2016 NEFSC Sea Scallop Survey

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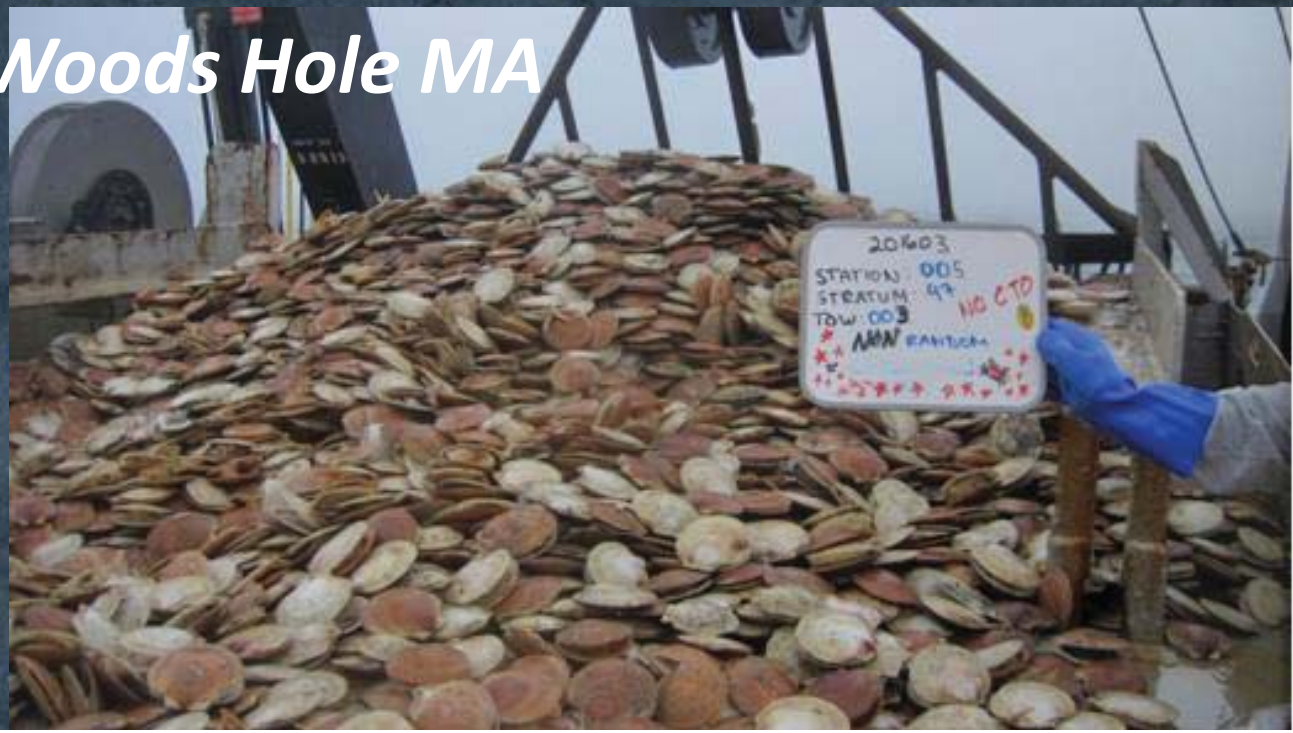
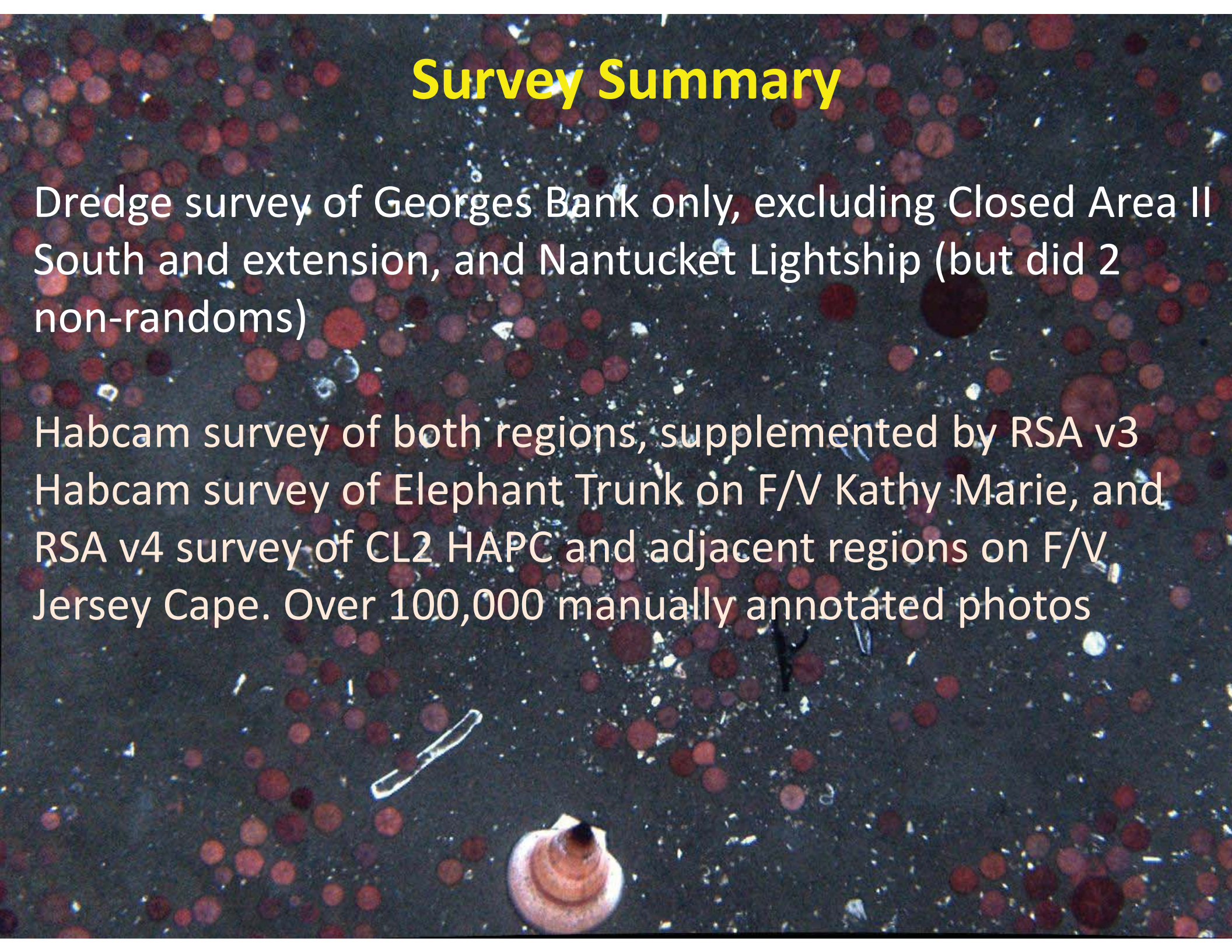


Survey Summary

Dredge survey of Georges Bank only, excluding Closed Area II South and extension, and Nantucket Lightship (but did 2 non-randoms)

Habcam survey of both regions, supplemented by RSA v3 Habcam survey of Elephant Trunk on F/V Kathy Marie, and RSA v4 survey of CL2 HAPC and adjacent regions on F/V Jersey Cape. Over 100,000 manually annotated photos

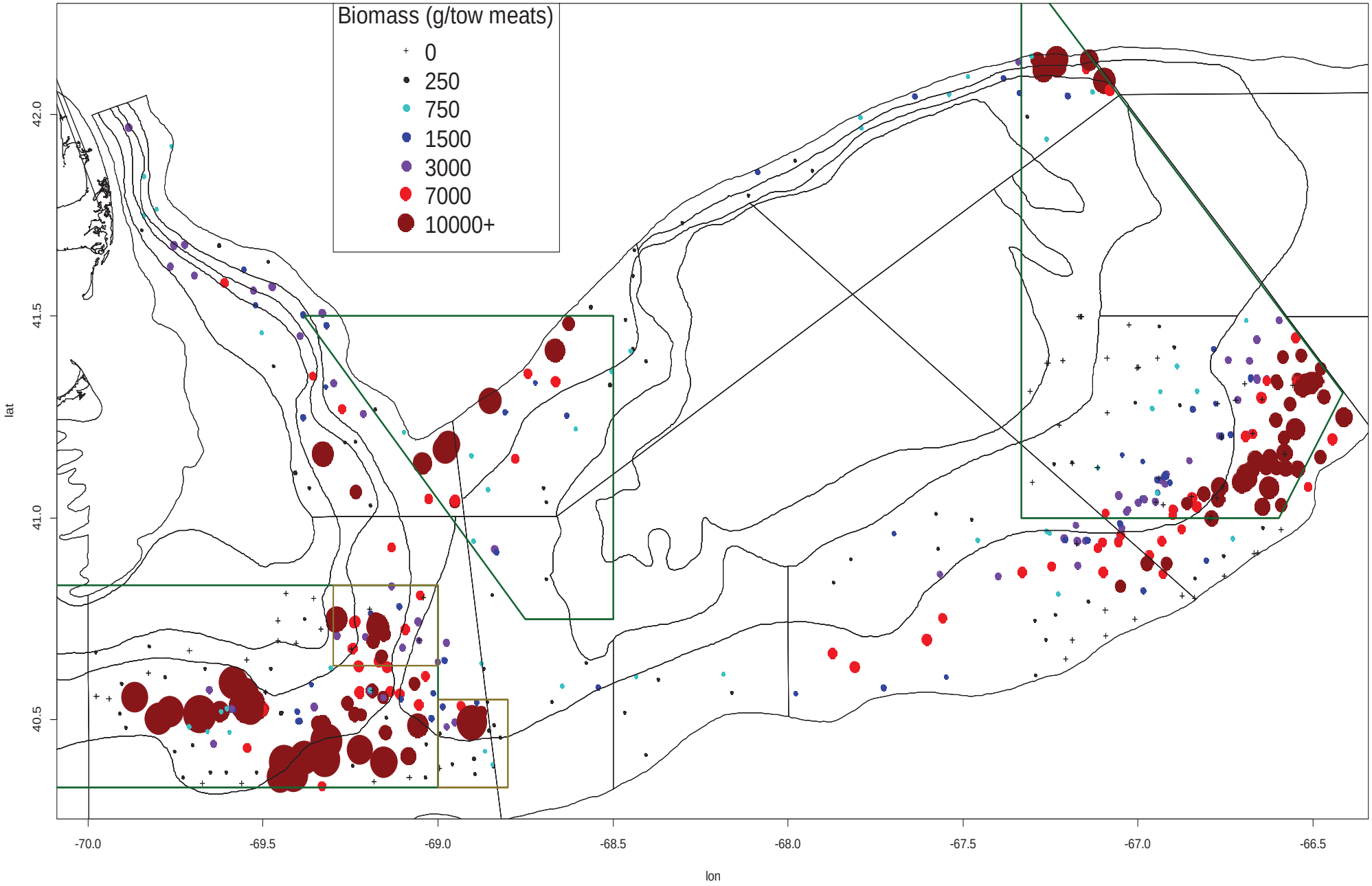


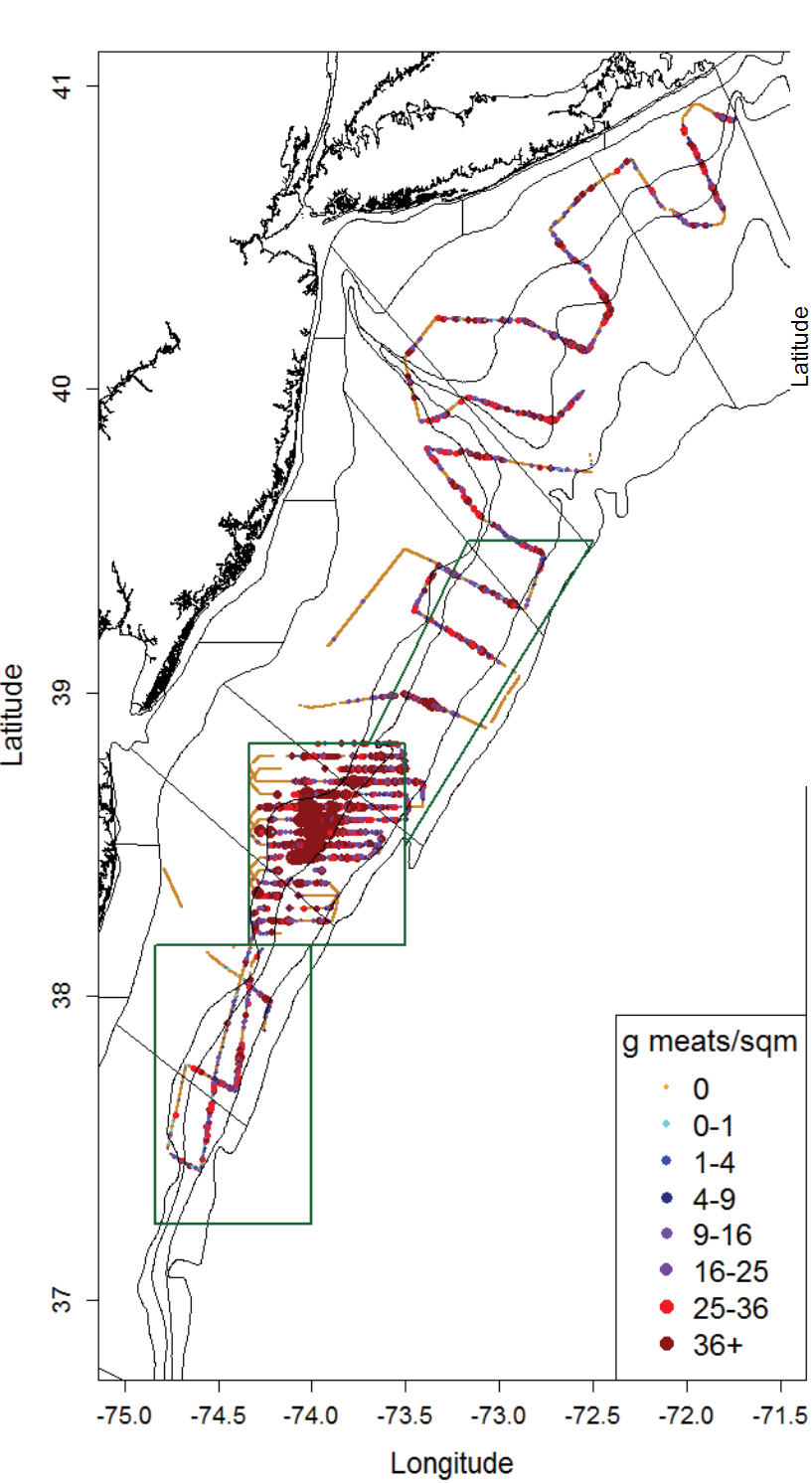
Survey Highlights

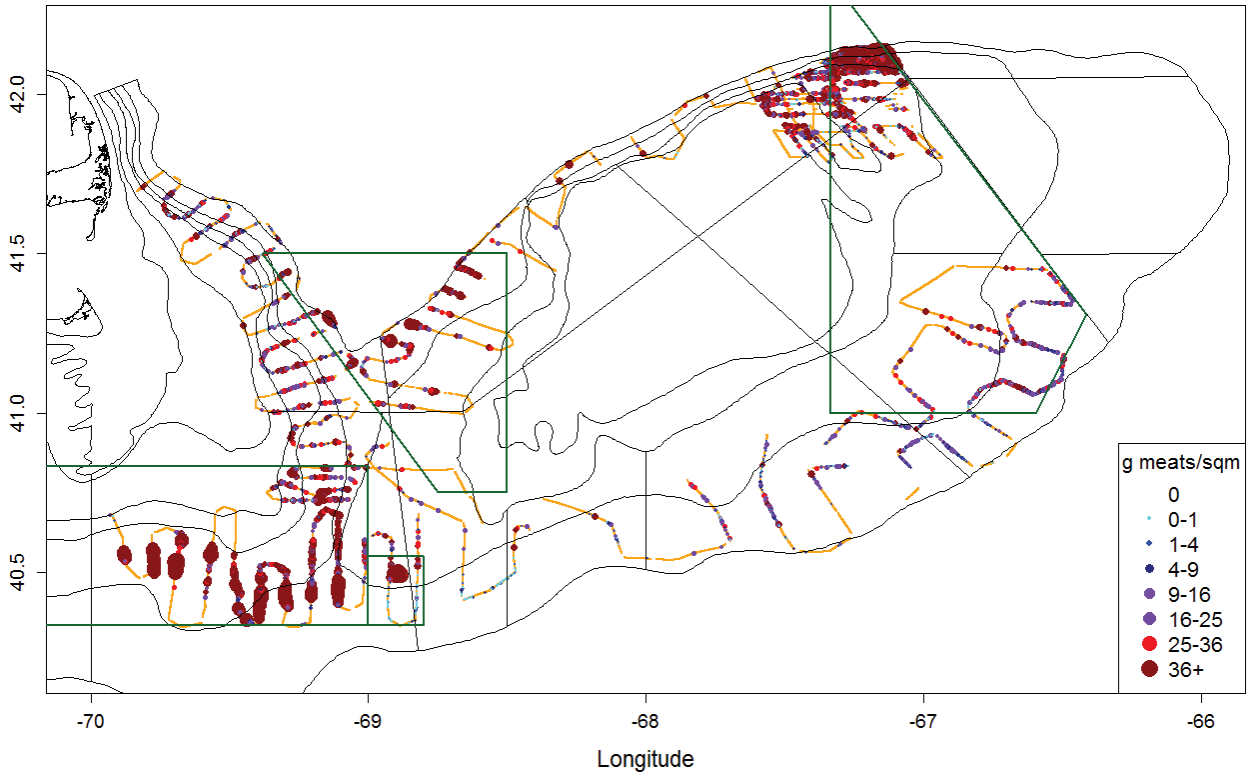
High densities of 4 year old scallops in Nantucket Lightship Area and Extension, and 3 year old scallops in HCCA and Elephant Trunk. However, scallops in the southern portion of NLS (deep water) are growing very slowly

Patches of high densities of 6 year old scallops in the northern portion of Closed Area I observed both with dredge tows and with Habcam. Decent densities of scallops in southern portion of Closed Area II, but scallops in the CL-II extension area still small. Open area exploitable biomass moderate at best

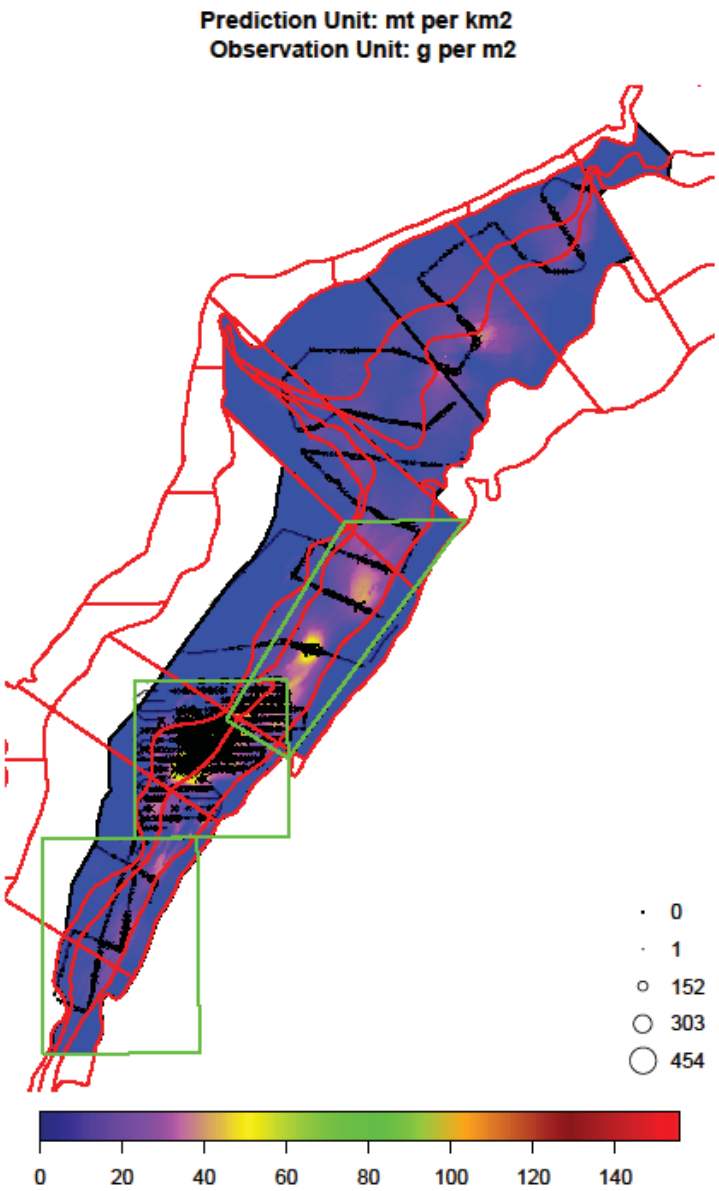
Georges Bank Dredge Biomass Chart

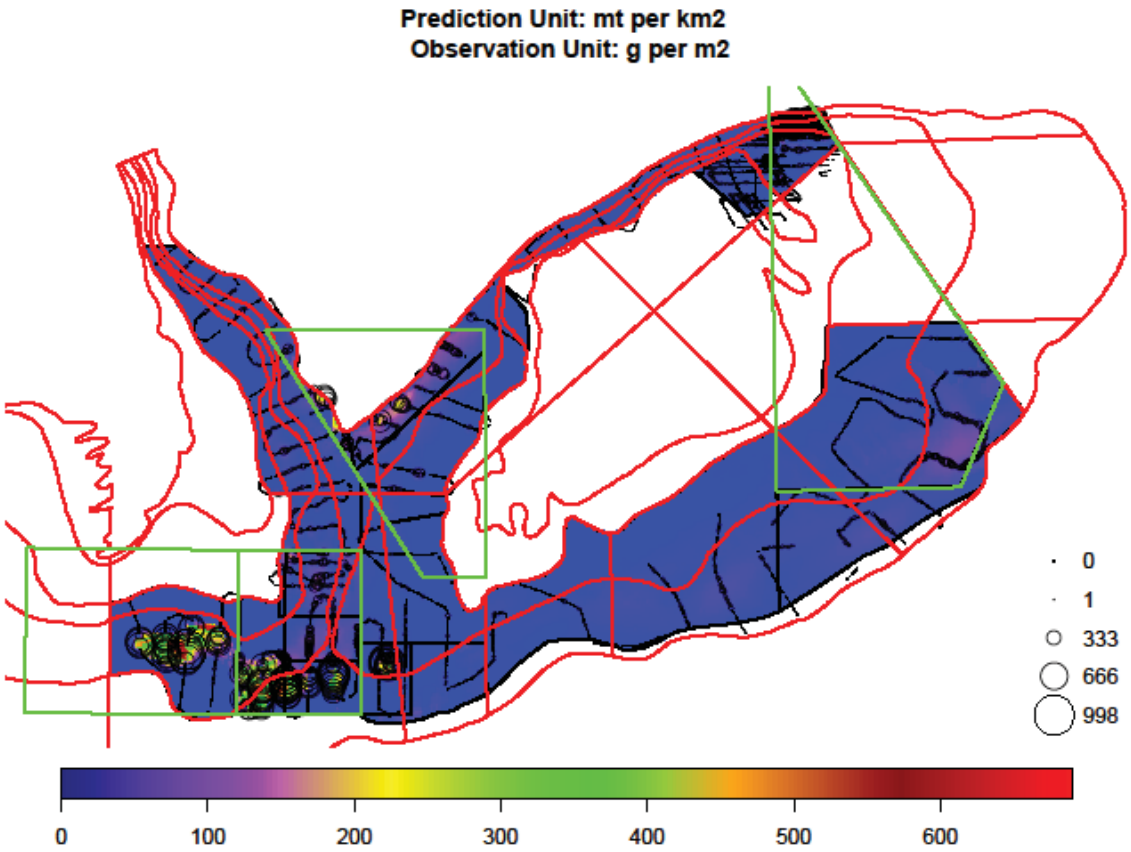






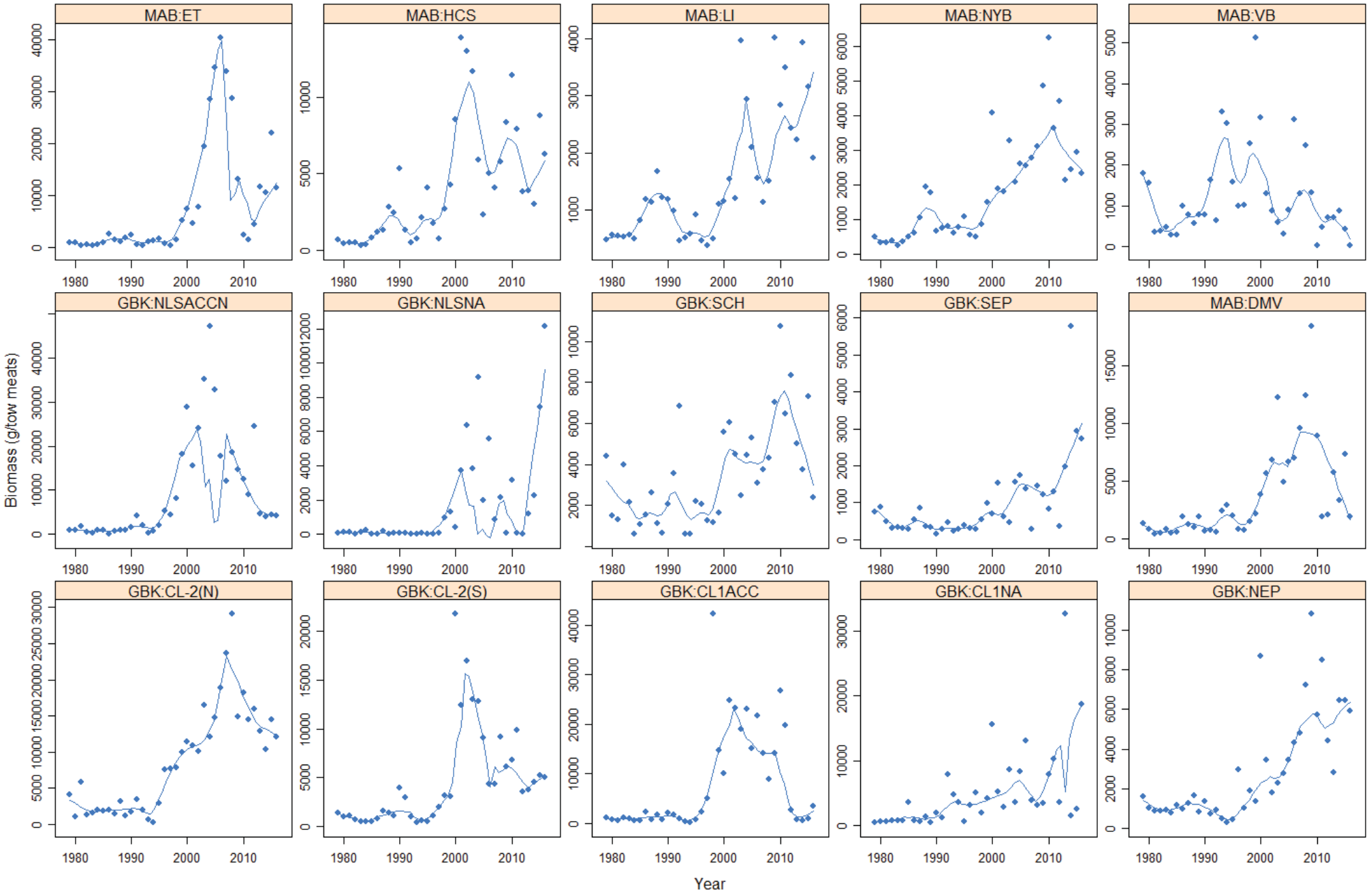
Habcam survey charts





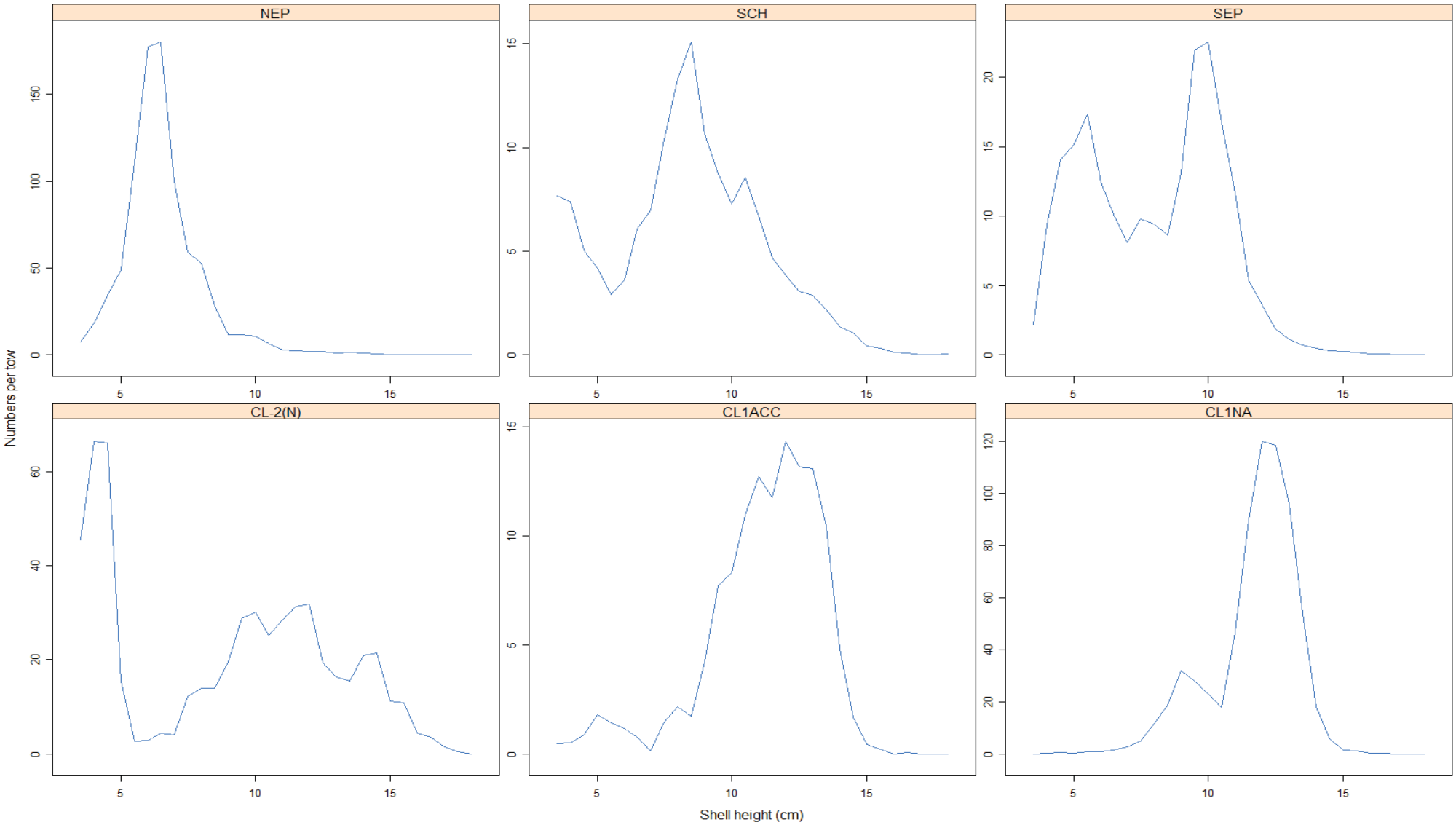
Habcam survey charts with model estimates

Dredge Time Series by Subarea



Shell Heights from NEFSC Dredge Survey

Some recruitment observed on Northern Edge, including HAPC



Dredge survey highlights

Large non-random tow of 4 year olds: west-central Nantucket Lightship

Large non-random tow of 4 year olds: Nantucket Lightship extension

2013 tow in NLS extension – 60,000+ small scallops, an all time record

Nice tow of 6 year old scallops in northern portion of Closed Area I

Dredge survey highlights

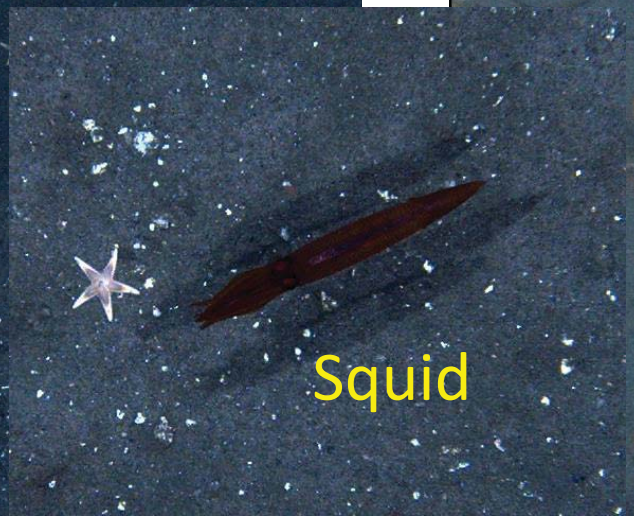
Tow in deep portion of HAPC

Star tow in shallow portion of HAPC, with big lobster

Dredge survey lowlights

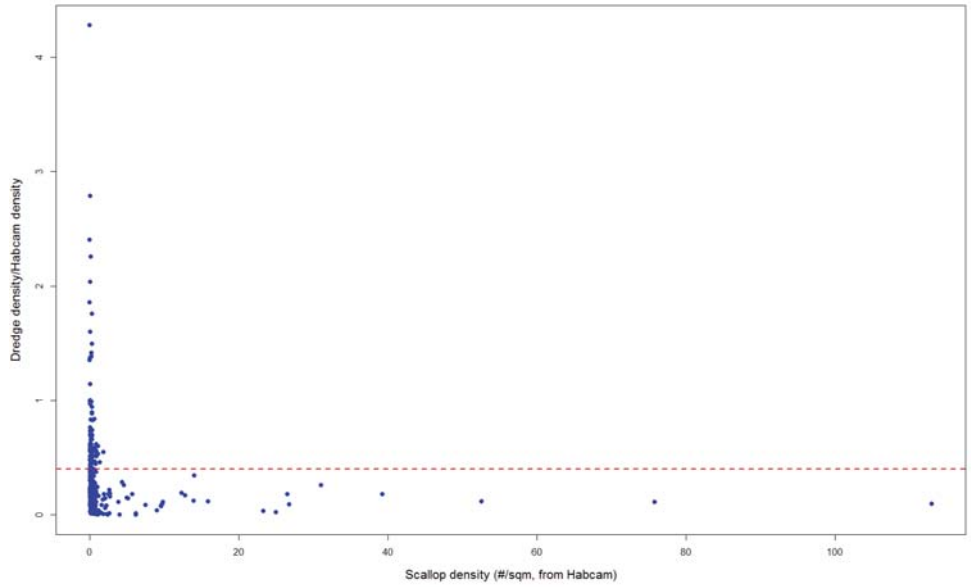
Didemnum **on scallop**

Habcam highlights



Preliminary exploration of dredge efficiency at high densities

281 Habcam/dredge pairs from 2016 were examined with at least 50 sqm of Habcam photos within 0.75 sqnm of dredge tow and with at least minimal scallop densities



Apparent efficiency of dredge tows in high density areas were all below the expected survey efficiency of 0.4, suggesting that the dredge operates at reduced efficiency when scallop density is very high