A photograph of a small boat with three people on a body of water with ice floes. The boat is in the middle ground, moving towards the right. The water is dark, and there are several white ice floes scattered across the surface. The background shows a hazy horizon under a grey sky.

SEAL AND WALRUS HARVEST AND
HABITAT AREAS FOR NINE
BERING STRAIT REGION COMMUNITIES

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Ice Seal and Walrus Project
November 2013
Kawerak, Inc.
Social Science Program
Natural Resources Division

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Cover Photo: *Spring hunting near Elim*, by Julie Raymond-Yakoubian..

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Seal and Walrus Harvest and Habitat Areas for Nine Bering Strait Region Communities

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Other important notes:

Much Bering Strait marine use and traditional knowledge is still undocumented: This book represents only a small fraction of Bering Strait marine use. It covers information about only 5 species and there are many important marine species not covered in this book. Additionally, this book includes information from only 9 of the 20 tribes in the region.

Maps are a simplified representation: Seals and walrus are extremely mobile species, and they migrate large distances in the spring and fall. During ice-covered times, their distributions vary with ice and environmental conditions. These maps are a simplified representation of a complex socio-ecological system.

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LOCAL EXPERTS

This project would not have been possible without the generous contributions of knowledge and time given by local experts. The information gathered from these hunters and elders will help tribes and Kawerak promote good marine policy in the region and educate youth.

Local experts, we thank you for your participation!

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In memory of Morris Toolie Sr., Patrick Omiak Sr., Roger Nassuk Sr., Oscar Anasogak Sr., and Alois Ahkvaluk.



Above: Charlie Saccheus (left) and Paul Nagaruk (right) review draft maps in Elim. **Photo:** Lily Gadamus.



Above: Kellen Katcheak (left) and Peter Martin, Sr. (right) review a draft map in Stebbins. **Photo:** Lily Gadamus.

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INTRODUCTION

The Inupiaq, Yup'ik and Saint Lawrence Island Yupik peoples of the Bering Strait region have depended on marine resources since time immemorial. Residents refer to the ocean as their garden, their breadbasket, their refrigerator. A healthy Bering Sea provides abundant food that is healthy and culturally preferred. Harvesting marine foods is an important activity for Alaska Native families and communities in this area.

Currently, the Bering Strait region is facing changes. Sea ice forms later, is generally thinner and less extensive, and it melts earlier. In the Arctic, receding summer sea ice cover is opening up areas of ocean that were previously inaccessible to ships. More and more ships are using Russia's Northern Sea Route, and to a lesser extent, Canada's Northwest Passage, and shipping is predicted to increase dramatically in the near future. Additionally, the North Pacific Fisheries Management Council has considered opening the northern Bering Sea to commercial bottom trawl fishing. As the interest in development increases, policy makers are considering new regulations. For example, the U. S. Coast Guard is studying potential ship routing measures.

Kawerak, Inc. is the regional tribal consortium for the Bering Strait region of Alaska, where there are 20 federally recognized tribes. The Tribal Council Presidents of these tribes make up Kawerak's Board of Directors. Kawerak and the tribes of the region are working to influence marine policy in the region so that it protects subsistence as well as the health of the ocean. Community members have expressed concern about noise and pollution from ships, damage to the sea floor from bottom-trawling, and depletion of fish stocks through industrial fishing. Many people are also concerned that some regulations, such as listings under the Endangered Species Act, will restrict access to traditional use areas and resources.

The environment in this region is unique, and the subsistence users here have the most detailed knowledge about the seas and lands that sustain them. They are here throughout the year, and their subsistence activities follow the timing of the animals. They have observed marine mammals feeding, migrating and reacting to disturbances. Subsistence users also best understand how potential policies will affect their own marine use. Decision-makers need to incorporate local knowledge and values when making policies for the region, so that these policies fit better with local cultures, ways of life, and the environment. Kawerak promotes tribal consultation, so that tribes can work directly with policy-makers.

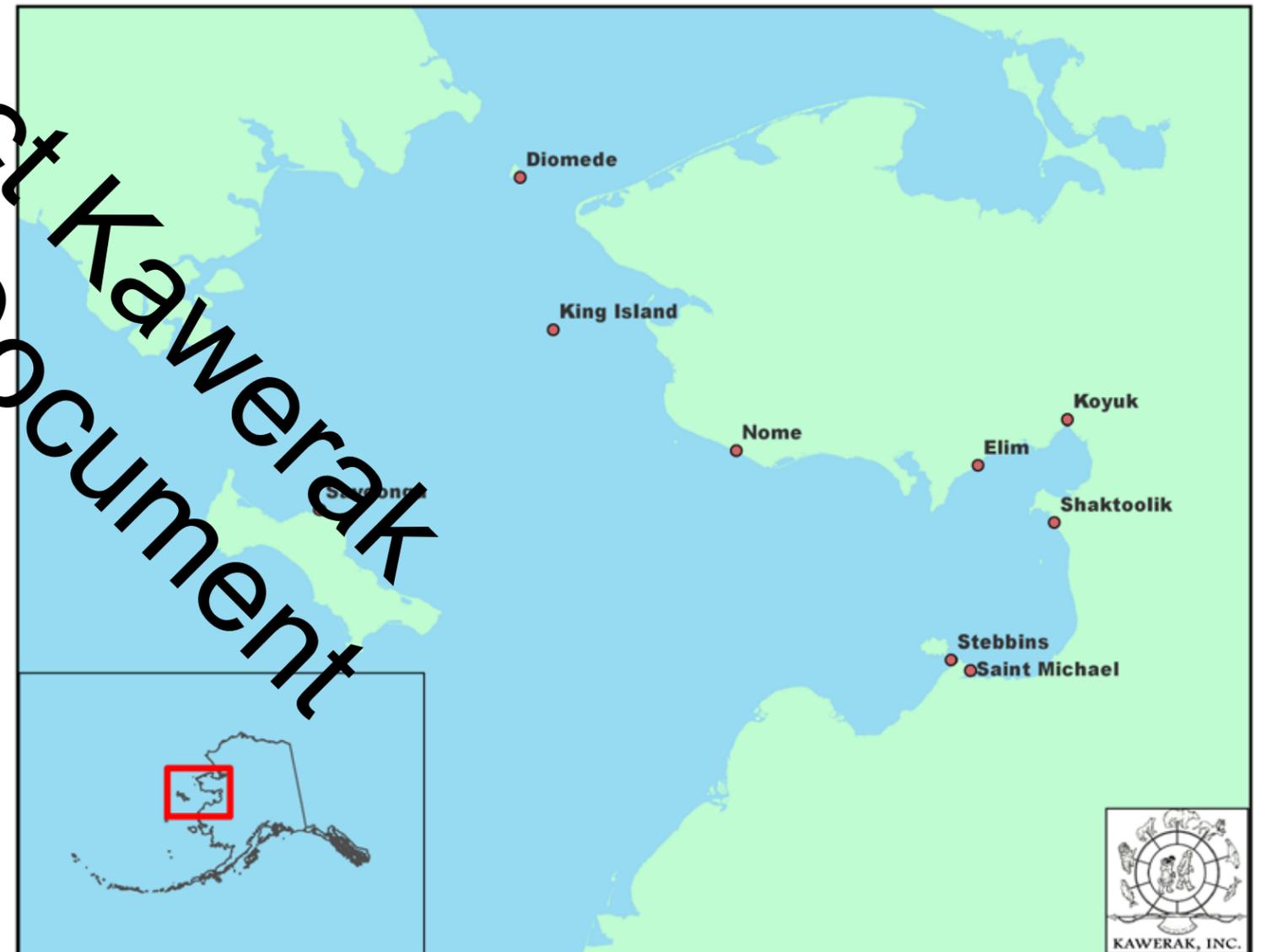
To engage in marine policy-making, tribes need documentation of their community's marine resource use. This map book was produced by Kawerak Social Science staff as part of the Ice Seal and Walrus Project (ISWP). One goal of this project was to work with elders and expert seal and walrus hunters to document subsistence use and important habitat areas for these species. Nine tribes participated in the Ice Seal and Walrus Project.

This book presents the maps and traditional knowledge shared by selected hunters and elders in the 9 participating Bering Strait communities during 2011 and 2012. These maps show areas where people hunt in different seasons, as well as places where seals and walrus have been observed feeding, hauling out, and migrating. The goal is for these maps to be a resource for tribes. These maps can be used to support local decisions, such as the locations of docks, roads, or gravel pits, as well as tribal participation in state, federal, or international policy-making.

Kawerak's Ice Seal and Walrus Project also developed traditional knowledge books on seal and walrus hunting safety and respectful seal and walrus hunting. These books feature knowledge from the local experts who participated in the project and can be found on the Kawerak social science website at <http://www.kawerak.org/socialsci.html>.

For more information, contact us.

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Communities participating in Kawerak's Ice Seal and Walrus Project

METHODS AND PROJECT BACKGROUND

Kawerak's Ice Seal and Walrus Project (ISWP) was conducted from 2010-2013 in collaboration with 9 of the 20 tribes in the Bering Strait region: Nome, King Island, Diomedes, Savoonga, Elim, Koyuk, Shaktoolik, Stebbins, and St. Michael. The tribal councils of all participating communities approved of the research by passing resolutions in support of the project. The Ice Seal Committee and the Eskimo Walrus Commission were project partners and also passed resolutions in support of the research.

In 2010 and 2011, project staff conducted research design visits in 7 of 9 project communities¹. These visits consisted of exploratory meetings with tribal governments (traditional councils/IRAs) as well as open community meetings. ISWP staff presented the project and shared draft research topics. Participants were asked to share their concerns about the project as well as suggest what kinds of traditional knowledge should be documented. The project was also presented for input to the Ice Seal Committee and Eskimo Walrus Commission.

MAPPING INTERVIEWS AND FOCUS GROUPS

Using input gathered from participating tribes, we designed a semi-structured question set for interviews and focus groups. Semi-structured means that the interview can be more like a conversation and expert participants are free to discuss the topics that they feel are important. Each participant is able to talk about their own experience and to skip questions that do not relate to them.

In rural Alaskan communities, people have different levels of subsistence use and are knowledgeable about different species. Local experts have extensive experience harvesting and using certain species, have lived in their communities for most of their lives, and are recognized by their tribes and peers for their knowledge. We worked with tribal governments to create lists of local seal and walrus experts, and these local experts suggested other local experts with comparable experience. All identified local experts were invited to participate in the project, although some declined to participate. Eighty-two local seal and walrus experts participated in project interviews and focus groups, which were conducted in 2011 and 2012.

During interviews and focus groups, local experts mapped areas where they had searched for, observed, and harvested seals and walruses, including travel routes to those areas. They also mapped their observations of marine mammals feeding, calving, pupping, resting, hauling out on land, and migrating. In order to document concentration areas, we had experts map areas where seals and walruses were regularly seen in large groups and estimate the number of animals present.

For focus group mapping, we recorded harvest and habitat locations on Mylar taped to NOAA marine charts and USGS 1:250,000 scale topographical maps. During interviews, we recorded participant responses on 11 X 16 inch printouts of the same marine charts and topographical maps. Information was mapped by season, with new maps used for each season. We labeled all mapped features with a number, and recorded relevant information about each feature on a mapping form specific to each map. We audio recorded all interviews and focus groups.

DATA PROCESSING AND ANALYSIS

We digitized mapped information using mapping software (ArcGIS 9.3). Information from mapping forms was entered into an Access Database using a unique ID to relate each entry to its corresponding map feature. This maintained the details for each feature, such as observation types (haul-out, subsistence area, feeding area, etc) as well as a record of who mapped it. The Access database was then imported into the mapping software, and joined to digitized features using the unique feature IDs, to provide attributes. To produce maps specific to each species and season, the geodatabases were queried by these attributes, and the query results exported into new features.

Interviews were transcribed and information related to subsistence use areas and habitat was collected from the transcripts and used to supplement the narratives explaining each map.

COMMUNITY REVIEW

In the fall of 2012 participants reviewed research results in meetings held in each community. Additionally, maps and results summaries for each community were mailed to all participants as well as to local tribal councils. At review meetings, participants went over maps, adding information that was missing, correcting errors, and ensuring that all information was correctly represented.

ATLAS ORGANIZATION

In this atlas, maps are presented by community. Each set of community maps is preceded by a narrative explaining what each map represents.

1. During the design phase of the project, one community was inaccessible due to transportation issues, and in the other, the tribal council was unavailable to meet.

DIOMEDE MAPS

Local experts in Diomedes explained that seals and walrus are important year-round food sources. Seals are found near Diomedes in every season: in summer, spotted seals are common, and ringed and bearded seals inhabit the areas in spring, fall, and winter. Although the largest numbers of walrus are seen during the spring migration, walrus feed and haul out in the area during summer and fall. Recently, a few walrus have been observed in winter. Diomedes hunters travel long distances when walrus hunting in the springtime. In summer, fall, and winter, hunters stay closer to the island, as environmental conditions may make long distance travel risky, and game is plentiful nearby.

Changes in hunting areas (not mapped)

Historically, people hunted in the Big Diomedes area and on the Russian side of the International Dateline. Today, the International Date Line and Russian restrictions on hunting near Big Diomedes are a hardship for some people. Elders noted that people did not travel as far in their youth, because there were no motors and the ice was more packed. Some middle-aged and younger hunters noted that people are now staying closer than in the recent past, due to more unstable weather.

Early spring harvests (not mapped)

Open water for seal hunting is first found on the south side of Little Diomedes. Hunters like to hunt on the south side when the game are heading north. Hunters may make trails to haul boats across ice to the open water (largely for whaling). **Kanilit** is a docking area and lookout site on the south side of the island. People also go out from **Falling Rock**, which is another lookout on the south side of Diomedes.

Diomedes Map 1: Later Spring Seal & Walrus Harvest Areas

Walrus

Hunters travel many miles, if needed, to find walrus once there is more open water. Many hunters reported travelling 40-50 miles out and one hunter reported travelling 75-100 miles south. Hunters have gone south almost as far as King Island, east almost to Wales, north until Big Diomedes and Fairway Rock were out of sight, and as far northeast as Shishmaref and Ikpek Lagoon (but to the west or northwest of it).

Hunting areas depend on environmental conditions. Wind and currents move the ice around, and the game travels with the ice. Ice conditions also determine hunter access. For example, a west-southwest current brings ice and game towards Alaska, which is good for people in Diomedes but may block in hunters in Wales. An east-northeast wind keeps ice moving and the mainland will have access to open water.

Hunters noted that the area in a 10-20 mile radius of Little Diomedes Island, including Fairway Rock, was the most heavily used harvest area. Going north is hard because the current is going north, making it difficult to get back to Little Diomedes. There is a dangerous current north of

the island where the ice spins in an eddy and hunters can get caught. For this reason, some people do not travel north when walrus hunting.

Hunters also noted that ice conditions usually keep them at least 5 miles out from the mainland in the Wales area. After the spring hunt boats are primarily looking for swimming walrus – “swimmers” – coming from the south.

Ugruk (Bearded Seals)

In spring, as open water arrives, bearded seals are found all around the island and can be harvested when walrus hunting. There are especially good feeding spots in currents to the north and to the east of the island.

Diomedes Map 2: Spring Migration Route

The fast ice between Big and Little Diomedes stays intact longer than the moving ice, so the walrus migration will go to one side or the other, but not in between. Hunters reported that the migration route varies annually according to the wind, current and ice.

Diomedes Map 3: Summer & Fall Seal & Walrus Harvest Areas

Summer

Most hunters go only 5-10 miles, depending on the condition of the ocean. It can get rough quickly when there is no ice. People go to Fairway Rock or boat around the island. They look for seals & walrus, mostly spotted seals. Game is often found in the current near Fairway Rock and in the current between Little and Big Diomedes. Seals are found by the valley on the east side of the island.

When conditions permit, people will boat between Diomedes and Wales in the summer. The route varies depending on the wind and currents.

Fall

By October, hunters generally stay close to Diomedes and most do not travel more than 3-4 miles out. Some do not travel more than a mile. This is because hunters do not want to get caught in the thickening ice. Additionally, seals and walrus are found close to Diomedes and there is no need to travel long distances.

In fall, seals are found near First Cliffs, past lilaqs right before Greens, at the valley on the east side of Diomedes, and on the north and east sides of the island. Seals are often found feeding in currents around Diomedes, and in the fall it can be good to hunt from the north side of the island when the animals are heading south.

Diomedes Map 4: Seal Feeding Areas & Haul-outs – Open Water

During times of open water in summer and fall, seals are regularly seen feeding around Little

Diomedes Island. Spotted seals are most common in the summer, and ringed and bearded seals arrive in the fall before the ice. Generally, the seals are found feeding on fish in currents. There are good currents around Little Diomedes Island as well as Fairway Rock. The valley in back of Diomedes, on the east side, is known as a good seal feeding area because fish are found in the fresh water running off the island, and the area is shallow.

Spotted seals haul out annually by the dozens on **Fairway Rock** during the open water season.

Diomedes Map 5: Walrus Feeding Areas & Haul-outs – Open Water

During spring migration, walrus mostly pass through the Bering Strait, although they will feed along the way. They can be seen feeding near Diomedes in the summer, and will also feed and rest in the area in the fall time while migrating south.

Hunters are aware of several very good feeding areas near Little and Big Diomedes Islands. These feeding areas are known because walrus can be found there during the summer and fall and are seen above water between dives. Multiple hunters explained that areas with a sandy bottom seems to have the best feeding, and that walrus prefer shallower areas, but not the extremely shallow, rocky areas right by the village of Diomedes.

Walrus Haul-outs

Walrus are known to haul out on Big Diomedes in the summer. This haul-out has been observed almost annually for many years, but was not common when the village on Big Diomedes was still occupied. In particular, walrus seem to haul out on the south side of Big Diomedes. One hunter reported seeing several hundred hauled out there, and others have reported that these walrus feed nearby in sandy-bottomed areas. Several hunters noted that the walrus are intelligent enough to understand the International Date Line, and that they feed and rest there because they know they cannot be pursued by Little Diomedes hunters.

Large numbers of walrus (hundreds) have hauled out on Little Diomedes in the summer and fall in recent years. Although this has been seen in the past, it is considered an unusual event that seems to be increasing in frequency in recent years.

There is some level of randomness to haul-outs, and walrus have occasionally been seen in places where they do not haul out regularly. For example, one hunter reported seeing walrus hauled out on Fairway Rock, but this was not considered a normal place for walrus to haul-out.

Large walrus haulouts on Little Diomedes often indicate that windier weather is imminent.

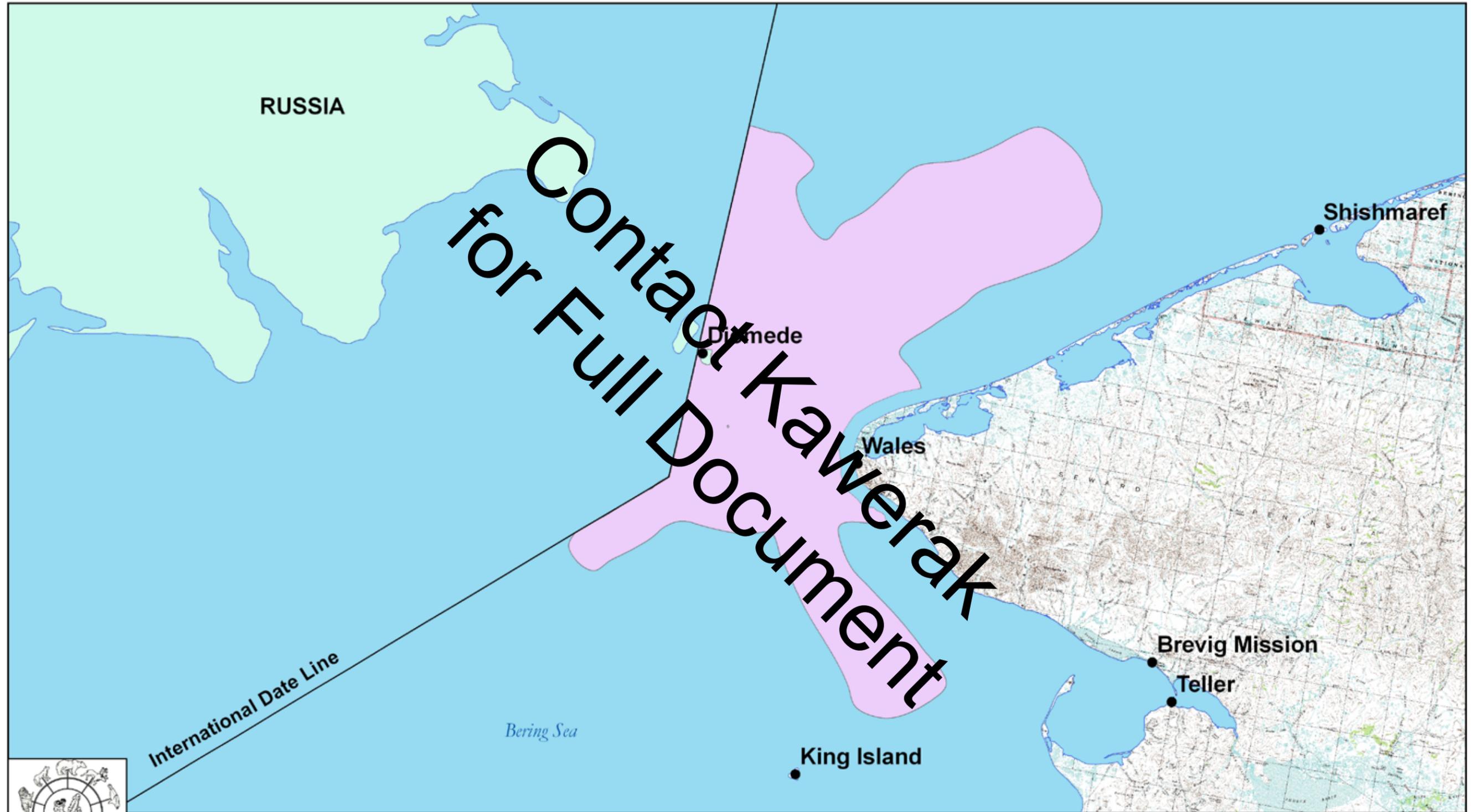
Diomedes Map 6: Winter Seal & Walrus Harvests

In the winter, when the weather is good, Diomedes hunters go out to open water for ringed and bearded seals. There is often open water at the ice edge, which extends between the two islands. Hunters mostly stay on the shorefast ice, avoiding the moving ice, when hunting for seals in winter. In the past, hunters went on moving ice more frequently and a Diomedes hunter once walked on the ice all the way to Fairway Rock to hunt on open water there. He met someone who had walked there from Wales. When on the ice, hunters must read the ice, looking at the direction of the cracks as well as environmental conditions such as wind and ocean currents.

Hunters mostly hunt on the north side of Little Diomedes, which has open leads. In the past, people would climb up to watch for open water on the north side, and if it started to open, would race for the best place. Hunters must respect the area where another hunter is hunting. Hunters can also look for areas with thin ice and seal holes. The south side of Diomedes is dangerous because there is a southwest current that hugs the island, but people occasionally hunt there. Little Diomedes is a good location for hunting because it does not get blocked in by ice as frequently as Wales or Uelen, in Chukotka.

Diomede spring seal and walrus harvest areas

Diomede map 1



Ice Seal and Walrus project

