



Ecosystem Services

Arctic Marine Mammals

- Stressors outside managers' control or jurisdiction
- Shift from managing **individual species** and species assemblages to a broader range of **ecosystem services**.
- Federal ESA Regulations and implications for industry.
- Cross-border ecosystem-wide studies.



Ice-Obligate Marine Mammals

- Climate-focused ESA listings.
- Listings are ongoing and can be controversial.
- Polar bear – listed as threatened in 2008.
- Bearded & Ringed Seals- listed in Dec. 2012.
- Walrus – listing decision to be made in 2017.





Bearded Seal Case

- Basis for listing was "habitat alteration stemming from climate change".
- NMFS looked 100 years into the future to project effects of climate change on sea ice habitat.
- Listing challenged by AOGA, North Slope Borough, ASRC, and State, among others.
- Parties agreed that climate change is an appropriate consideration for listing purposes. But disagreed over using a 100-year timeline.



Bearded Seal Case

- ESA uses term “foreseeable future”, but doesn't define it.
- Polar bear listing (upheld by courts) was based on 45-year projection of effects of climate change.
- However in Jan. of 2013, the courts voided the polar bear critical habitat designation (187,157 mi² as being too extensive.





Bearded Seal Case

- Federal District Court concluded:
"Forecasting more than 50 years into the future is simply too speculative and remote to support a determination that the bearded seal is in danger of becoming extinct".

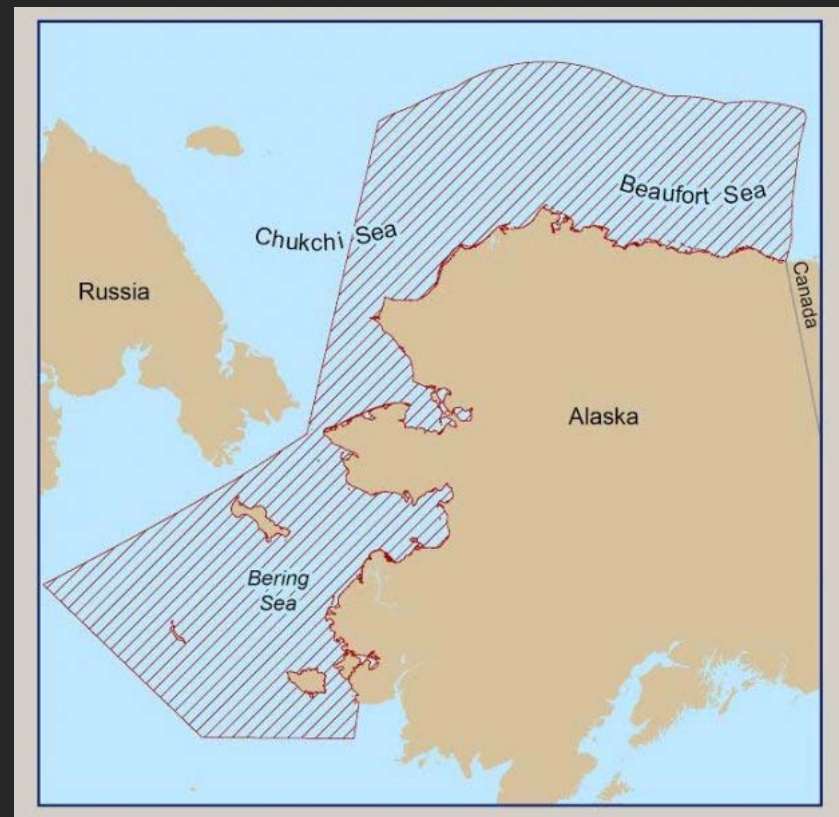


- The listing was vacated in July of 2014.



Ringed Seals

- Dec 2, 2013 NOAA proposed about 350,000 mi² as critical habitat for ringed seals.
- Would be the nation's most vast area of CH.
- Currently in 90-day public review period.
- Likely to be challenged in the courts.





Ecosystem Services

- Joint Studies such as Marine Arctic Ecosystem Study (MARES):
 - Joint US-Canada effort Lead by BOEM with help from Shell, the USCG, and the US Arctic Research Commission.
 - Will study components of the Beaufort Sea ecosystem from Barrow in Alaska to the Mackenzie River delta off of Canada.
 - The overarching goal of the study is to better understand the interrelationships of the physical, biological, chemical and human systems, including traditional knowledge, of the Beaufort Sea



Discussion Topics: Ecosystem Services

- Implications of ESA listings for Arctic Industry and Transportation?
- How can Joint Studies such as MARES help?

