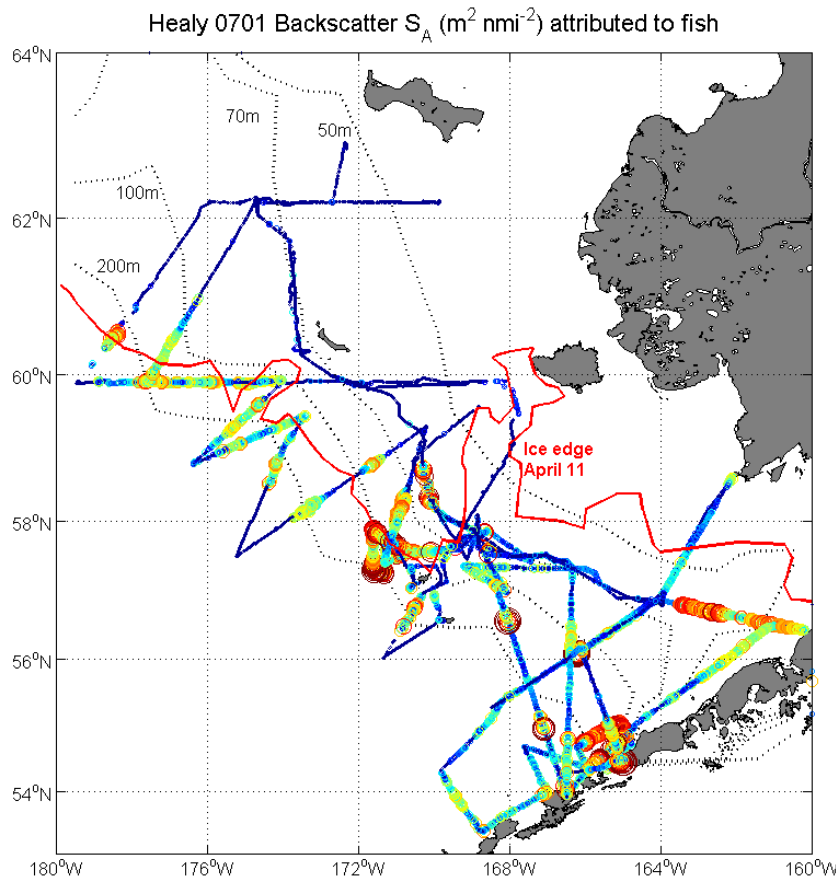


BEST/ BSIERP major issues

- *What processes regulate the production, distribution and abundance of upper trophic level marine organism?*
- *How will these quantitatively change under various climate scenarios?*
- *How might these interact with direct or indirect human-induced impacts?*
- *What are the associated economic and sociological impacts?*

Preliminary Distribution Maps

“FISH”



“Euphausiids”

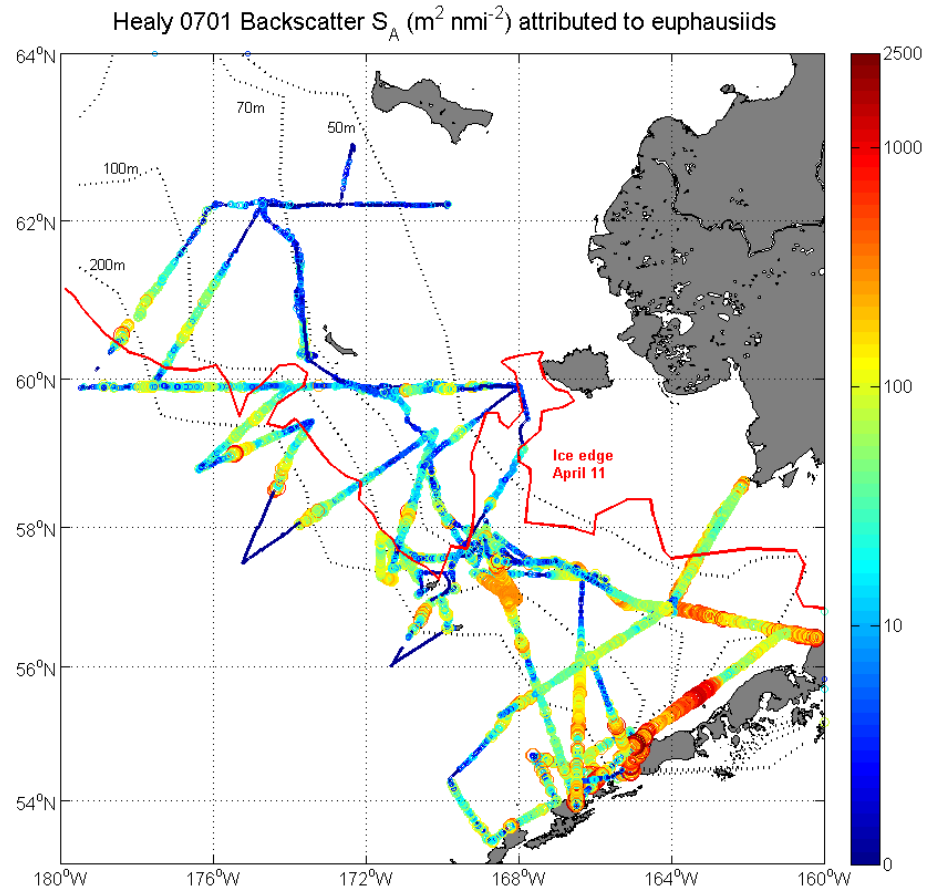
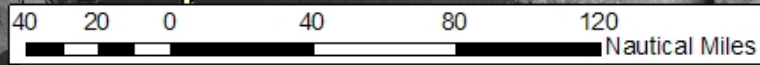


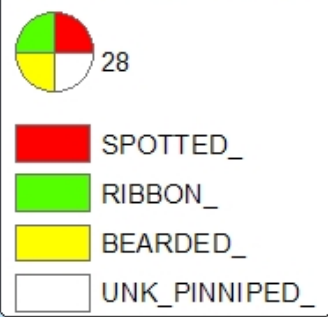
Figure 2. Acoustic backscatter (S_A $m^2 nmi^{-2}$) attributed to **A)** fish and **B)** euphausiids along *Healy's* and *Miller Freeman's* tracklines. The 200, 100, 70 and 50m isobaths are shown as gray dotted lines, and the approximate position of the ice edge at the start of the cruise is given in red. Symbol size and color is proportional to the intensity of acoustic backscatter.

Combined counts of ice seals
 from helo and ship surveys
 Eastern Bering Sea
 April 14 - May 8, 2007

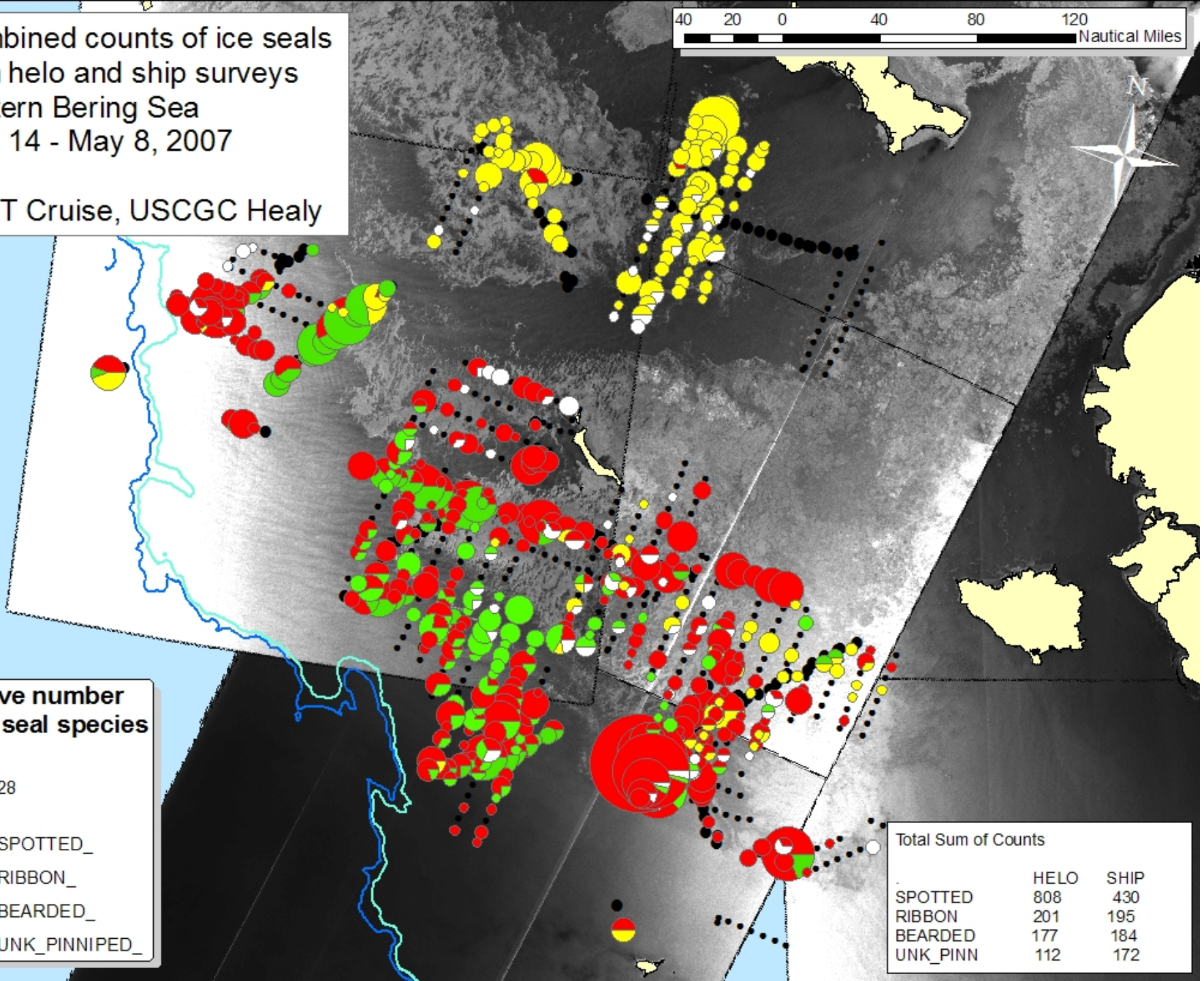
BEST Cruise, USCGC Healy



Relative number
 of ice seal species



Total Sum of Counts		
	HELO	SHIP
SPOTTED	808	430
RIBBON	201	195
BEARDED	177	184
UNK_PINN	112	172



USFWS At-Sea Observer Program

Goals –

- Examine spring distribution & abundance of birds relative to oceanographic properties, productivity, and changing ice conditions.
- Update seabird data in North Pacific Pelagic Seabird Database.

Methods – Record all birds & mammals within 300m, strip transect. Surveyed 3,201 km.

Results – 15,596 birds of **34 species**

Five spp accounted for 72% of all birds:

Northern Fulmar (22%)

Thick-billed Murre (22%)

Glaucous Gull (10%)

Black-legged Kittiwake (9%)

Common Murre (9%)

Planktivores (Whiskered, Crested & Least Auklets) were very rare (< 0.1%). *Note – Auklets were very abundant during SLIP in May-June, as ice left & plankton available.*

Species of interest:

Spectacled Eider, Short-tailed albatross (Threatened/Endangered)

Ivory gull, Black Guillemot (Arctic)

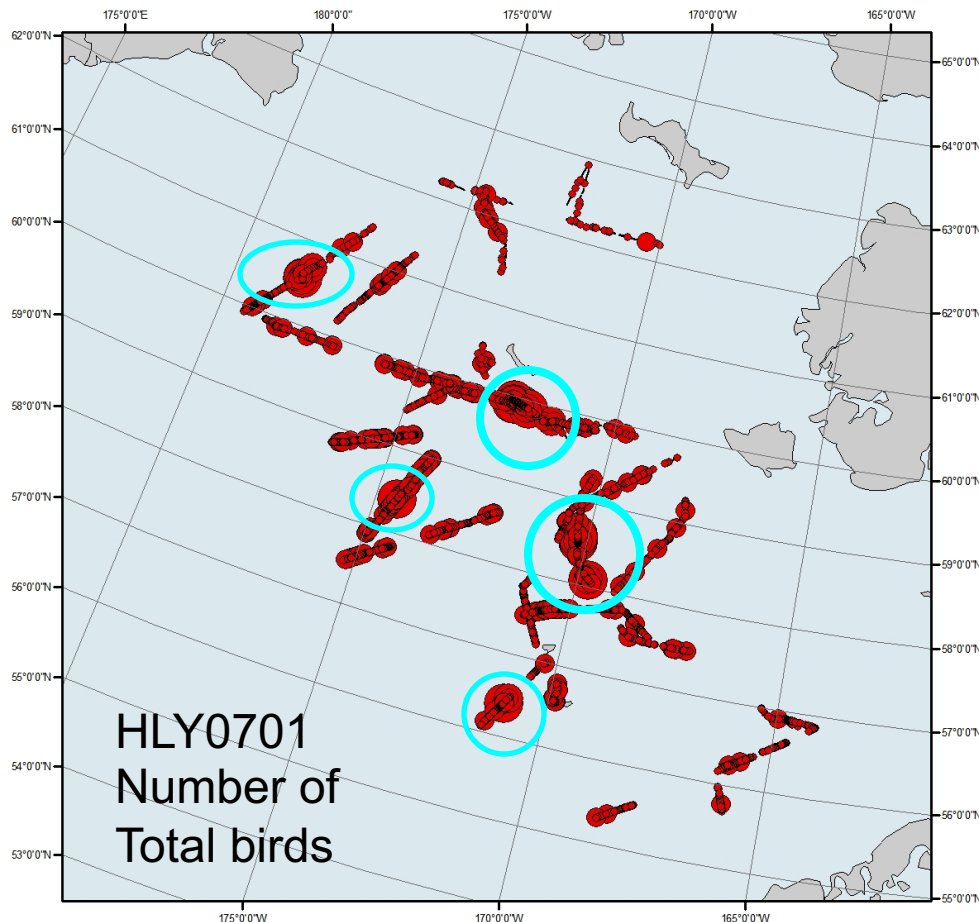
Slaty-backed gull (Siberian)

High bird densities:

~ 61.5 N, 178W

~ 60N, 172 W

~58-59N, 170W



Upper trophic levels - initial addressable questions

- Spatial scales
- Patch dynamics - how do they vary among seals/ whales/ birds/ fish/ euphausiids copepods
- Large marine ecosystems