

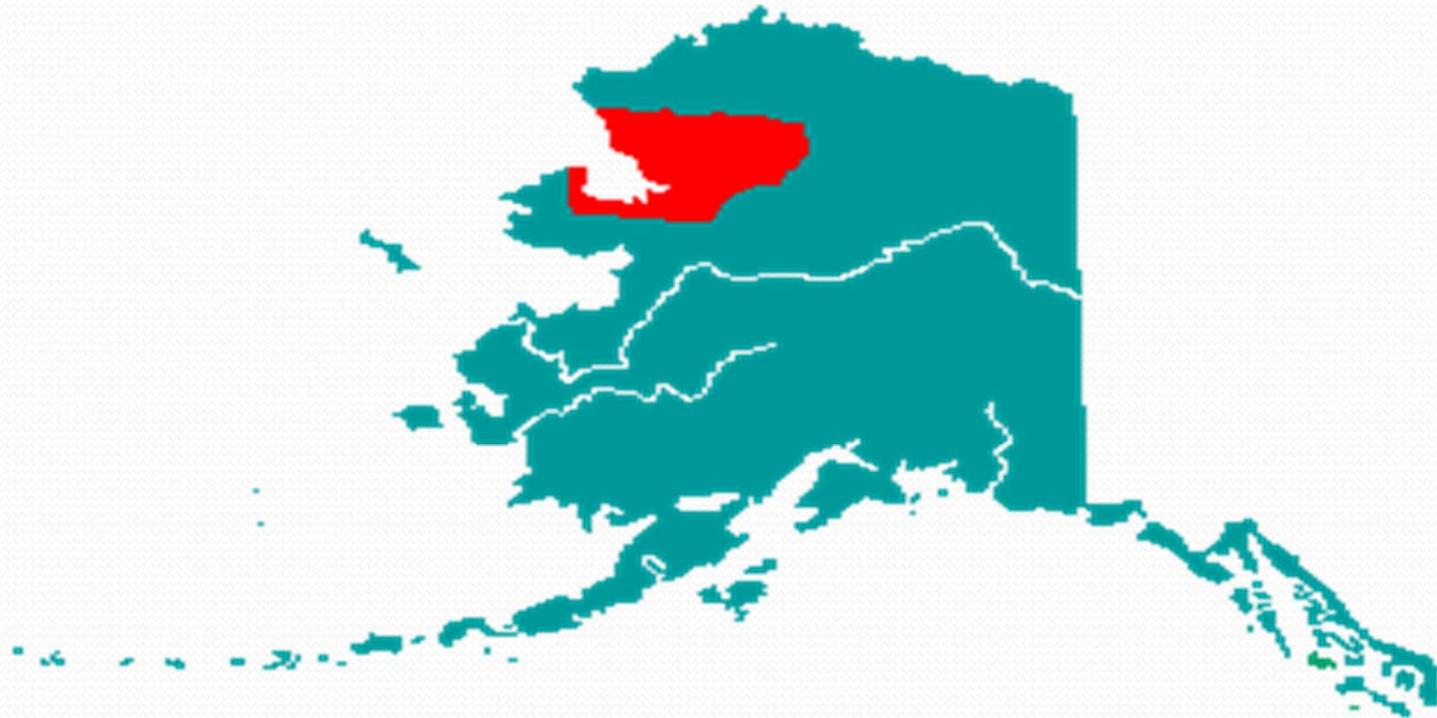


Northwest Arctic Borough: Facing Arctic Challenges

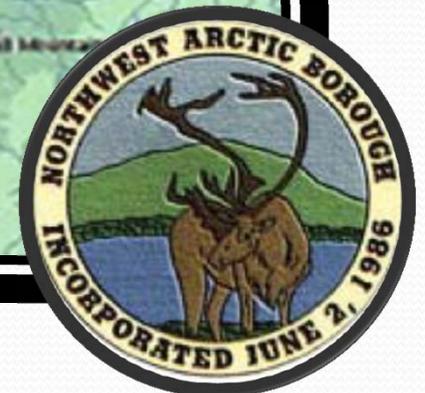
Mayor Reggie Joule



Northwest Arctic Borough



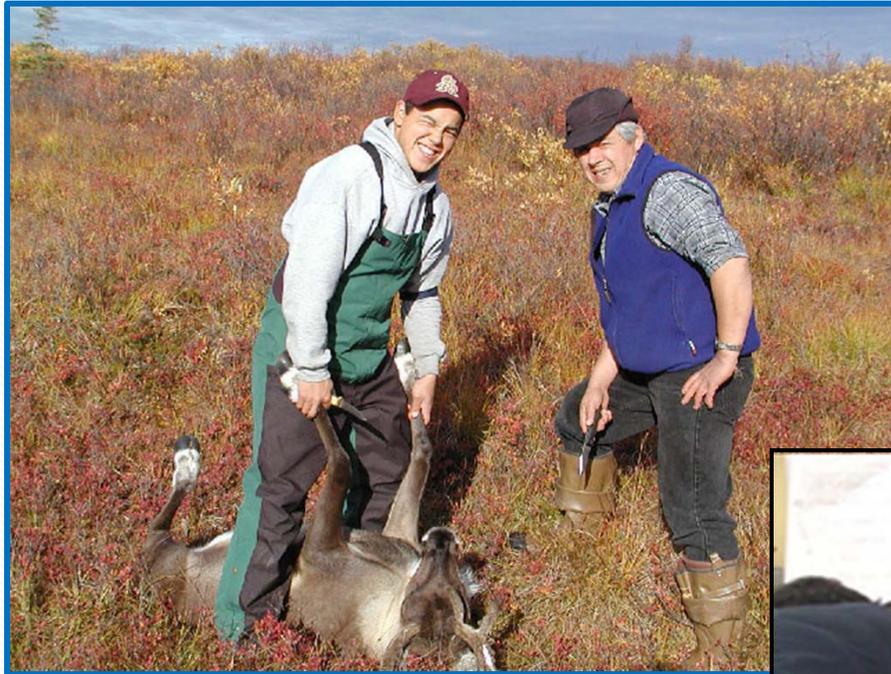
Eleven Communities



KOTZEBUE A HUB COMMUNITY



SUBSISTENCE





SUBSISTENCE

- **Food Security is a top priority of the region and our residents**
- Climate change is changing habitat, migration routes and the chemistry in our oceans all which impacts the animals we rely on
- Concerned about health of animals in rapidly changing environment
- Started small science program-a way to set own agenda and research what is important to our residents



SUBSISTENCE

- Western Arctic Caribou Herd- the Western Arctic Caribou and Teshekpuk caribou herds are both declining. Factors include changes in habitat, weather/climate, predation, hunting and disease. Board of Game will consider reducing harvest until herds show sign of improvement.
 - Herds have declined by more than half:
 - WAH from 490,000 to 235,000
 - TCH from 68,000 to 32,000

NORTHWEST ARCTIC BOROUGH RESEARCH STEERING COMMITTEE:

Mission Statement: Improving the science and research capacity of the Northwest Arctic Borough to better understand the environment in order to improve the quality of life for our residents.

Top Five Goals:

1. Promote Community-based research
2. **Integrate Local/traditional knowledge into research**
3. Seek Cooperative research with other organizations
4. Increase Youth engagement/education
5. **Maintain subsistence use of Arctic resources and traditional lifestyles and food security**

NORTHWEST ARCTIC BOROUGH RESEARCH STEERING COMMITTEE:

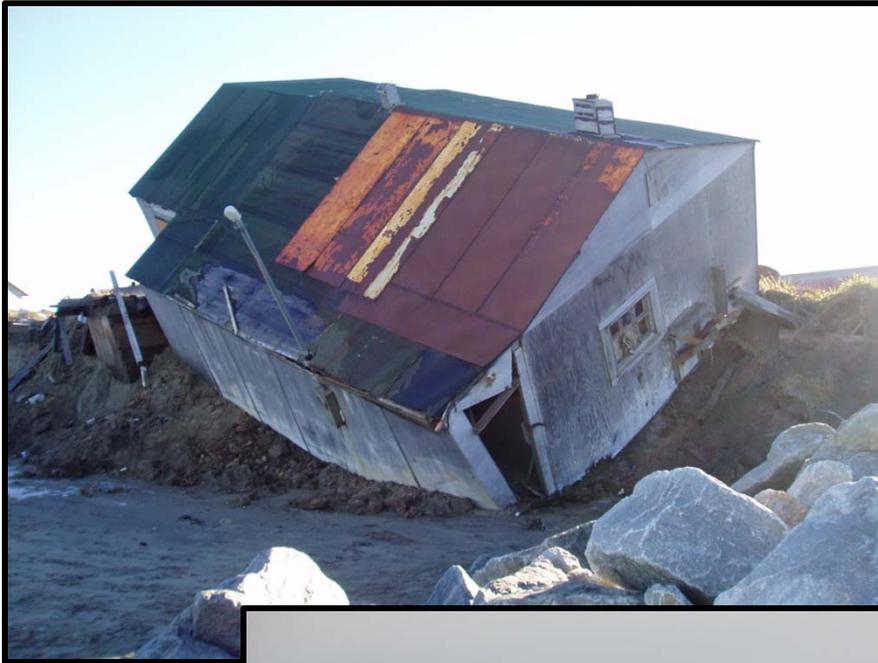
Started Research: Buckland Beluga Whale Project, Bearded Seal Hearing, Kotzebue Sound Ambient Noise Monitoring

State of Knowledge- Funded scientists with Arctic Expertise to develop papers about the state of knowledge in their area of expertise

Village Survey-Interviewed local residents to help determine research priorities

More next summer: Drifters, more ambient and seal noise monitoring, caribou research

CLIMATE AND EROSION



**Every
community has
an erosion issue**

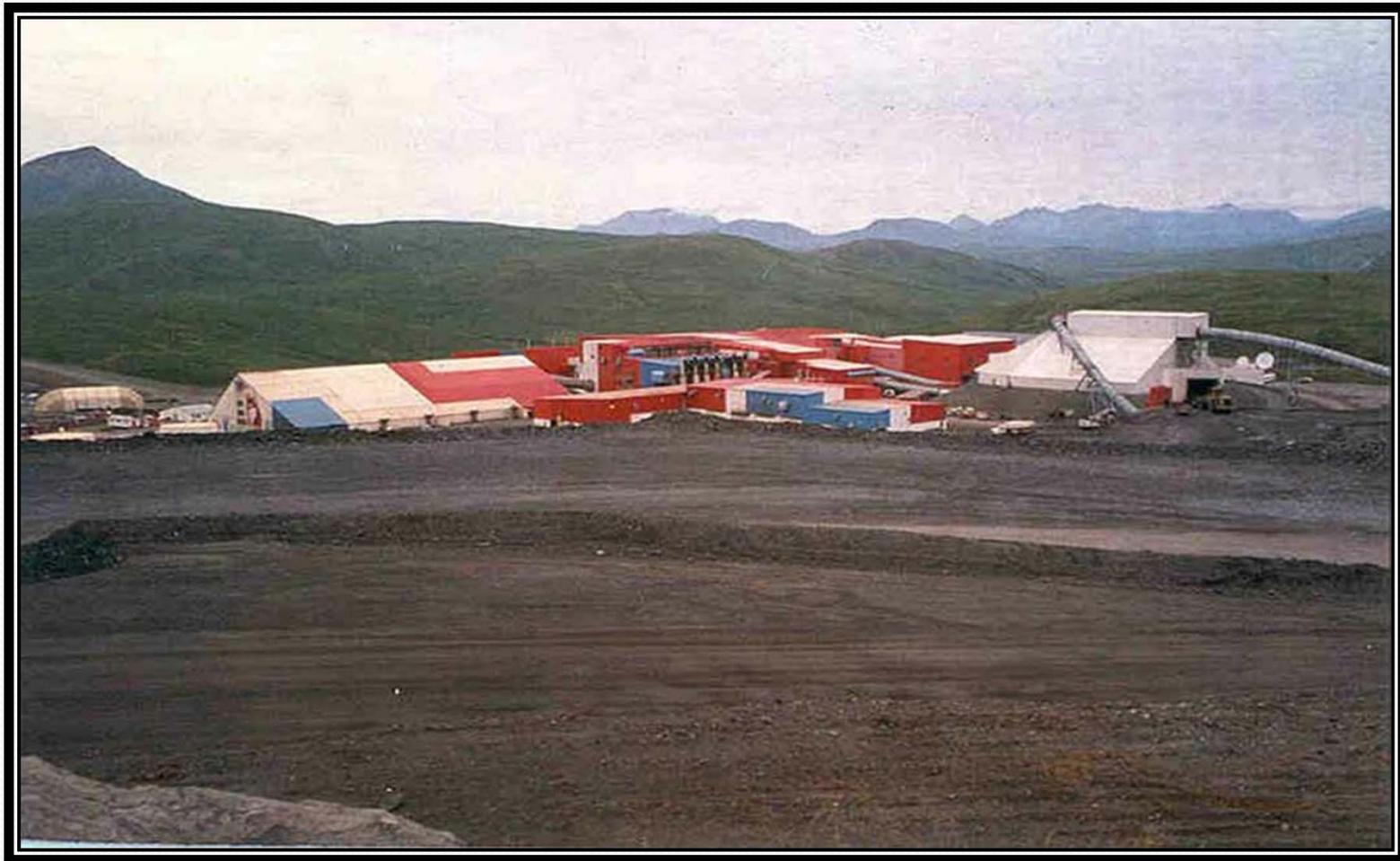
CLIMATE AND EROSION

- Arctic sea ice is receding faster than projected
- Increase to community vulnerability for coastal erosion due to increase in storm magnitude and frequency
- The village of Kivalina sits on a low-lying barrier island between the Chukchi Sea and Kivalina Lagoon. Due to significant erosion, the community of Kivalina will have to be relocated. In the interim, a series of mitigation measures are being pursued to protect the community as much as possible

PROBLEMS:

- Lack of funding and designated agency, grant formula cost-benefit analysis hurts small rural communities

RED DOG MINE – Resource Development





Oil, Gas and Mineral Exploration

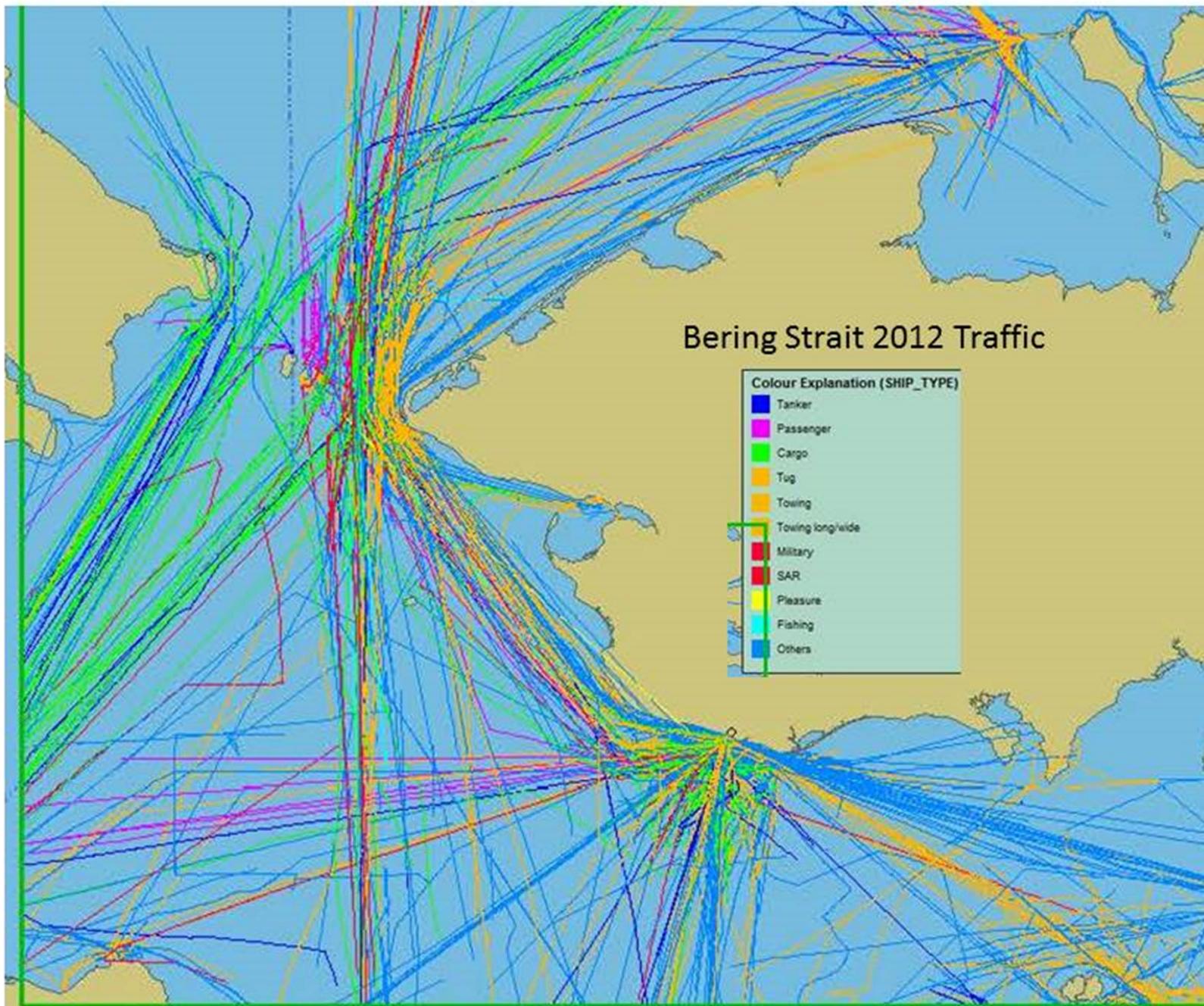
- A 2008 US geological survey estimates 13% of the earth's undiscovered oil reserves and 30% of the undiscovered gas reserves are in the Arctic.
- The majority of the oil is likely to be offshore.
- Shell is exploring for oil in our region.
- OCS Revenue sharing with local communities is essential for our support.
- Must be benefit to region and protect food resources



MARINE TRANSPORTATION

Diminished sea-ice has led to increases in commercial shipping on two trans-Arctic sea routes





- From 2008 to 2013, Bering Strait transits more than doubled from 220 to 440
- Number of tank vessels doubled every year, from 3 in 2008 to 45 in 2012
- Tourism and passenger vessels visits are increasing
- Safe shipping through the Bering Straits is critical for protection of the regions world class commercial and subsistence resources
- Concerns about lack of infrastructure, search and rescue
- Concerns about ship strikes, noise and light on marine mammals



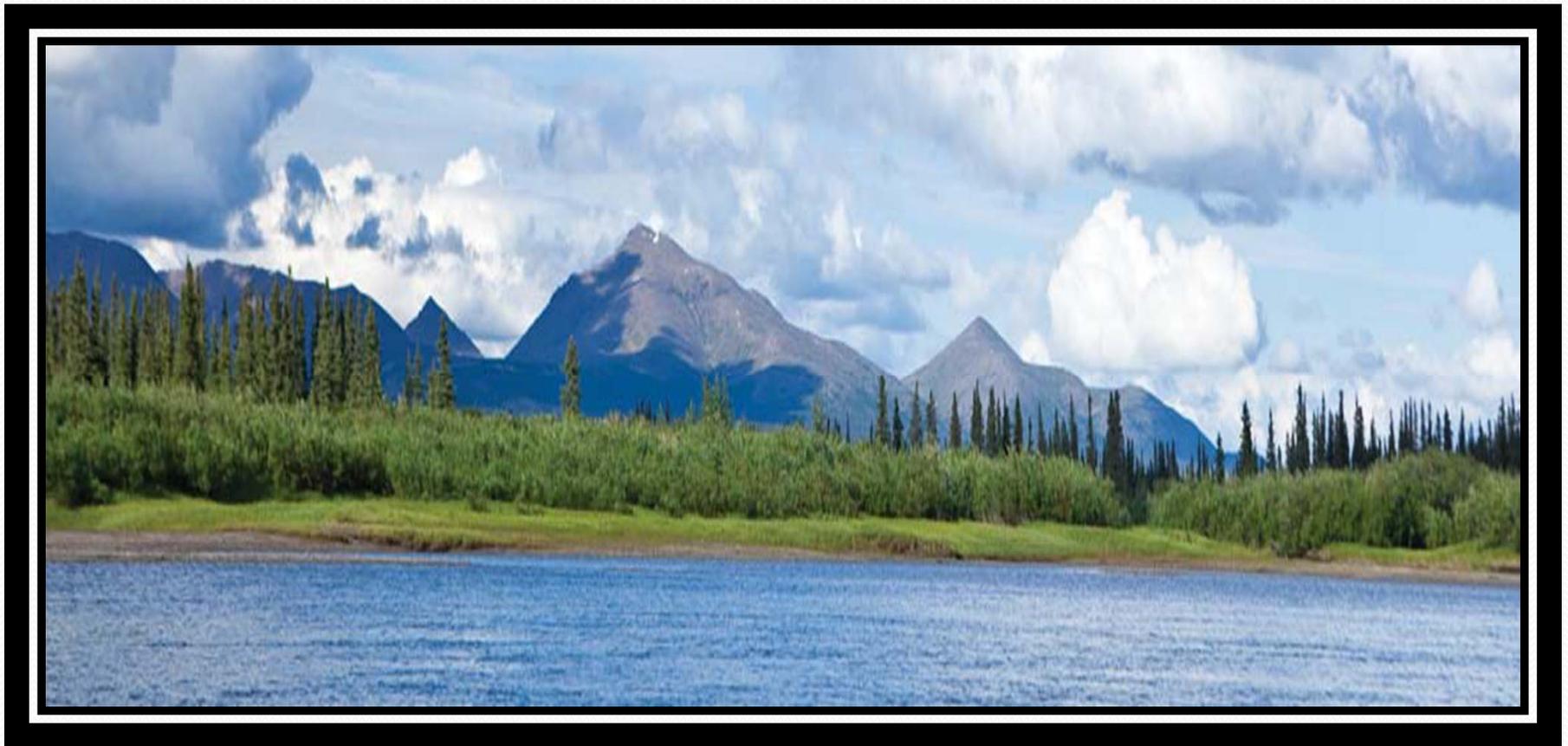
POLAR ICEBREAKERS OF THE WORLD

RUSSIA	6 HEAVY • 5 PLANNED	ARCTIC SEA (2012) ARCTIC SEA (2013) ARCTIC SEA (2014) ARCTIC SEA (2015) ARCTIC SEA (2016) ARCTIC SEA (2017)
	12 MEDIUM • 1 UNDER CONSTRUCTION • 1 PLANNED	ARCTIC SEA (2012) ARCTIC SEA (2013) ARCTIC SEA (2014) ARCTIC SEA (2015) ARCTIC SEA (2016) ARCTIC SEA (2017) ARCTIC SEA (2018) ARCTIC SEA (2019) ARCTIC SEA (2020) ARCTIC SEA (2021) ARCTIC SEA (2022)
	13 LIGHT • 1 UNDER CONSTRUCTION	ARCTIC SEA (2012) ARCTIC SEA (2013) ARCTIC SEA (2014) ARCTIC SEA (2015) ARCTIC SEA (2016) ARCTIC SEA (2017) ARCTIC SEA (2018) ARCTIC SEA (2019) ARCTIC SEA (2020) ARCTIC SEA (2021) ARCTIC SEA (2022)
SWEDEN	4 MEDIUM	ARCTIC SEA (2012) ARCTIC SEA (2013) ARCTIC SEA (2014) ARCTIC SEA (2015)
	5 LIGHT	ARCTIC SEA (2012) ARCTIC SEA (2013) ARCTIC SEA (2014) ARCTIC SEA (2015) ARCTIC SEA (2016)
FINLAND	6 MEDIUM	ARCTIC SEA (2012) ARCTIC SEA (2013) ARCTIC SEA (2014) ARCTIC SEA (2015) ARCTIC SEA (2016) ARCTIC SEA (2017)
	2 LIGHT	ARCTIC SEA (2012) ARCTIC SEA (2013)
CANADA	2 MEDIUM • 1 Planned	ARCTIC SEA (2012) ARCTIC SEA (2013)
	4 LIGHT	ARCTIC SEA (2012) ARCTIC SEA (2013) ARCTIC SEA (2014) ARCTIC SEA (2015)
UNITED STATES	2 HEAVY • 1 UNDER CONSTRUCTION • 1 Planned	ARCTIC SEA (2012) ARCTIC SEA (2013)
	1 MEDIUM • 1 UNDER CONSTRUCTION	ARCTIC SEA (2012)
	1 LIGHT • 1 UNDER CONSTRUCTION	ARCTIC SEA (2012)
CHINA	1 LIGHT • 1 UNDER CONSTRUCTION	ARCTIC SEA (2012)
DENMARK	2 LIGHT	ARCTIC SEA (2012) ARCTIC SEA (2013)
ARGENTINA	1 LIGHT	ARCTIC SEA (2012)
AUSTRALIA	1 LIGHT	ARCTIC SEA (2012)
CHILE	1 LIGHT	ARCTIC SEA (2012)
GERMANY	1 LIGHT • 1 Planned	ARCTIC SEA (2012) ARCTIC SEA (2013)
JAPAN	1 MEDIUM	ARCTIC SEA (2012)
KOREA	1 LIGHT	ARCTIC SEA (2012)
NORWAY	1 LIGHT • 1 UNDER CONSTRUCTION	ARCTIC SEA (2012) ARCTIC SEA (2013)
		<p>KEY</p> <p>Vessels were selected and organized based on their installed power (indicated in kW). Vessel colors reflect vessel sizes.</p> <p>COLOR GUIDE</p> <p>HEAVY At least 45,000 kW</p> <p>MEDIUM At least 20,000 kW but less than 45,000 kW</p> <p>LIGHT At least 10,000 kW but less than 20,000 kW</p> <p>NON OPERATIONAL Under repair or in reserve status</p> <p>UNDER CONSTRUCTION Being constructed currently</p> <p>PLANNED Planned for construction in the near future</p> <p>Data derived from various sources.</p> <p>UPDATED: October 28, 2011</p>

Developed and maintained by USCG Directorate of Marine Transportation Systems Management
Office of Mobility and Ice Operations (CG-5523)

Polar Icebreakers of the World

OUR REGION



OUR REGION



Celebrating Who We Are



TAKIU

