric)</b>		<b>General</b>		<b>Mathematics, statistics</b>	
centimeter	cm	Alaska Administrative Code	AAC	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly-accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	$H_A$
gram	g			base of natural logarithm	e
hectare	ha			catch per unit effort	CPUE
kilogram	kg	all commonly-accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	coefficient of variation	CV
kilometer	km			confidence interval	CI
liter	L	at	@	correlation coefficient (multiple)	R
meter	m	compass directions:		correlation coefficient (simple)	r
milliliter	mL	east	E	covariance	cov
millimeter	mm	north	N	degree (angular)	$^\circ$
		south	S	degrees of freedom	df
<b>Weights and measures (English)</b>		west	W	expected value	E
cubic feet per second	ft <sup>3</sup> /s	copyright	©	greater than	>
foot	ft	corporate suffixes:		greater than or equal to	≥
gallon	gal	Company	Co.	harvest per unit effort	HPUE
inch	in	Corporation	Corp.	less than	<
mile	mi	Incorporated	Inc.	less than or equal to	≤
nautical mile	nmi	Limited	Ltd.	logarithm (natural)	ln
ounce	oz	District of Columbia	D.C.	logarithm (base 10)	log
pound	lb	et alii (and others)	et al.	logarithm (specify base)	log <sub>2</sub> , etc.
quart	qt	et cetera (and so forth)	etc.	minute (angular)	'
yard	yd	exempli gratia (for example)	e.g.	not significant	NS
		Federal Information Code	FIC	null hypothesis	$H_0$
<b>Time and temperature</b>		id est (that is)	i.e.	percent	%
day	d	latitude or longitude	lat. or long.	probability	P
degrees Celsius	°C	monetary symbols (U.S.)	\$, ¢	probability of a type I error (rejection of the null hypothesis when true)	$\alpha$
degrees Fahrenheit	°F	months (tables and figures)	first three letters (Jan.,...,Dec)	probability of a type II error (acceptance of the null hypothesis when false)	$\beta$
degrees kelvin	K	registered trademark	®	second (angular)	"
hour	h	trademark	™	standard deviation	SD
minute	min	United States (adjective)	U.S.	standard error	SE
second	s	United States of America (noun)	USA	variance	
		U.S.C.	United States Code	population	Var
<b>Physics and chemistry</b>		U.S. state	two-letter abbreviations (e.g., AK, WA)	sample	var
<i>all atomic symbols</i>					
alternating current	AC	<b>Measures (fisheries)</b>			
ampere	A	fork length	FL		
calorie	cal	mideye-to-fork	MEF		
direct current	DC	mideye-to-tail-fork	METF		
hertz	Hz	standard length	SL		
horsepower	hp	total length	TL		
hydrogen ion activity (negative log of)	pH				
parts per million	ppm				
parts per thousand	ppt, ‰				
volts	V				
watts	W				

***SPECIAL PUBLICATION NO. SP1988-001***

**THE PRODUCTION AND EXCHANGE OF SEAL OIL IN ALASKA**

by

James Magdanz, Robert J. Wolfe  
Alaska Department of Fish and Game, Division of Subsistence, Juneau

Alaska Department of Fish and Game  
Division of Subsistence  
1255 West 8th Street, Juneau, AK 99802-5526

1988

The Division of Subsistence Special Publications series was established for the publication of techniques and procedure manuals, special subject reports to decision-making bodies, symposia and workshop proceedings, application software documentation, in-house lectures, and other documents that do not fit in another publications series of the Division of Subsistence. Most Special Publications are intended for readers generally interested in fisheries, wildlife, and the social sciences; for natural resource technical professionals and managers; and for readers generally interested the subsistence uses of fish and wildlife resources in Alaska.

Special Publications are available through the Alaska State Library and on the Internet: <http://www.subsistence.adfg.state.ak.us/>.

*James Magdanz, Robert J. Wolfe  
Alaska Department of Fish and Game, Division of Subsistence,  
1255 West 8th Street, Juneau, AK 99802-5526, USA*

*This document should be cited as:*

*Magdanz, J., and R.J. Wolfe. 1988. The production and exchange of seal oil in Alaska. Alaska Department of Fish and Game Division of Subsistence, Special Publication No. SP1988-001, Juneau.*

The Alaska Department of Fish and Game (ADF&G) administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act (ADA) of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

**If you believe you have been discriminated against in any program, activity, or facility please write:**

ADF&G ADA Coordinator, P.O. Box 115526, Juneau, AK, 99811-5526

U.S. Fish and Wildlife Service, 4040 N. Fairfax Drive, MS 2042, Arlington, VA, 22203

Office of Equal Opportunity, U.S. Department of the Interior, 1849 C Street NW, MS 5230, Washington DC 20240

**The department's ADA Coordinator can be reached via phone at the following numbers:**

(VOICE) 907-465-6077, (Statewide Telecommunication Device for the Deaf) 1-800-478-3648, (Juneau TDD)

907-465-3646, or (FAX) 907-465-6078

**For information on alternative formats and questions on this publication, please contact:**

ADF&G Division of Subsistence at [www.subsistence.adfg.state.ak.us](http://www.subsistence.adfg.state.ak.us).

**THE PRODUCTION AND EXCHANGE OF SEAL OIL  
IN ALASKA**

**By James Magdanz and Robert J. Wolfe**

**Division of Subsistence  
Alaska Department of Fish and Game  
Juneau, Alaska**

**December 1988**

Most rural coastal communities in Alaska use seal oil as part of the community diet, from Klawock in southeast Alaska, Port Graham on Cook Inlet, to Kaktovik on the north slope. Seal oil also is used by many inland Alaska communities, some of them hundreds of miles from the coastal waters and seal hunting locations. Historically, most communities have obtained seal oil in two ways: directly by hunting, or indirectly through networks of sharing, barter, and trade. This report briefly describes this traditional trade of seal oil as it occurred in Alaska during the 1980s.

## PRODUCTION AND USES

Seal oil can be made from the blubber of any of the five seal species found in Alaskan waters. The Inuit generally prefer oil made from the bearded seal *Erignathus barbatus*, but oil also is commonly used from the ringed seal *Phoca hispida* and the spotted seal *Phoca largha*. In southcentral and southeast Alaska, the harbor seal *Phoca vitulina* is primarily used for seal oil.

The techniques for making seal oil differ somewhat between regions. Among the Inuit and Yup'ik, seal blubber usually is cut into fist-sized chunks or narrow strips and placed in skin, plastic, or glass containers. The oil gradually separates from the solids in the blubber, floating to the top. Among the Tlingit and Haida, seal blubber is commonly stirred in a pot over a low flame to render the oil, after which it is stored in containers. The quality of the oil varies from species to species, from season to season, and from producer to producer. A single adult bearded seal yields up to 20 gallons of oil; the smaller ringed and spotted seals produce about 4-5 gallons.

Seal oil is a high quality food, providing a major source of calories (as fat) to the rural diet. In many Inuit and Yup'ik households, seal oil is used with virtually every meal. People pour a few tablespoons on a plate and dip dried fish, dried meat, or breads into the oil. Seal oil is regularly added to stews and soups of wild fish and game. Seal oil is commonly used to store other subsistence products, such as partially-dried fish, "black meat" (dried meat of the bearded seal), and greens (such as the Inupiat *sura*, fresh shoots of the willow). Seal oil is also used as an ingredient in a variety of traditional medicinal preparations.

### DISTRIBUTION AND EXCHANGE

Since passage of the Marine Mammal Protection Act of 1972, only Alaska Natives may harvest marine mammals. Seals may be harvested for subsistence uses or for the creation of authentic handicrafts. The MMPA also allows any edible portion of marine mammals harvested by Alaska Natives to be sold in Native villages or towns in Alaska or for Native consumption.<sup>1</sup> This regulation provides for the traditional trade in marine mammal products such as belukha muktuk, bowhead muktuk, and seal oil.

During the nineteenth century, seal oil was among the commodities available at coastal trade fairs in western Alaska (such as at Port Clarence and *Sisualik*). People from coastal and inland communities regularly traveled to the trade fairs with furs, dried meat, and other products. The trade of seal oil commonly occurred at these fairs. Seal oil also was traded when families encountered one another while traveling or camping (Burch 1988).

---

<sup>1</sup> The U.S. Fish and Wildlife Service considers "Native village or town," to mean "any town in Alaska" (Webb 1988).

Table 1

SOURCES OF SEAL OIL FOR  
FIFTEEN MOUNTAIN VILLAGE HOUSEHOLDS

<u>No.</u>	<u>Place Hunted</u>	<u>Place Received From</u>	<u>Relationship</u>	<u>Gift or Trade</u>
1	—	Emmonak	Wife's Sister's Son	Gift
	--	Emmonak	Wife's Mother's Brother's Daughter's Son	Trade
2	Hooper Bay	—	—	—
	—	Hooper Bay	Not determined	Trade
3	Kotlik	—	—	--
	—	Scammon Bay	Wife's Parallel Female Cousin	Gift
4	Main River	—	—	--
5	Middle Mouth	—	—	--
6	—	Mt. Village	Friends	Trade
7	Scammon Bay	—	—	--
8	Kotlik	—	—	--
9	—	Chevak	Friends	Gift
	—	Chevak	Friends	Trade
10	Middle Mouth	—	—	--
11	—	Mt. Village	"People in town"	Gift
12	--	Kotlik	<u>Eluk</u> , "second or third cousins"	Gift
	—	Mt. Village	Wife's Adopted Sister's Son	Gift
13	—	Mt. Village	"Neighbors"	Gift
14	Middle Mouth	—	--	--
	--	Scammon Bay	Not determined	—
15	Main River	--	—	--

From Wolfe 1981:223



Currently, the exchange system for seal oil operates primarily between families, rather than trade fairs. Seal oil, usually in quarts and gallons, though occasionally five gallons or more, exchanges hands through a variety of ways -- as gifts, as bartered items, or as traded goods. For instance, to illustrate the ways of obtaining seal oil at Mountain Village, a Yup'ik community 97 miles inland along the Yukon River, a sample of 15 interviewed households were asked where and how they received seal oil in 1980, the previous year (Wolfe 1981:219, 222-224). All 15 households procured seal oil in some manner, as summarized in Table 1. Nine households had members who traveled to the coast to hunt seals. Nine households received seal oil procured by someone else, four from persons in Mountain Village and the rest from coastal communities (one from Emmonak, one from Kotlik, two from Scammon Bay, one from Chevak, and one from Hooper Bay). Seven transactions were described as "gifts." Four transactions were described as "trade," meaning purchasing with money. The givers or traders were described as either "relative," "friend," or "neighbor."

This example illustrates the variety of channels through which seal oil is obtained by inland communities along the Yukon River. Some coastal hunters serve as regular suppliers of seal oil to relatives and friends upriver. Most exchanges occur after fall seal hunting. As one coastal hunter reported, seal oil is commonly "swapped" for "upriver things", like wolf skins, wolverine skins, moose meat, and even groceries. Seal oil is commonly sold for money as well. The price of the seal oil increases with distance from the coast, in 1980 ranging from \$30 to \$70 for 5 gallons, the quantity derived from one whole carcass of a spotted or ringed seal. Moose meat is a major item traded downriver for seal oil. One resident of Sheldon Point on the coast said he regularly brought seal oil upriver to "distant relatives" at St. Mary's, Pilot Station, and Russian Mission. The previous year he distributed four whole spotted seals and several jars of seal oil among

them as gifts brought to their homes. An Alakanuk man reported he always brought seal oil upriver while moose hunting in fall, which he gave to the persons he bought boat fuel from at St. Mary's.

Exchanges also occur between the Norton Sound communities of Elim, Koyuk, and Unalakleet, and the Yukon River community of Kaltag. In one reported instance, Kaltag residents requested seal oil from Unalakleet, and two Unalakleet residents chartered an airplane, planning to pay for the charter with their seal oil sales. Reportedly, their asking price was too high for some Kaltag residents, and they were unable to sell all their oil. Kaltag residents also have scheduled potlaches, and invite Unalakleet residents to come with seal oil. Kaltag residents commonly provide king salmon in exchange for the oil.

Seal oil often is available for purchase on demand in stores in regional centers like Kotzebue, Nome, Bethel, and Barrow. Hanson's Trading Company in Kotzebue, the Nome Alaska Commercial Company, U.S. Mercantile in Nome, and the Bethel Alaska Commercial Company frequently have seal oil available. Prices reported for seal oil have ranged from \$3.75 to \$12.00 a quart during the mid-1980s. At least one store in Anchorage also offers seal oil for sale. Shishmaref is reknowned in northwest Alaska for the quality of its seal oil. Shishmaref is a common supplier of seal oil sold in Kotzebue, Nome, and Anchorage stores. "People like that seal oil," one meat department manager said. "If you open a can, you can tell the difference."

## SUMMARY

Seal oil is one of the most commonly exchanged wild foods in Alaska in the 1980s. Under the Marine Mammal Protection Act only Natives may harvest seals, but anyone may purchase seal oil in Native towns in Alaska. The greatest volume

of seal oil exchanges occur as sharing among relatives, but substantial quantities also are bartered for other goods or sold for cash. The current trade in seal oil is a continuation of traditional trade system that dates to before historic contact. The Division of Subsistence has been studying the barter and trade in seal in 1988 and 1989, and will be publishing a more complete report on customary trade of wild resources in 1989.

## REFERENCES

- Burch, Ernest S. Jr.  
1988 Modes of Exchange in Northwest Alaska. In James Woodburn, Tim Ingold, and David Riches (eds) Property, Power, and Ideology in Hunting and Gathering Societies, Berg Publishers, London.
- Kelly, Brendan P.  
1988 Bearded Seal. In *Selected Marine Mammals of Alaska: Species Accounts with Research and Management Recommendations*. Marine Mammal Commission. Washington, D.C.
- Webb, Mark A.  
1988 *Personal Communication*. Special Agent, Division of Law Enforcement, Fish and Wildlife Service, U.S. Department of the Interior. Fairbanks, Alaska. 28 July 1988.
- Wolfe, Robert J.  
1981 Norton Sound/Yukon Delta Sociocultural Systems Baseline Analysis, Technical Paper No. 59, Division of Subsistence, Alaska Department of Fish and Game.