



Bering Strait

Marine Life and Subsistence Use Data Synthesis

NPFMC Ecosystem Committee – March 17, 2015

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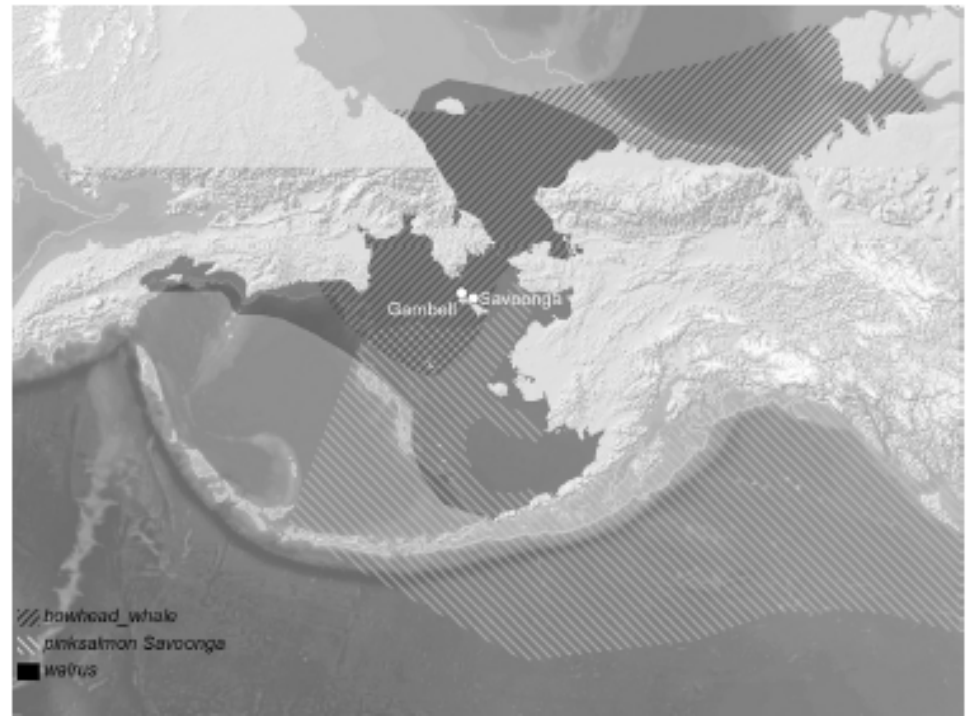
Subsistence harvest levels

<i>Village</i>	<i>Population</i>	<i>Per capita</i>	<i>Total</i>
Akutan	81	148 kg	11,988 kg
Togiak	801	137 kg	68,637 kg
Emmonak	788	218 kg	171,184 kg
Savoonga	695	403 kg	280,085 kg

(From Fall et al., 2013, DSR II; Bering Sea Project)

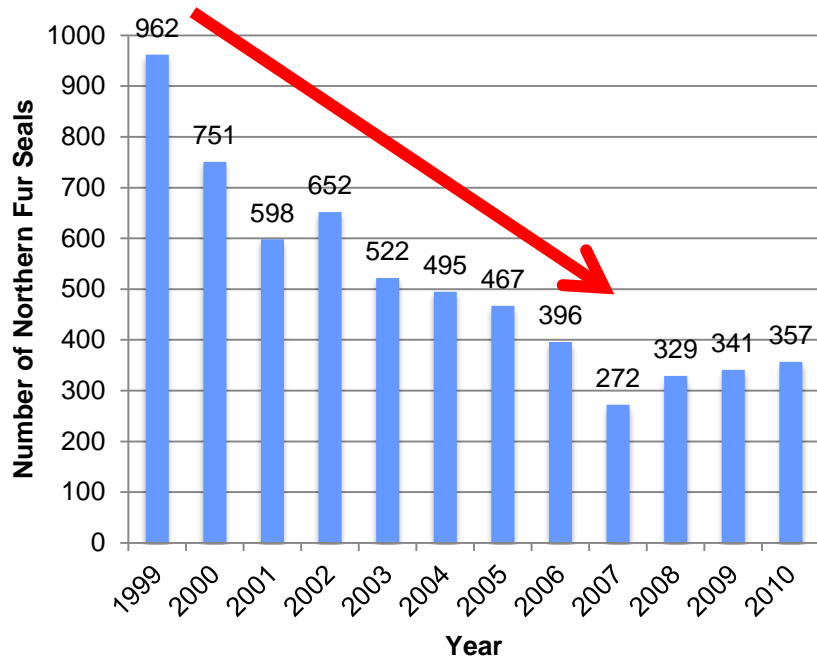
Times dozens of villages

Subsistence use areas

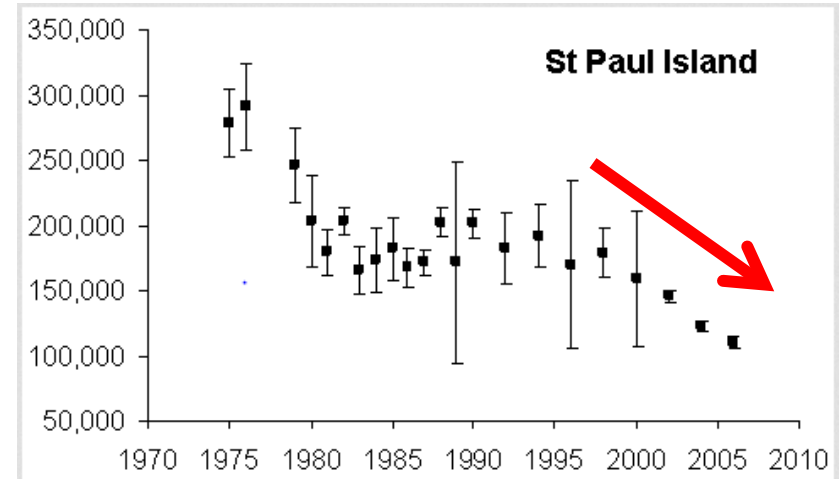


(Huntington et al. 2013, DSR II; Bering Sea Project)

Fur seal harvests in St. Paul



(Left: Harvest data from Aleut Community of St. Paul Island, Alaska Tribal Government, Ecosystem Conservation Office)



(Right: Pup count data from NOAA 2007, Lowell Fritz, ed.)



Bering Strait hunters with a bearded seal
Photo Credit: Lily Gadamus

Background

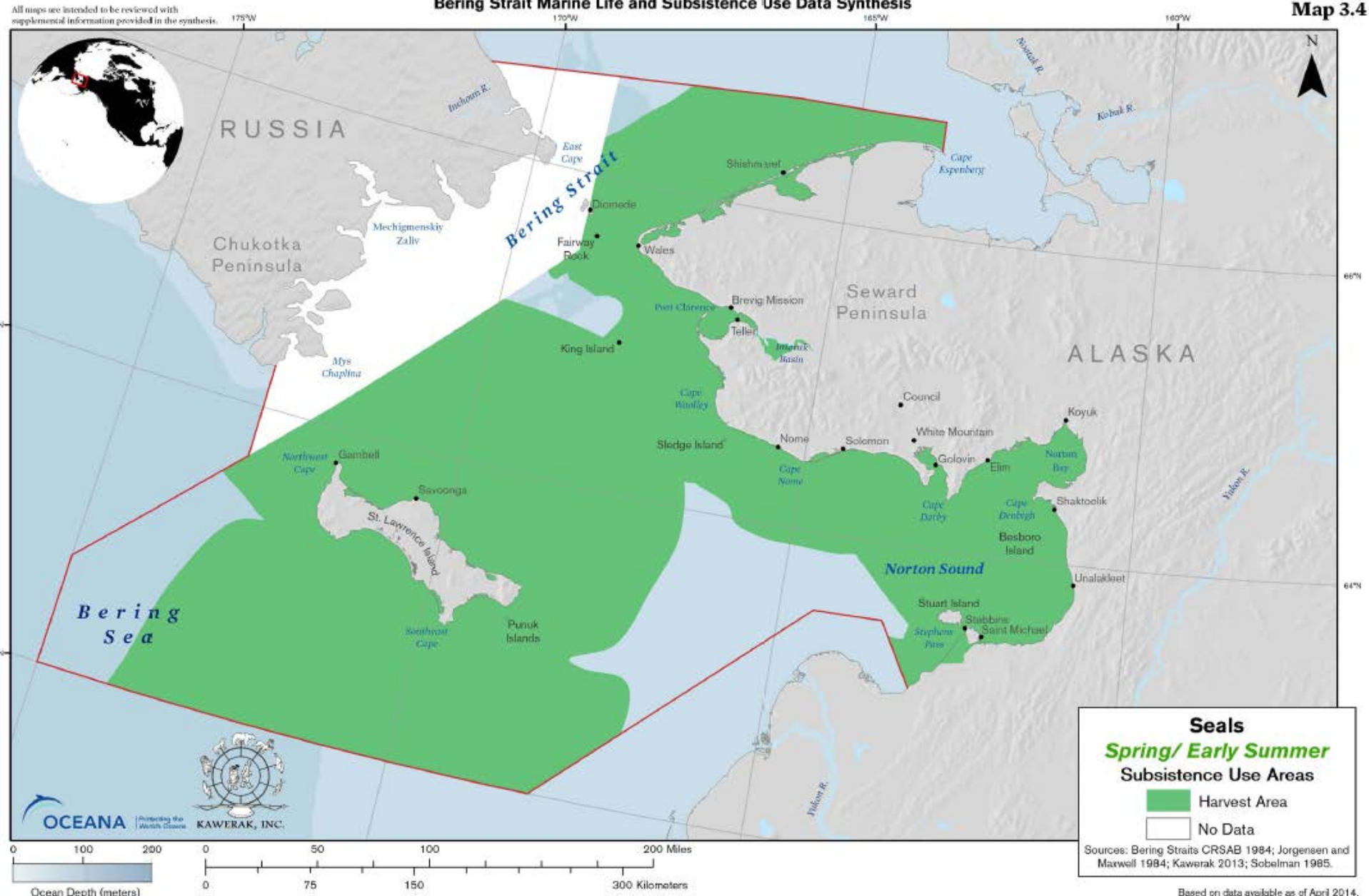
- **Collaboration between Oceana and Kawerak's Ice Seal and Walrus Project**
 - ISWP scope = those animals, subsistence, sea ice
- **Information sources include:** TEK, western science, previous syntheses, Audubon's IBAs, some new studies, and a lot of old information.
- **Includes Oceana analyses for multi-species and ecosystem high abundance areas**

NOT A SUBSTITUTE FOR CONSULTATION AND COMMUNICATION

Spring Seal Subsistence Use Area

Bering Strait Marine Life and Subsistence Use Data Synthesis

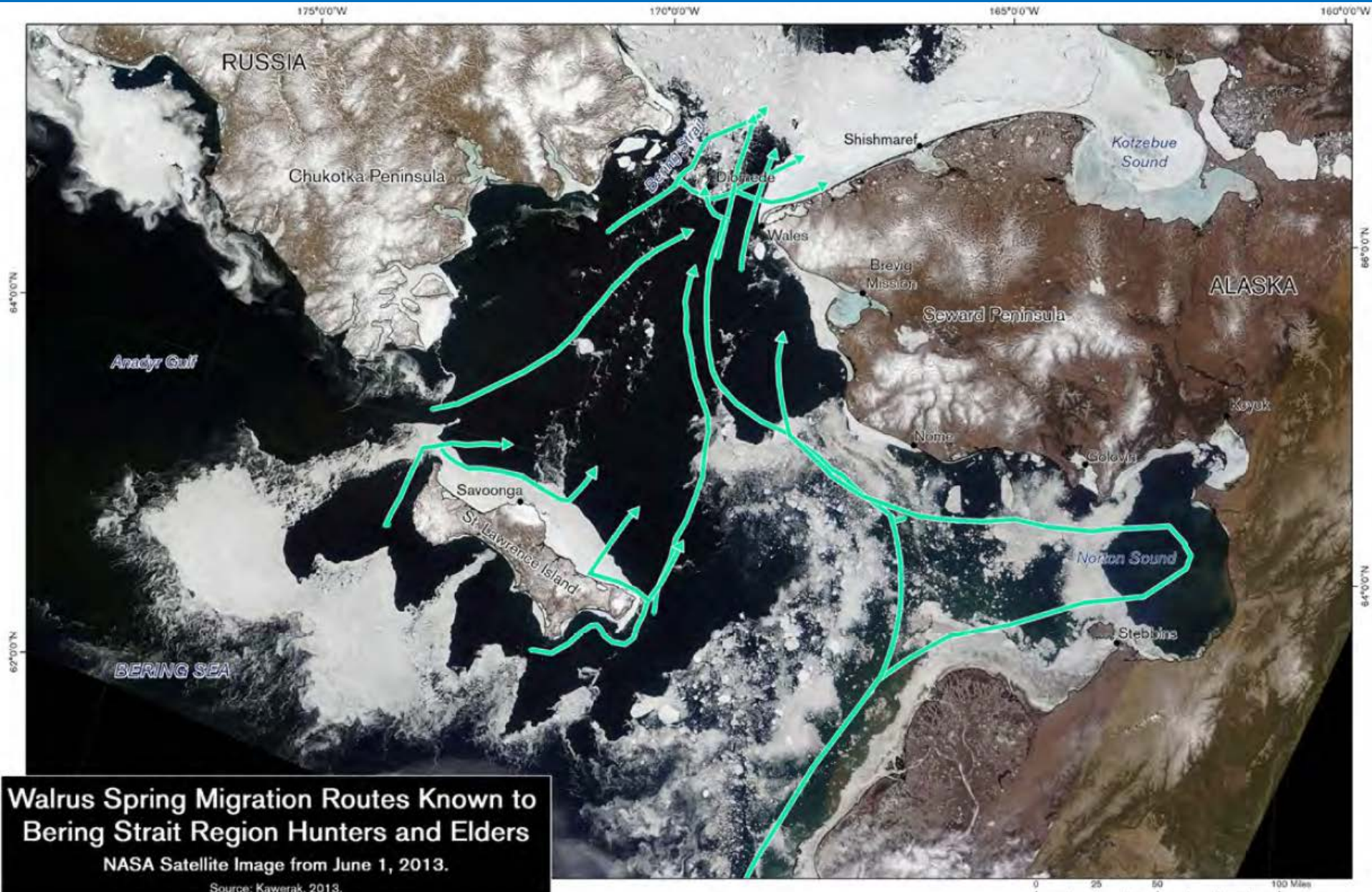
Map 3.4



Winter Seal Subsistence Use Area



Migrations and Flow of Productivity



Walrus Spring Migration Routes Known to Bering Strait Region Hunters and Elders
NASA Satellite Image from June 1, 2013.
Source: Kawerak, 2013.

A Dynamic Region

Sea ice is important habitat that changes from day to day, week to week, and year to year

May 28, 2010

June 1, 2013

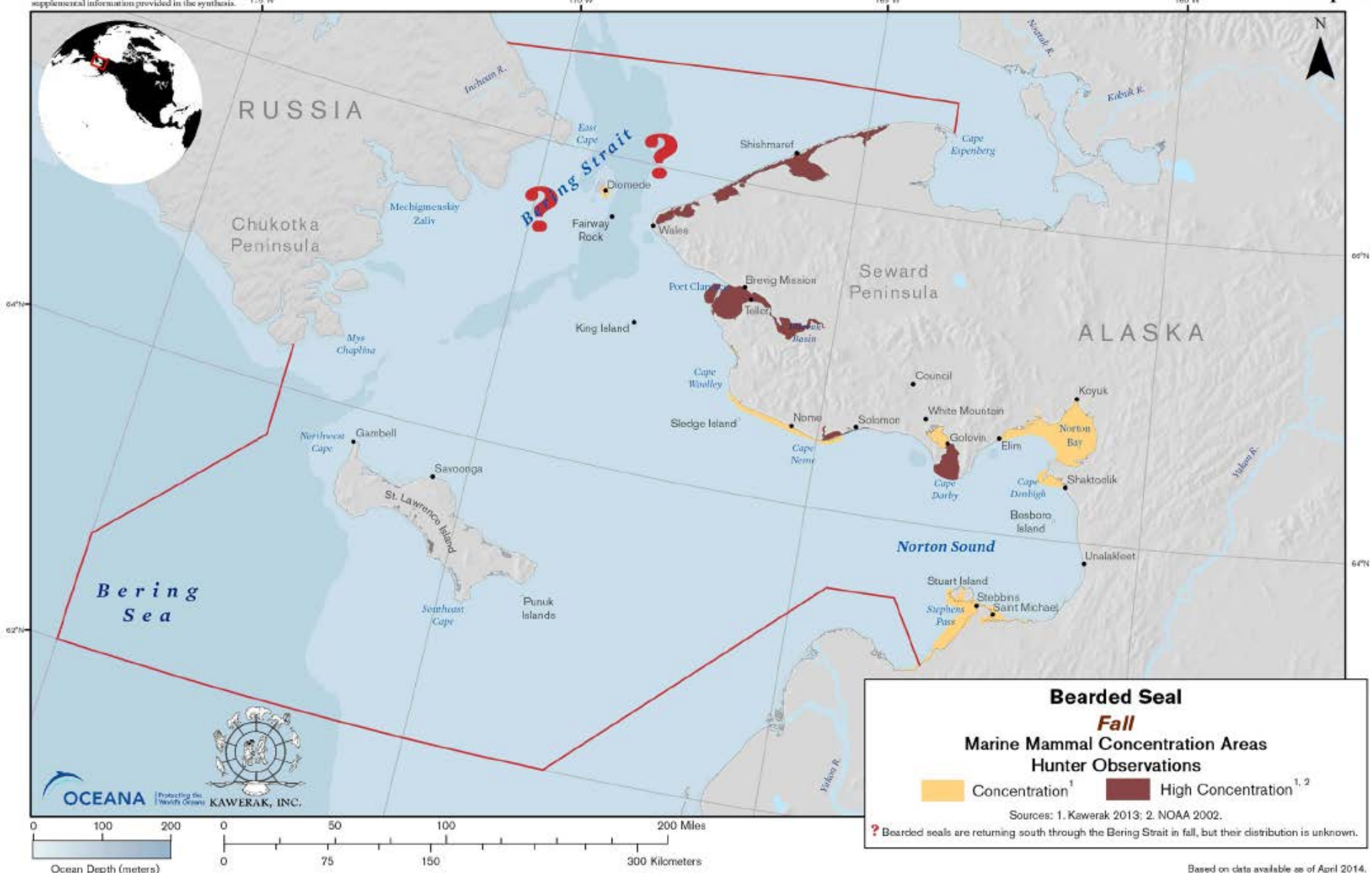


Fall Bearded Seal Concentration Areas and Data Gaps

All maps are intended to be reviewed with supplemental information provided in the synthesis.

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Map 4.8



Bering Sea Productivity is a Shared Resource

Animal migrations and ocean currents connect Bering Strait to other areas.



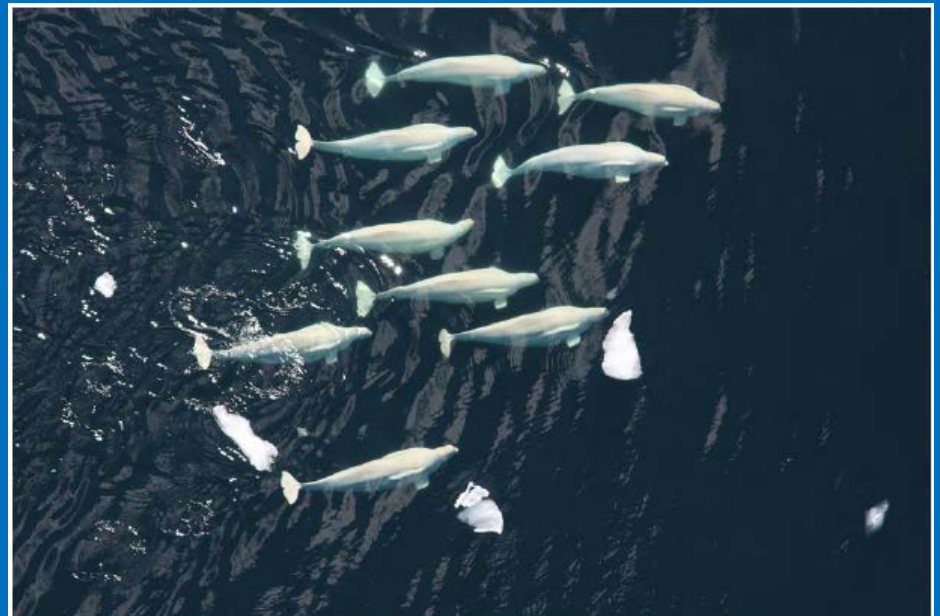
Fish drying in Koyuk
Photo Credit: Julie Raymond-Yakoubian

Bering Sea Productivity is a Shared Resource

Animal migrations and ocean currents connect Bering Strait to other areas.

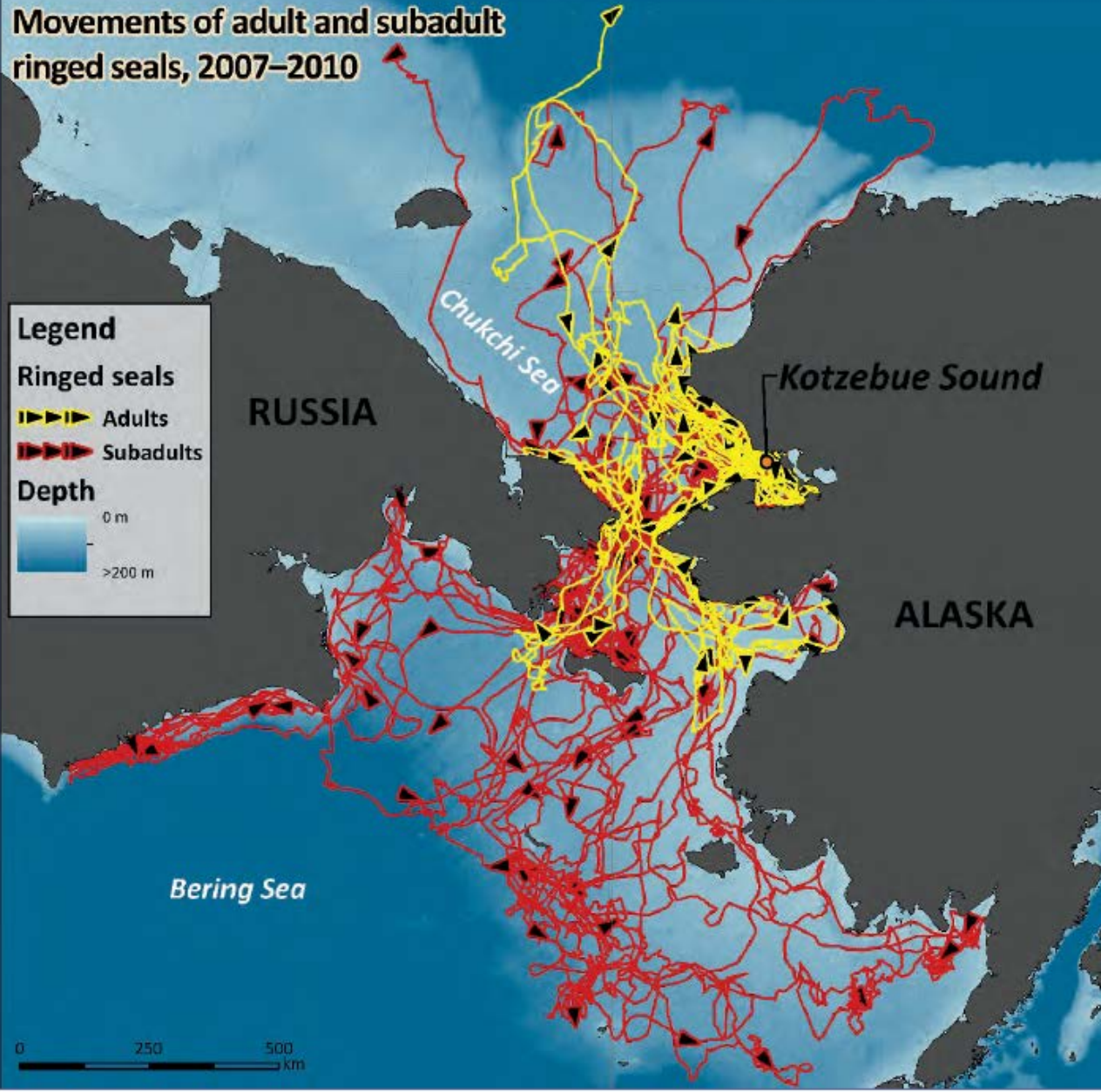


Spotted seal
Photo Credit: NOAA



Beluga whales
Photo Credit: Laura Morse, NOAA

**Movements of adult and subadult
ringed seals, 2007–2010**

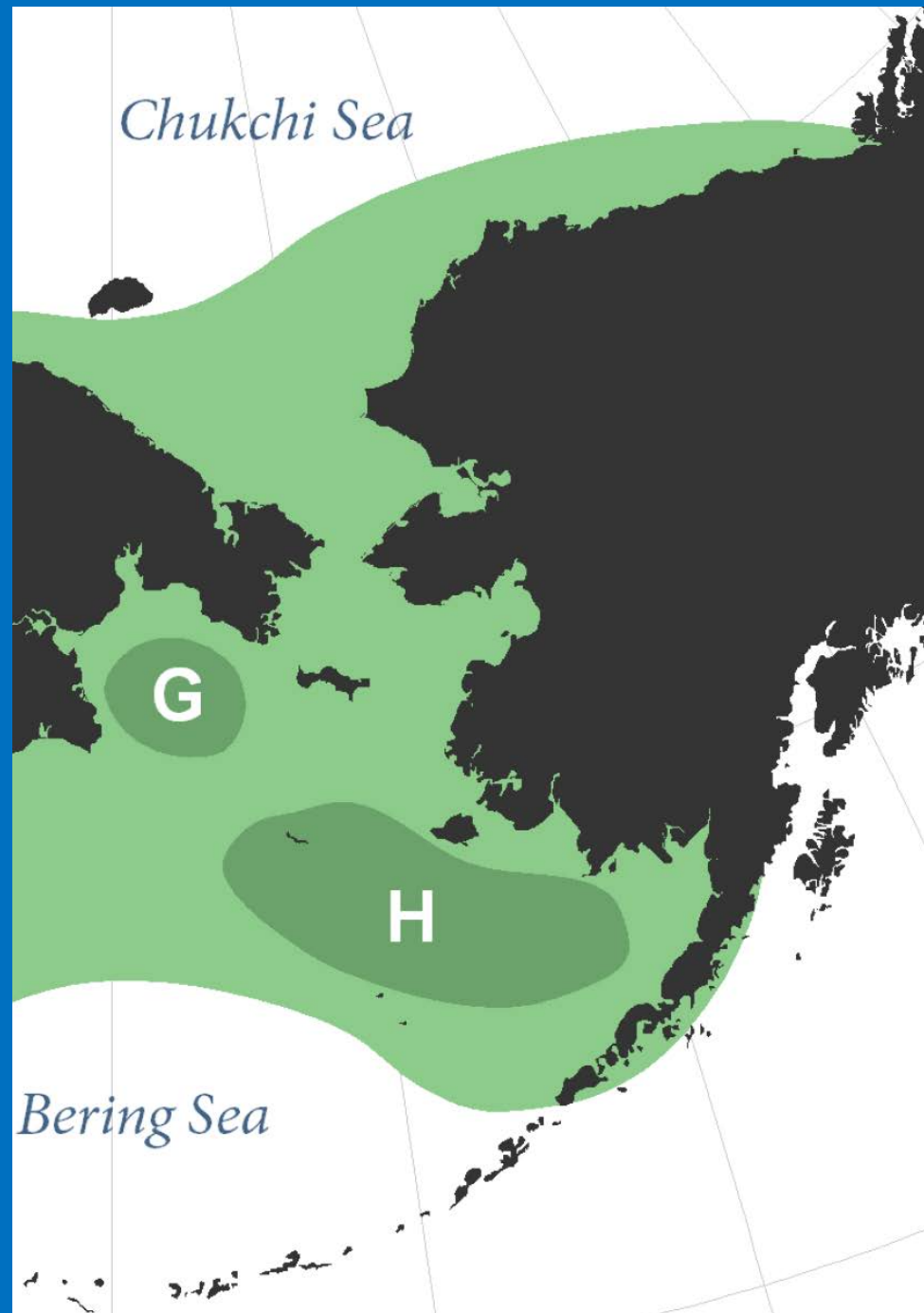


**Subadult
ringed seals
tagged in
Kotzebue
Sound use the
southern
Bering Sea
during winter**

Source – Kotzebue Marine Mammal News 2012 (Kotzebue IRA)

Important spotted seal pupping and breeding area (H) is located in the southern Bering Sea (marginal sea ice)

Other animals



Other migrations also connect the Bering Strait region to other areas



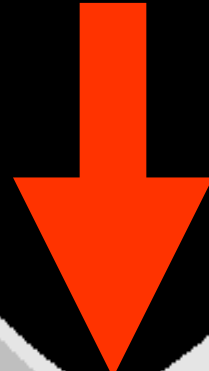
How should shared resources be taken into consideration?

**Subsistence mapping and TEK
documentation projects are
occurring around the Bering Sea
(and elsewhere)**

<http://alaskasubsistenceusemapping.org>

A Proactive Approach Is Needed

**Climate Change
Ocean Acidification**



**Shipping
Oil and Gas
Industrial Fishing**



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