Seabirds in the DBO – 2019 Update

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Data collection, management, archiving

Visual observations entered directly into laptop (*program Dlog3, R.G. Ford Consulting., Portland OR*)

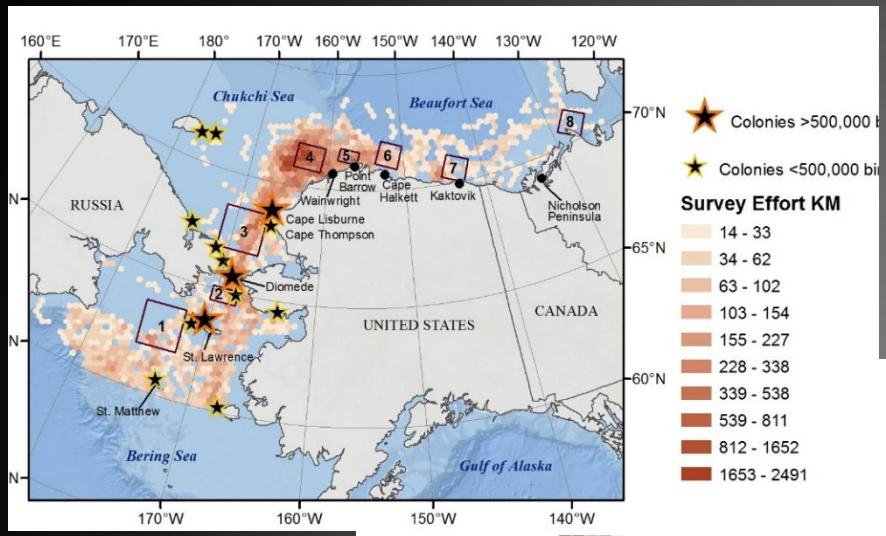
Raw counts (*csv files*) processed into densities (*birds/km*^{2}) in 3-km segments

Raw & processed data submitted to BOEM and AOOS Workspaces for associated projects (ArcticEIS, Bering Sea Project, DBO, GWA, etc)

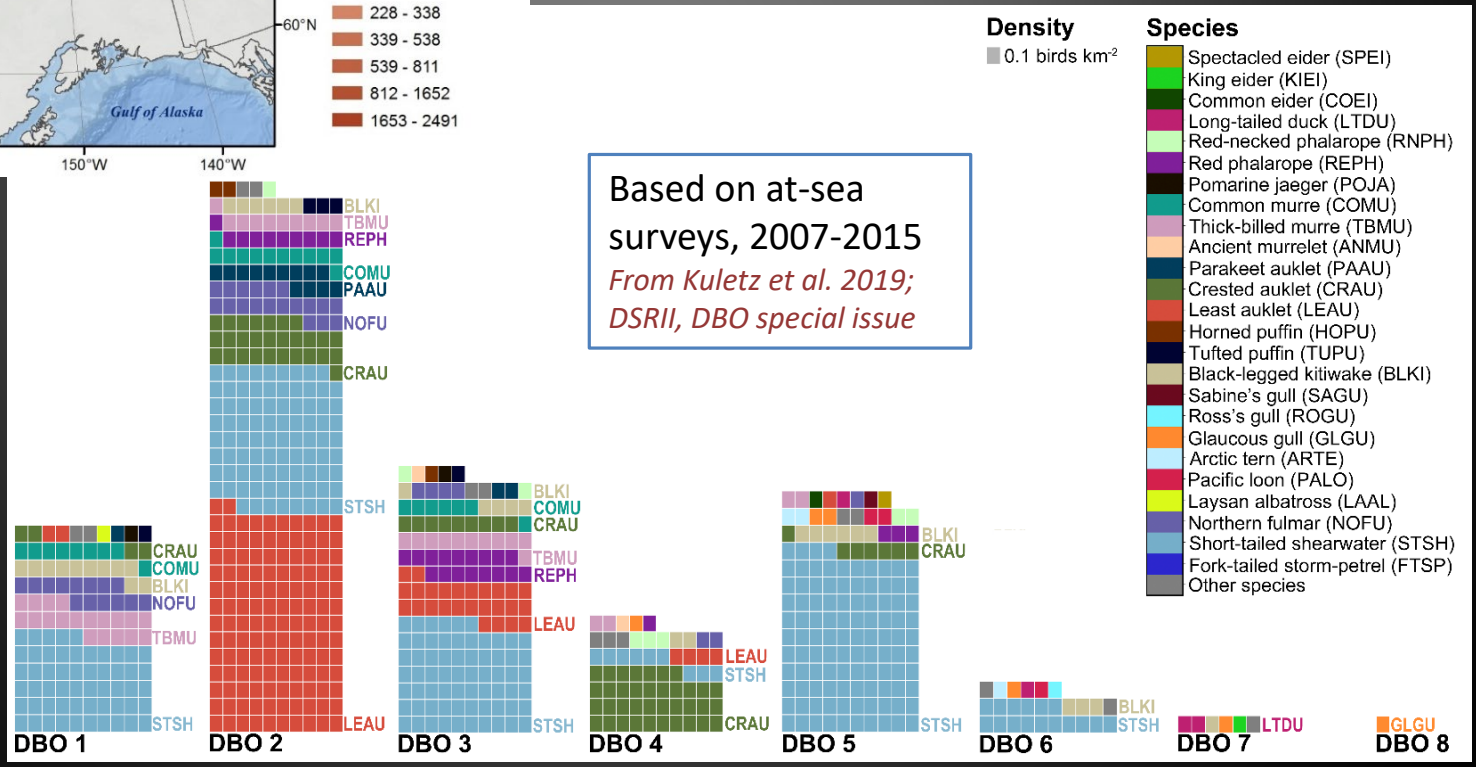
Processed data also in North Pacific Pelagic Seabird Database https://alaska.usgs.gov/products/data.php?dataid=1

Survey effort and Seabird species composition by DBO, 2007-2015

- 63 spp total
  (NBS > Chukchi> Beaufort)
- DBO 2 (Chirikov Basin) had highest densities, mainly planktivorous auklets & shearwaters
- Shearwaters most abundant spp in 5 of 8 DBOs



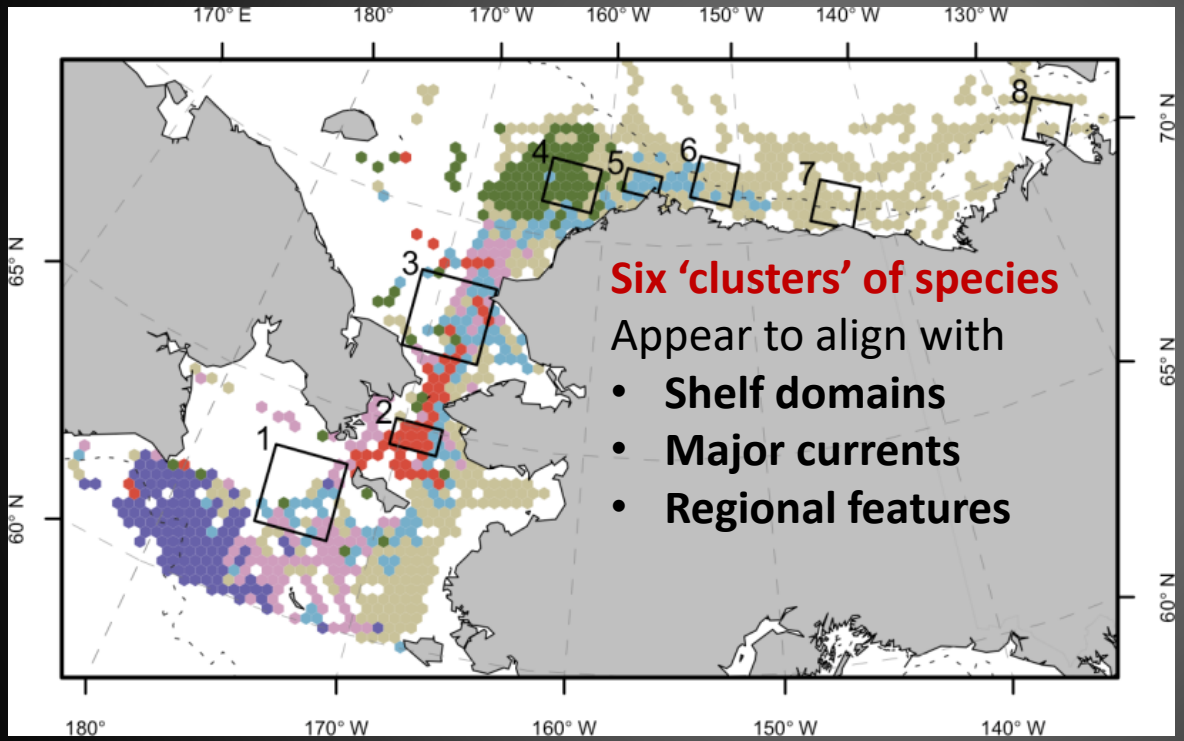
Based on at-sea surveys, 2007-2015
From Kuletz et al. 2019; DSRII, DBO special issue



Seabird Communities in Pacific Arctic

How well does the DBO array work for seabirds?

(Kuletz et al. 2019; DSRII)



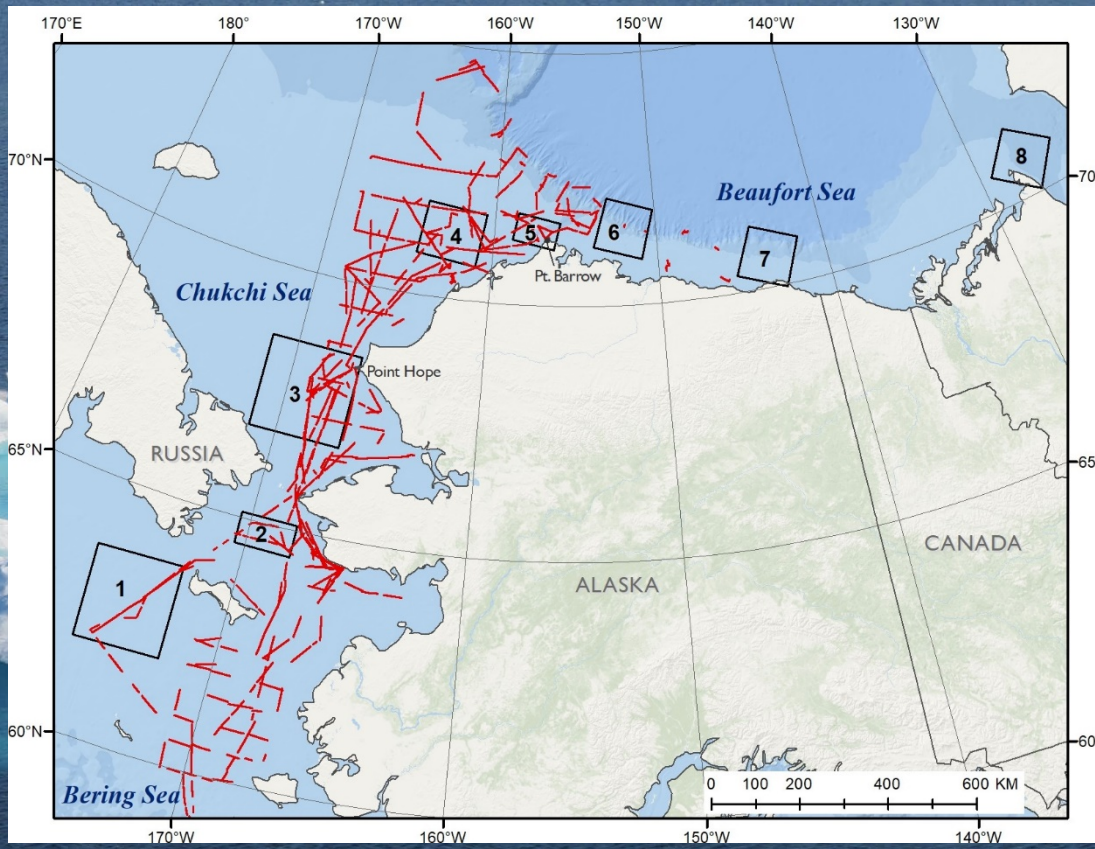
Main findings

- Six major communities
- Five had a dominant species
- One characterized by low seabird densities (none dominant)
- DBOs captured communities (exception – Fulmar community)
- Need all DBOs to capture full seabird community for LMEs
- Beaufort effort too low to track low seabird densities offshore

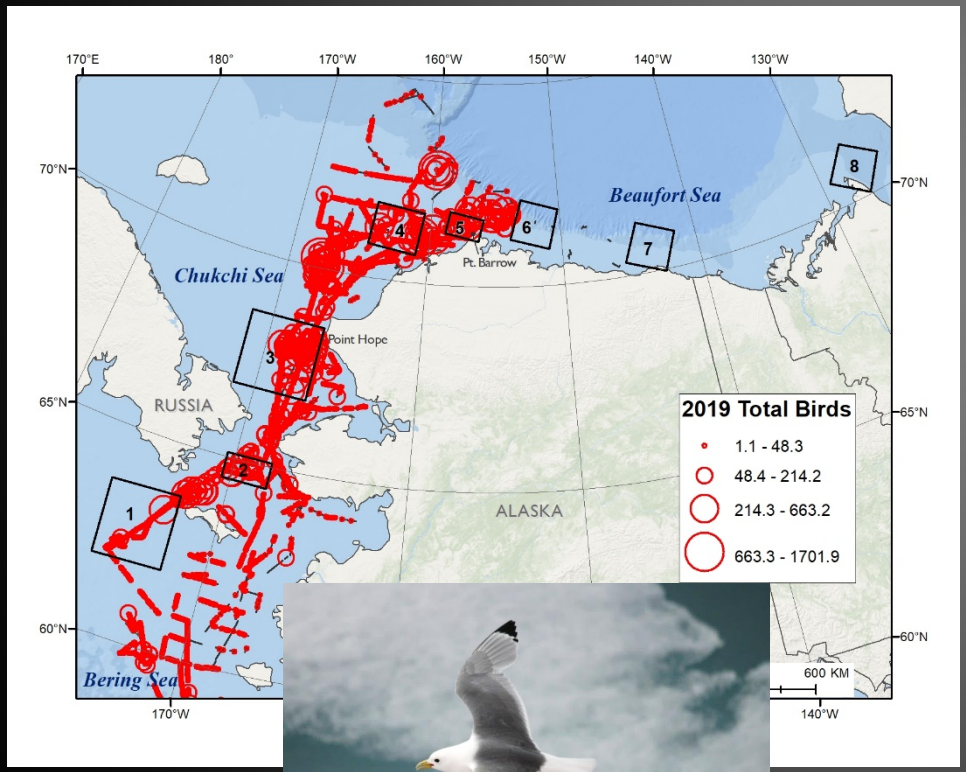
Cluster Analysis of at-sea survey data, 2007-2015

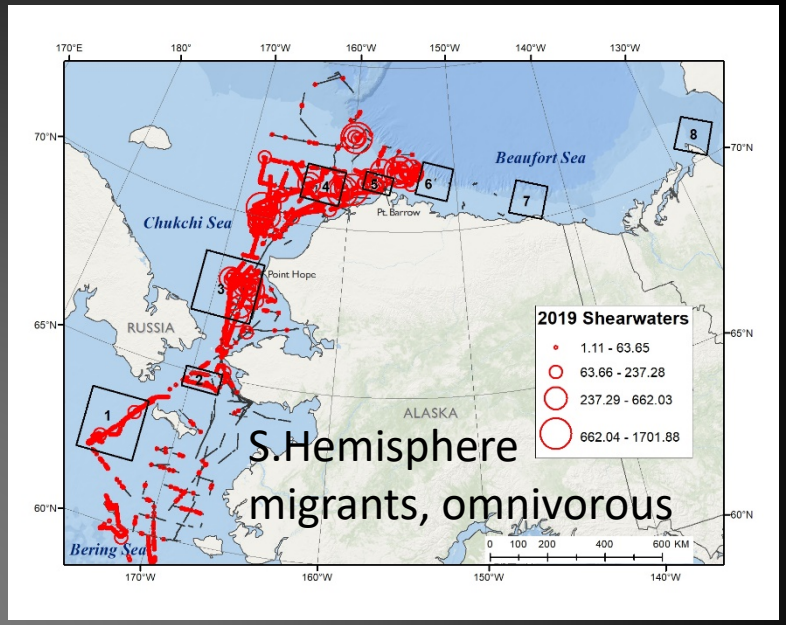
Survey Effort in 2019

Region	DBO box	Km Surveyed
Bering Sea	1	654
	2	360
Chukchi	3	1503
	4	833
	5	359
Beaufort	6	8
	7	0
	8	0
Total Km in DBOs		3,716
Non-DBO Km surveye		14,864

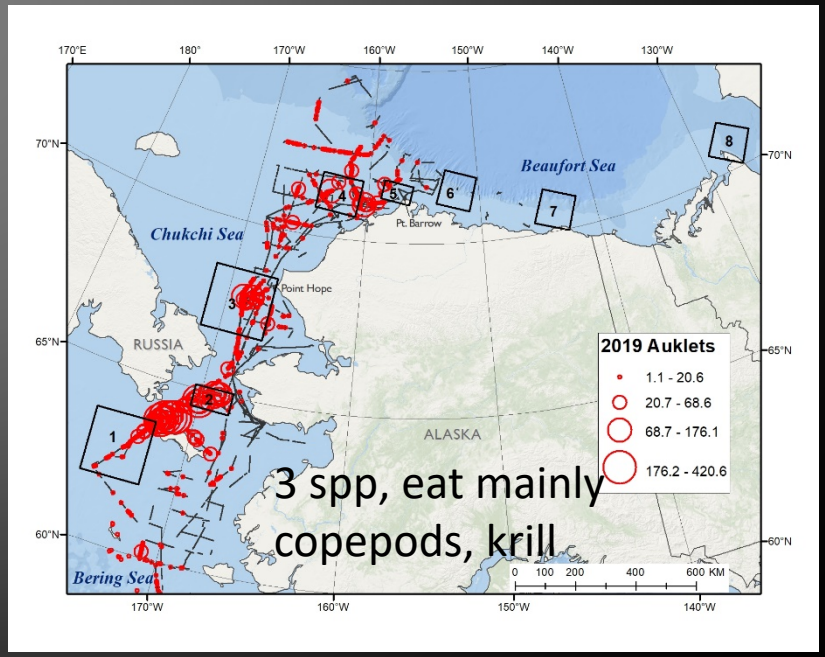


2019 Distribution of Total birds & 2 key species





S.Hemisphere migrants, omnivorous



3 spp, eat mainly copepods, krill

2019 Seabird Die offs in Alaska – primarily starvation