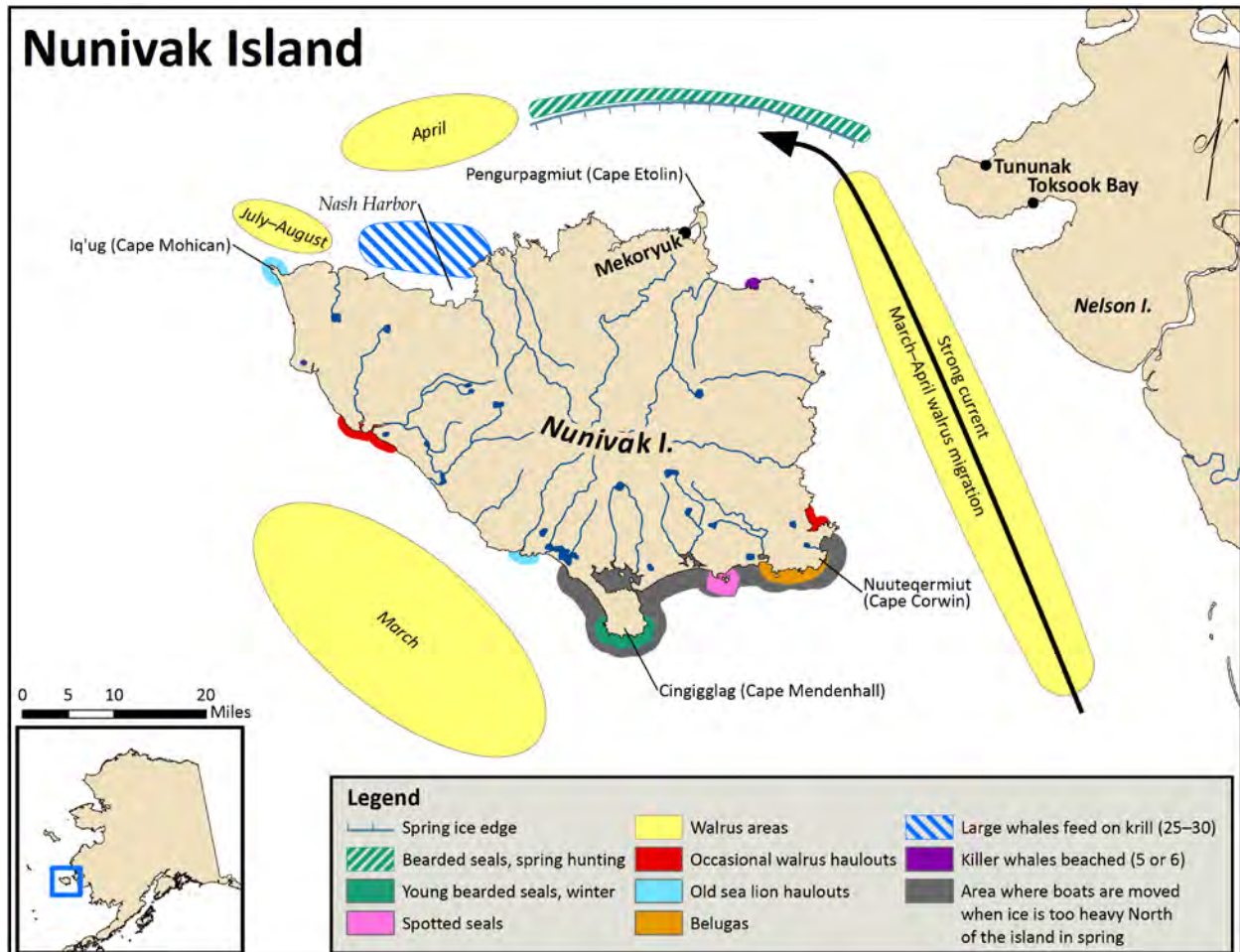


# Traditional Knowledge Regarding Marine Mammals near Mekoryuk, Alaska



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Final Report  
Approved June 2017

Final report should be cited as:

Huntington, H.P., M. Nelson, L.T. Quakenbush. 2017. Traditional knowledge regarding marine mammals near Mekoryuk, Alaska. Final report to the Eskimo Walrus Commission, the Ice Seal Committee, and the Bureau of Ocean Energy Management for contract #M13PC00015. 8pp.

## Introduction

Seals, walrus, and beluga whales are important for subsistence harvests by Cup'ig hunters from Mekoryuk, Alaska. These animals are also iconic Arctic marine mammals at risk from climate change. Industrial activity in the Bering and Chukchi seas, coastal development in the Norton Sound region, and shipping through Bering Strait are additional potential stressors to these marine mammals. The study of the distribution, behavior, and movements of marine mammals is an important contribution to monitoring the effects of a changing environment and the potential effects of industrial activity. Placing satellite transmitters on seals, walrus, beluga whales, and other species provides detailed information about the movements, habitat use, and behavior of some individual animals. Satellite telemetry studies, however are limited in the number of individuals per species that can be instrumented, therefore it is difficult to know how well tagged animal movements and behavior represent the population as a whole. Documenting traditional knowledge about timing of migration, behavior, and the age classes of marine mammals at specific locations through interviews with residents of coastal communities provides important context in which to interpret the satellite telemetry studies as well as providing contemporaneous and historical information about general patterns in marine mammal distribution, movement, and behavior that complement the science greatly. The integration of these two different but equally important types of information provides a broader more comprehensive overview of how Arctic marine mammals and hunters operate in their environment and how changes in the environment are influential.

This report summarizes information gathered from interviews held in Mekoryuk with hunters and other knowledgeable residents in January 2017. This traditional knowledge project used the same approach that the Native Village of Savoonga used when documenting traditional knowledge about bowhead whales on St. Lawrence Island (Noongwook et al. 2007).

## Methods












We used the semi-directive interview method, in which the interviewers raise a number of topics with the person being interviewed, but do not rely solely on a formal list of questions (Huntington 1998). Instead, the interview is closer to a discussion or conversation, proceeding in directions determined by the person being interviewed, reflecting that person's knowledge, associations made between animals and the environment, and so on. The interviewers use a list of topics of interest to raise additional points for discussion, but do not curtail discussion of additional topics introduced by the person being interviewed.

In Mekoryuk, we interviewed seven persons as a group. The interviewees were Albert Williams, Howard Amos, and five others who wished to remain anonymous. The interviews were conducted on January 13, 2017 at the Native Village of Mekoryuk office.

The topics identified by the research team in advance of the interviewers were:

- Seasonal patterns of distribution of ice seals, walruses, and beluga whales
- Haulouts on land
- Use of rivers
- Feeding patterns and prey
- Impacts from climate change and hunter responses to those changes
- Parts of marine mammals that people eat
- Information about other marine mammals
- Information about other aspects of the environment and people

Table 1. List of Cup'ig, English, and scientific names of marine mammals mentioned in this report.

	<b>Cup'ig name</b>	<b>English name</b>	<b>Scientific name</b>
	Maklag	bearded seal	<i>Erignathus barbatus</i>
	Amirkar (sometimes maklassugar)	young bearded seal	<i>Erignathus barbatus</i>
	Issuri (sometimes Issurir)	spotted seal	<i>Phoca largha</i>
	Nayir	ringed seal	<i>Phoca</i> or <i>Pusa hispida</i>
	Qasrul'eg or Qasrulek	ribbon seal	<i>Histiophoca fasciata</i>
	Kaugpag	Pacific walrus	<i>Odobenus rosmarus</i>
	Apakcuq or Apakcug	Steller sea lion	<i>Eumetopias jubatus</i>
	Cetuar	beluga whale	<i>Delphinapterus leucas</i>
	Aatagat	Northern fur seal	<i>Callorhinus ursinus</i>
	Mangaqcuar	harbor porpoise	<i>Phocoena phocoena</i>
	Mangaqcuar	Dall's porpoise	<i>Phocoenoides dalli</i>

The results are presented under different headings, reflecting the actual information collected and the fact that some of the subjects blend together, especially changes seen over time in regard to all of the topics. The interviewers were Henry Huntington and Mark Nelson. Lori Quakenbush is the project leader.

### Ringed Seals

Ringed seals are hunted in spring when the water starts to open up. Hunting is often right from the beach with a kayak. Ringed seals are around most of the year, but are more common when ice is close. Ringed seals used to be caught in nets in late fall, but nets are rarely used for catching seals now. They are hunted when bearded seals are not available and are preferred over spotted seals.

### Spotted Seals

Spotted seals are present year-round, in abundance and even over-abundance according to some hunters. They are especially abundant during the herring run in May. Spotted seals haul out on rocks on the southeast side of the island and also on rocks on the beach in all the bays on the island (Figure 1). Because they are not usually hunted, the spotted seals just stay where they are and go where they want to. Spotted seal pups are sometimes seen alone on a beach.

Spotted seal oil has a strong taste. Other seals are preferred. Spotted seals are considered “emergency food,” if a hunter does not get a bearded or ringed seal.

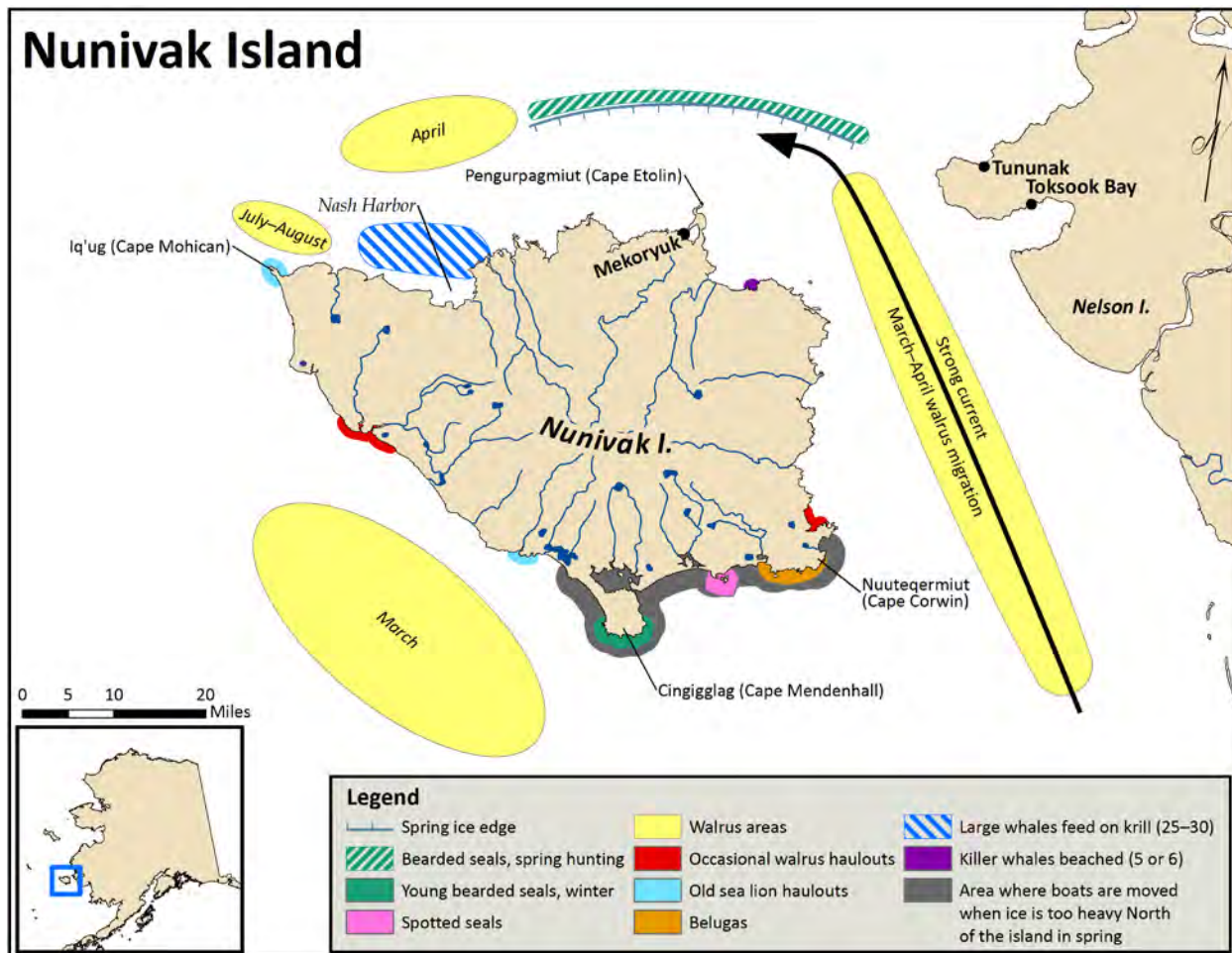


Figure 1. Movements and behavior of seals, walrus, and whales as described during traditional knowledge interviews, January 2017.

### Bearded Seals

Bearded seals are seen on the southern coast of Nunivak Island in winter, especially off Cape Mendenhall on the south side of the island (Figure 1). Most of the bearded seals seen in winter are yearlings. Older, larger bearded seals stay farther north.

Young bearded seals are occasionally seen in river mouths or up rivers on the island. Yearlings are also seen in the bay by the village, rarely but it does happen from time to time.

Mekoryuk hunters see fewer bearded seals now. They used to see them more often off the north coast, about 15 miles offshore (Figure 1), but this is not so common anymore.

Bearded seals eat shrimp, small shell and hair crabs, and some small fish such as flounder and rockfish. Hunters have not seen clams in bearded seal stomachs.

Blubber thickness has been decreasing. Seal oil is very important in the diet of Mekoryuk residents. People eat all parts of the seal, including kidneys and intestines. The meat can be dried or frozen.

Mekoryuk residents primarily hunt for bearded seal. After that, they will look for walrus or ringed seals. Bearded seals are large enough to feed a family for a year, and will be shared with relatives, elders, and those in need.

### Walrus

Walrus come in spring in herds that have males, females, and pups. In later spring, the herds may have more bulls. Lone walrus have been seen on the west side of the island in summer, hauled out on land. Long ago, in the wooden boat times, a herd of walrus was once seen hauled out on rocks on the east side of the island in June, after the ice had gone. A walrus was once taken off the south side of the island in June, after the ice had gone. In 2005 or 2006, a large group of male walrus came ashore on the beach near the village during halibut season in summer, early July (Figure 1). Walrus are occasionally seen in fall. In the fall of 2016, a herd of walrus came into the bay by the village.

A walrus was once seen well inland on the north side of the island, south of the village. Apparently the ice had come in and blocked access to the water. Perhaps the walrus was trying to reach open water on the other side of the island. Walrus have been known to get stranded in this way, when access back to the water is blocked by ice. Some walrus come on land in that situation.

Walrus eat clams. When hunters take a walrus east of Mekoryuk in April, the clams in its stomach are ready to eat. The clams are typically 2-4 inch butterclams. Hunters have not seen other prey in walrus stomachs.

People eat walrus heart and kidneys as well as meat and blubber. Some people age the flipper of the walrus.

### Beluga Whales

A group of beluga whales was seen in March off the shore near the airport. Beluga whales were seen nearshore at the southeast end of the island about four or five years ago in late April or early May, after the ice had gone. Belugas are not too common around Nunivak Island, though there are stories about beluga whales coming ashore and turning into wolves. Historically, Mekoryuk residents were not whale hunters, though they would take the flippers from whales that washed up on the beach. Beluga whales are encountered regularly in the Nuuteqermiut (Cape Corwin) area (Figure 1).

### Other Marine Mammal Species

Ribbon seals are seen and sometimes hunted in the area in fall, when the ice has begun coming in but boating is still possible. This is often in November. Ribbon seals are not seen in spring.

There are sea lions in the Mekoryuk area, but not as many as there used to be. Many sea lions used to haul out at Cape Mohican, but no longer (Figure 1). Once in a while, hunters will see a lone sea lion on the east side of the island. Sea lions have been seen on ice floes in a bay east of the village, on the northeast side of the island.

Killer whales are seen in late spring, when the ice goes out. They are not common. A few decades ago, a group of five or six killer whales beached themselves east of the village. No one knows why. Killer whales were once seen hunting a walrus that was on an ice floe.

There are many porpoise (most likely harbor porpoise, but could be Dall's porpoise) in the area. A group of 25-30 large whales of unknown species was once seen in the Nash Harbor area on the west end of the north side of the island, feeding in the bay (Figure 1). Many whales were seen one spring during egg season, off the southeast side of the island.

#### Other Information

Fishermen catch lots of skates now, while longlining for halibut. They never used to get skates and consider them a nuisance. Longlining for halibut was not done in the old days.

In winter, the north side of the island is typically blocked in by ice, so hunters have to go to the south side if they want to hunt. This means taking boats and other gear across the island, about a journey of about 45 miles.

The current is strong on the east side of the island, going north through Etolin Strait and then west along the north side of Nunivak Island. This current makes the north side dangerous, adding to the reasons for hunting off the south side in winter.

The ice has changed greatly in the past decade or two. Due to changes in ice conditions, the period of good hunting in spring is much shorter than it used to be. There used to be a few weeks of good hunting once the ice started breaking up. Now, hunters are lucky to have a week before the ice is gone, and the good hunting with it. If they miss the opportunity, they may be without seal oil.

Hunters also said the Cup'ig names of the months reflect what is happening in nature. The name for October means "when ponds freeze;" for November, "when sea ice covers the ocean." The timing of these events no longer follows the Cup'ig calendar. Freeze-up is coming later and later. Break-up comes earlier and is much faster than it used to be.

In early 2017, south winds created open water north of the island and the village, which used to be very unusual. Ice conditions are unpredictable now. The ice never used to move from the north side of the island in December, January, or February. It was rare to see open water at that time. Now, the ice can go away even in mid-winter. Even the bay in front of the village has had open water in wintertime in recent years. In the weeks prior to the interviews, people had been able to gather mussels from the beach, which was never possible in winter before.

Mekoryuk has seen rain in mid-winter, which never used to happen. In January 2017, there was little or no snow in the area, just hoarfrost covering the ground. This has made it hard to ride across the tundra to herd reindeer. In 2016, the snow was gone within a couple weeks of starting to melt.



In the old days, calm weather used to persist for a week or more. Nowadays, the winds will pick up again after a day or so. In old photos from Mekoryuk, people paddled kayaks across the bay in completely flat water.

#### Acknowledgements

We are grateful for the skill, expertise, and generosity of the seven hunters who participated in the interviews. We appreciate the support of the Eskimo Walrus Commission and the Ice Seal Committee for this project and are grateful to Dale Smith, Jr. for helping to set up the interviews. The Bureau of Ocean Energy Management (BOEM) funded the work as part of Contract No. M13PC00015 and we appreciate the support of Carol Fairfield and Catherine Coon. Justin Crawford prepared the maps used during the interviews and the figure in this report.

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