

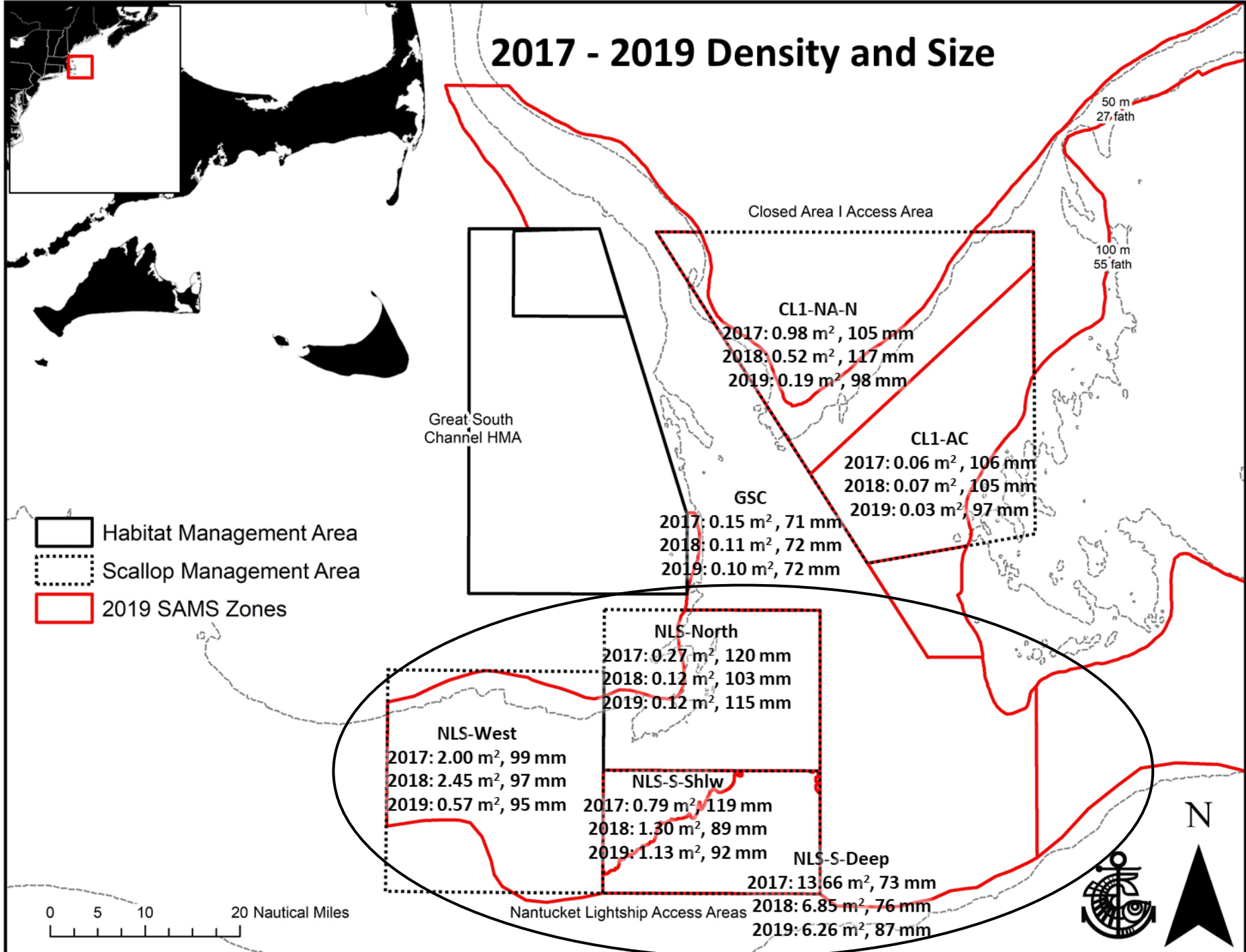
Nantucket Lightship Scallop & Predator distributions

**Scallop PDT Meeting
September 4, 2019**



**Department of Fisheries Oceanography
School for Marine Science and Technology
University of Massachusetts Dartmouth**

2017 - 2019 Density and Size

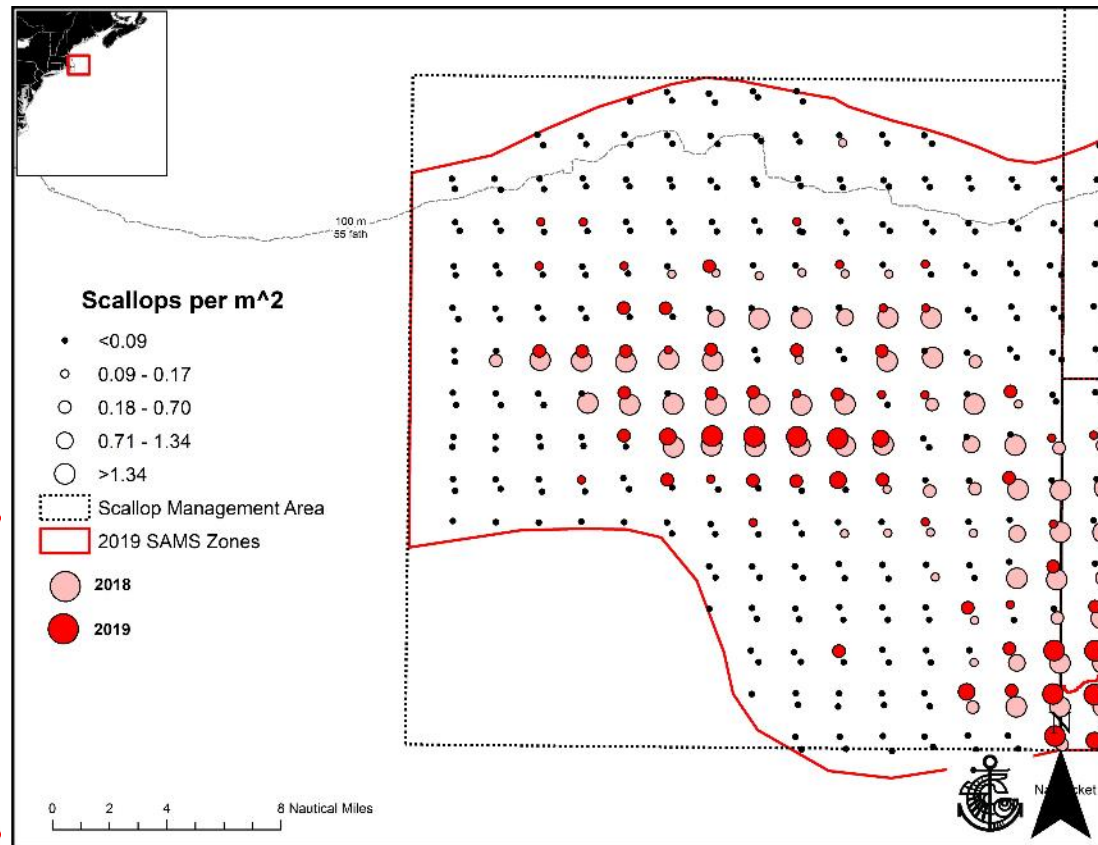
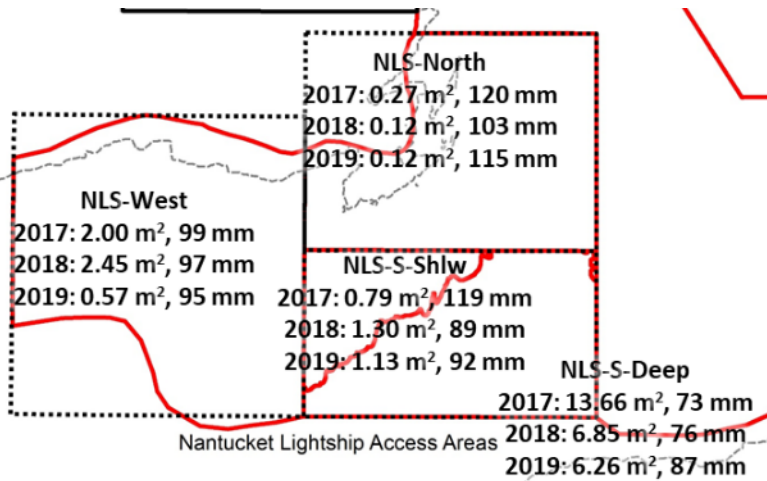


NLS-West Decline

SMAST 2018 Biomass
86,000 mt (+/- 20%)

SMAST 2019 Biomass
13,450 (+/- 45%)

2019 Projection
~40,000 mt

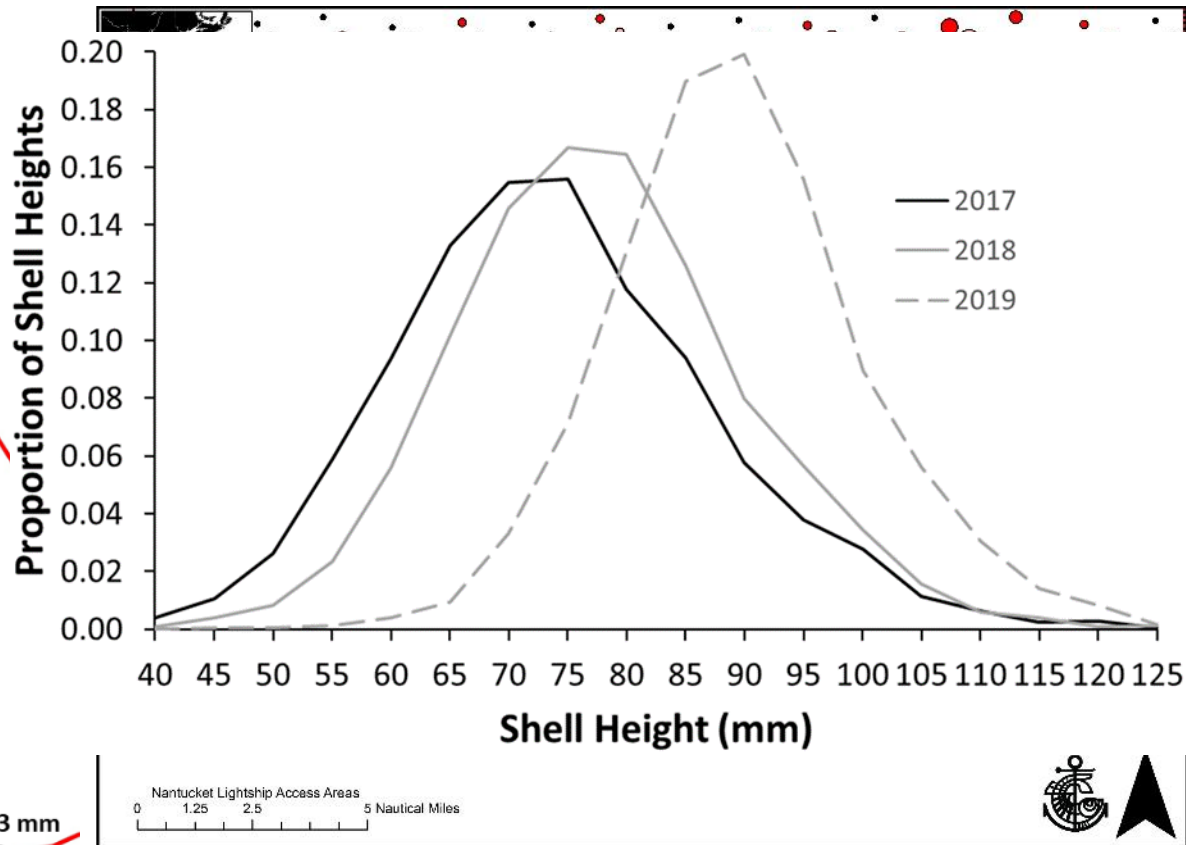
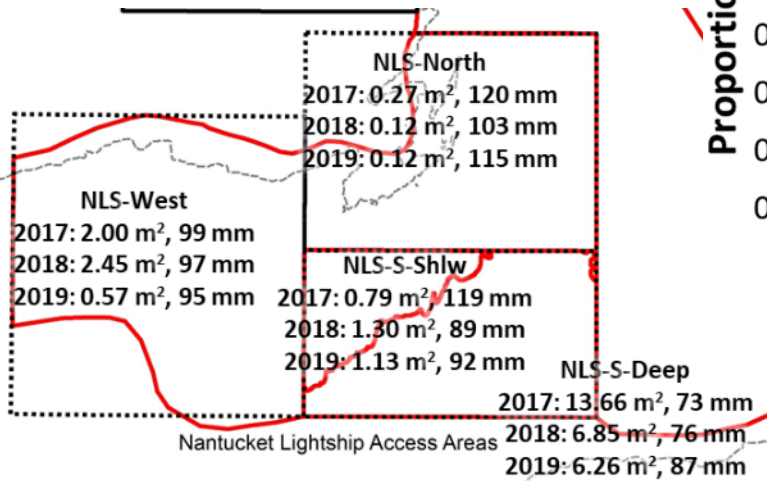


NLS-South-Deep Increase

SMAST 2018 Biomass
37,950 mt (+/- 20%)

SMAST 2019 Biomass
49,700 (+/- 18%)

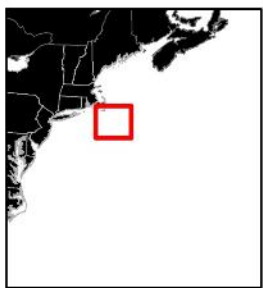
2019 Projection
~38,000 mt



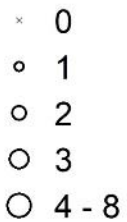
Nantucket Lightship Access Areas
0 1.25 2.5 5 Nautical Miles



NLS-Clappers

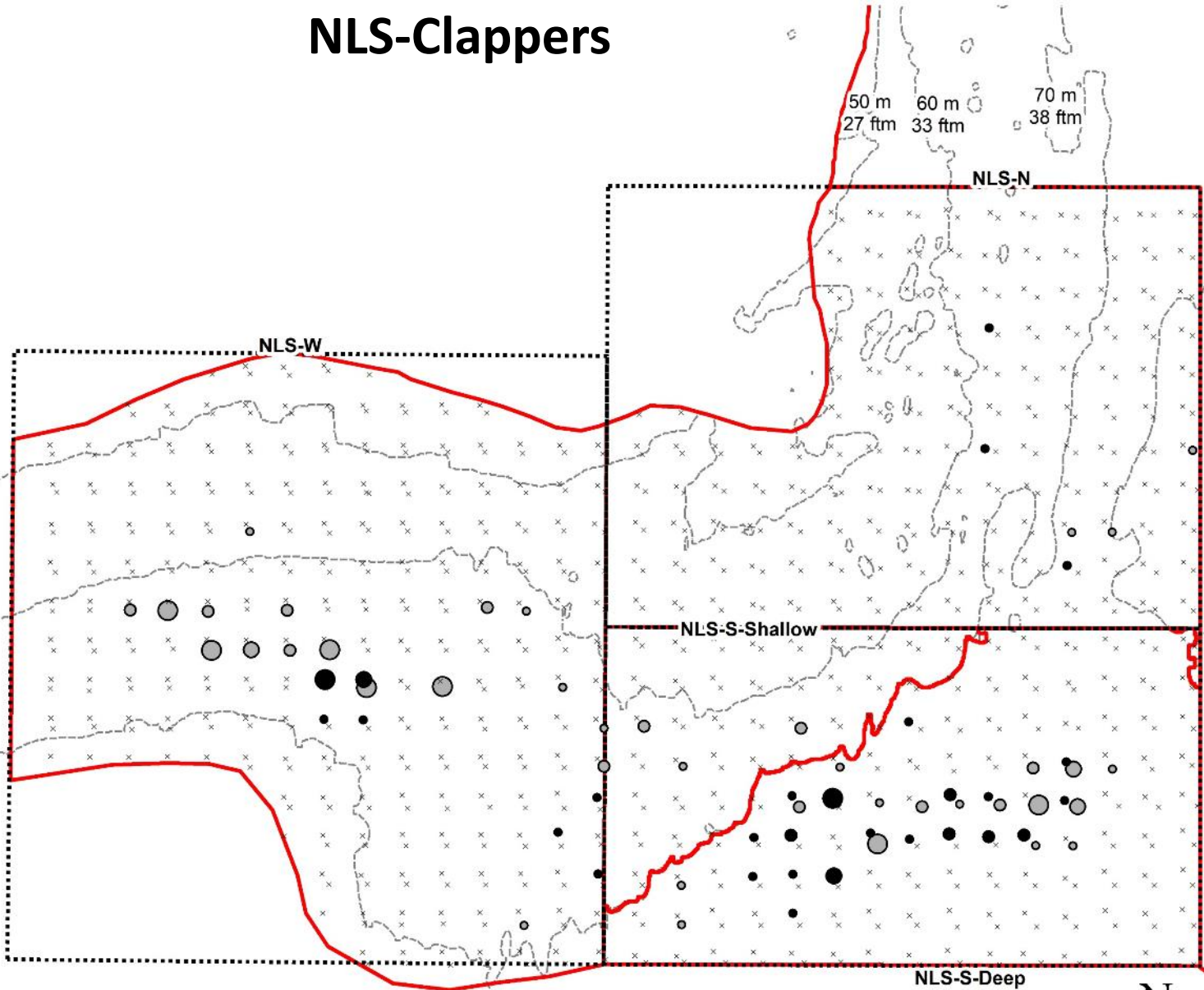


Clappers per Station



● 2019

● 2018



Nantucket Lightship Access Areas

NLS-S-Deep

N

Scallop Management Area

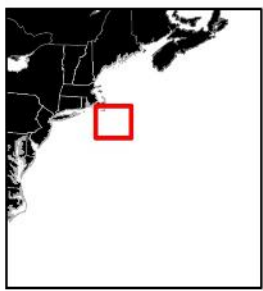
2019 SAMS Zones

0 3.75 7.5 15 Nautical Miles



NLS-Clapper Ratio

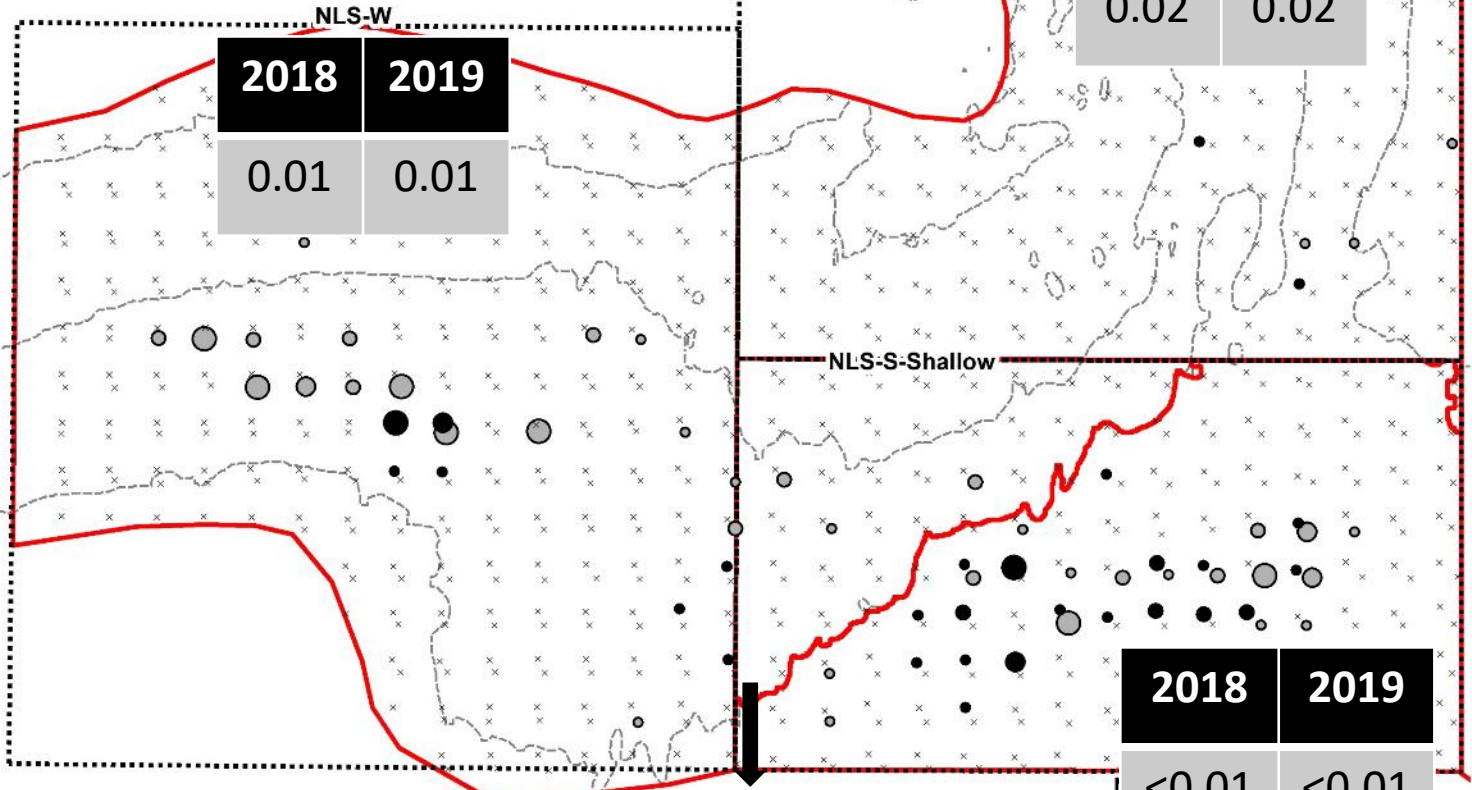
Total Clappers/Total Scallops



Clappers per Station

- × 0
- 1
- 2
- 3
- 4 - 8

- 2019
- 2018



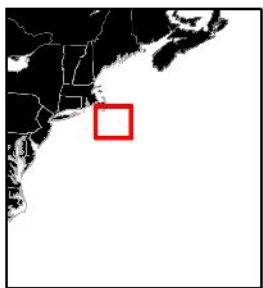
- ⋯ Scallop Management Area
- ▭ 2019 SAMS Zones

0 3.75 7.5 15 Nautical Miles

2018	2019
0.01	0.00



NLS-Sea stars

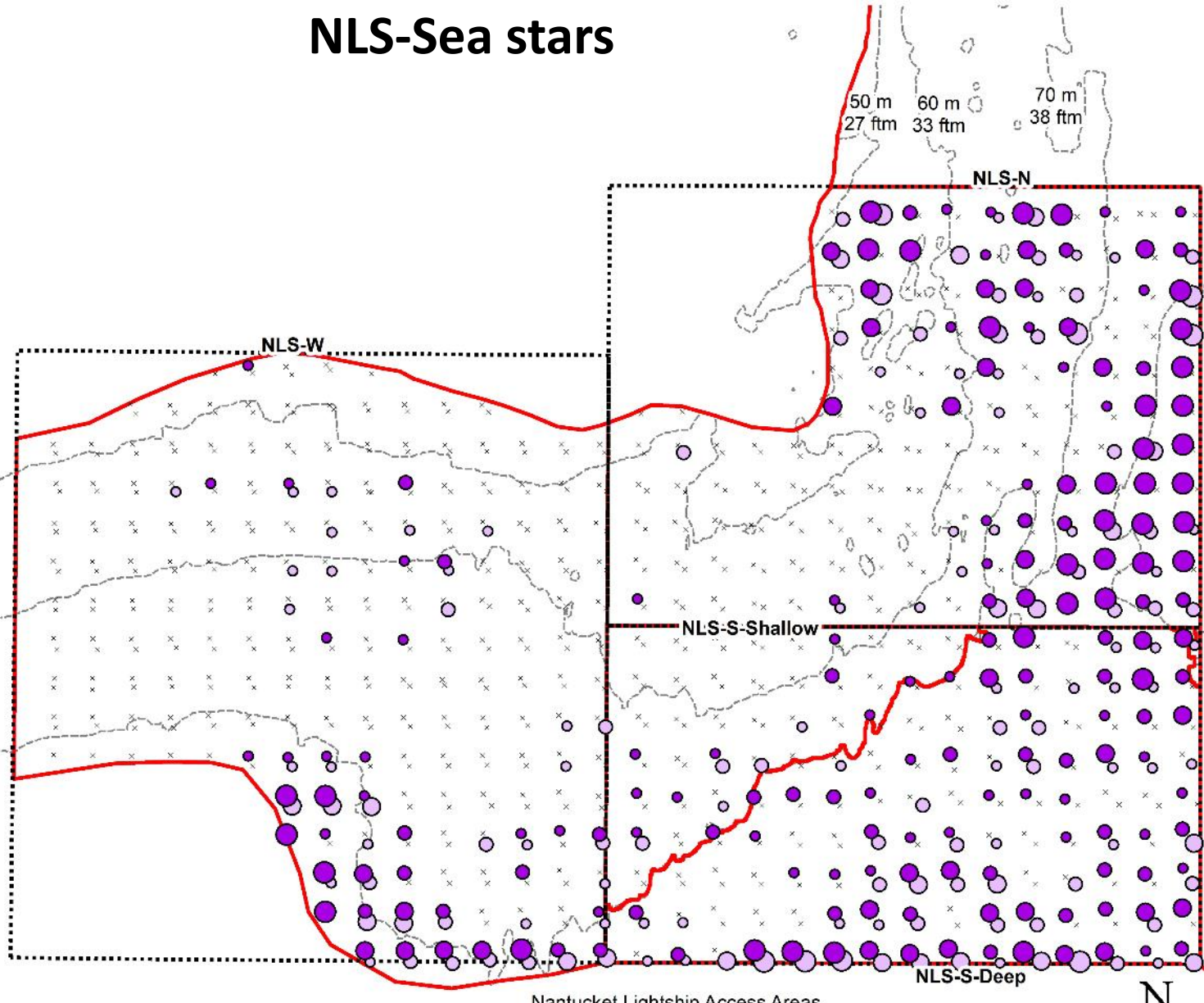


Sea Stars per m²

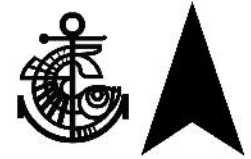
- × <0.09
- 0.09 - 0.11
- 0.12 - 0.33
- 0.34 - 1.20
- 1.21 - 10.65

● 2019

● 2018

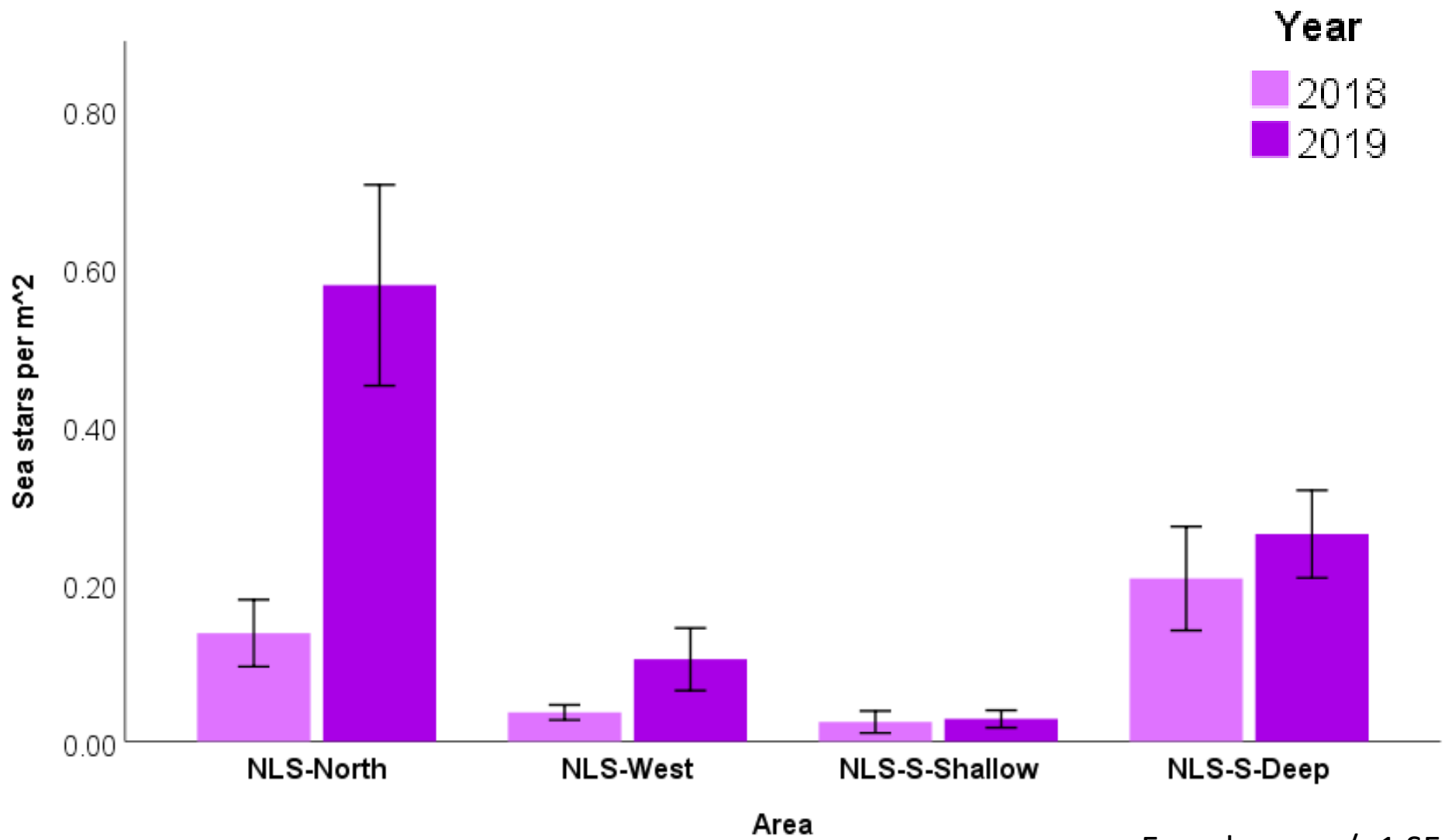


- ⋯ Scallop Management Area
- ▭ 2019 SAMS Zones

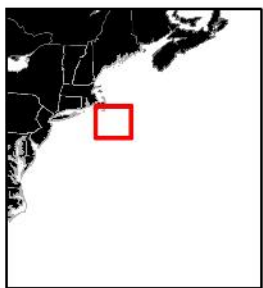


Density categories based on 2019 quantiles

NLS-Sea stars



NLS-Crabs

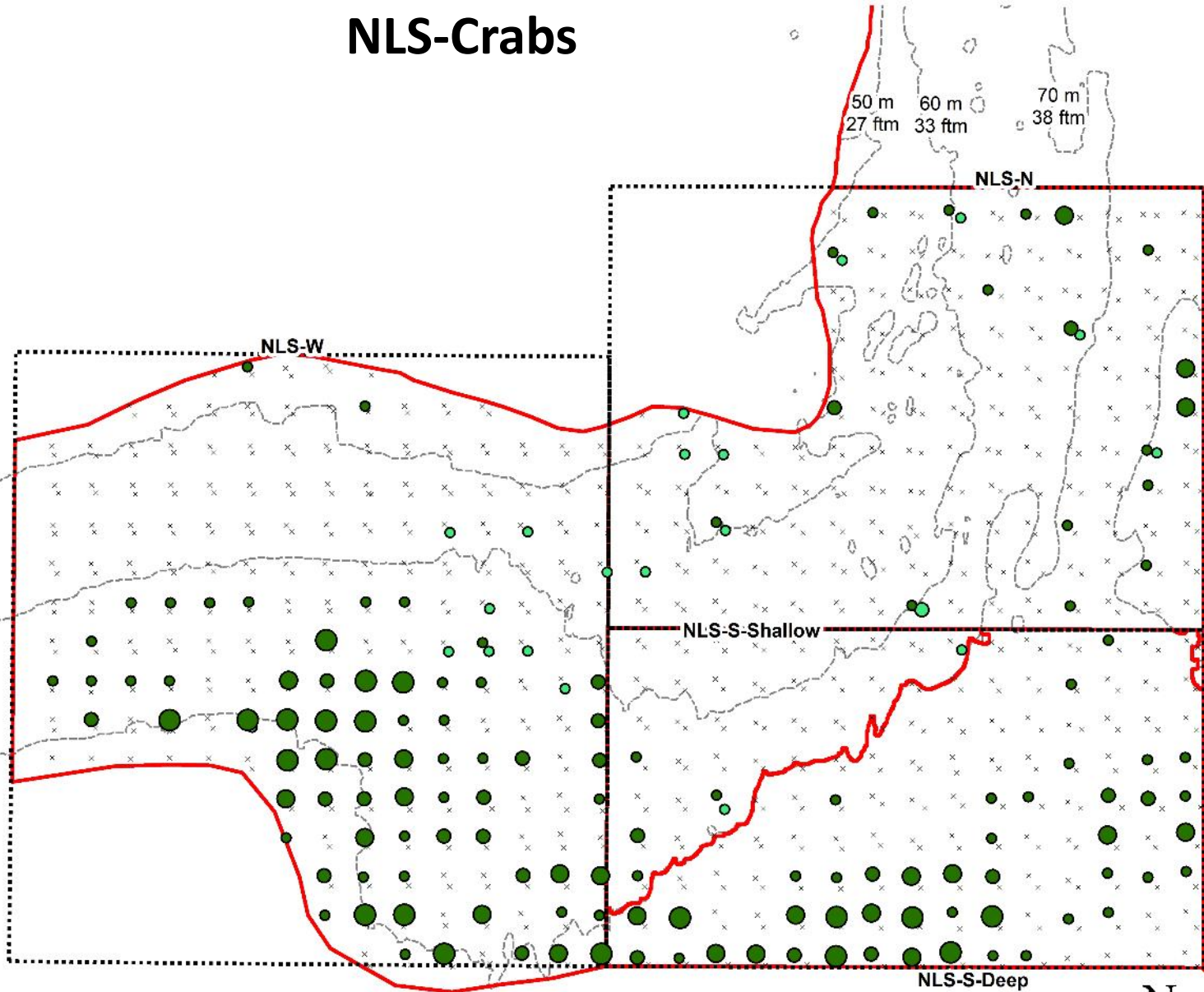


Crabs per m²

- × <0.09
- 0.09 - 0.11
- 0.12 - 0.22
- 0.23 - 0.43
- 0.44 - 2.93

● 2019

● 2018



Nantucket Lightship Access Areas

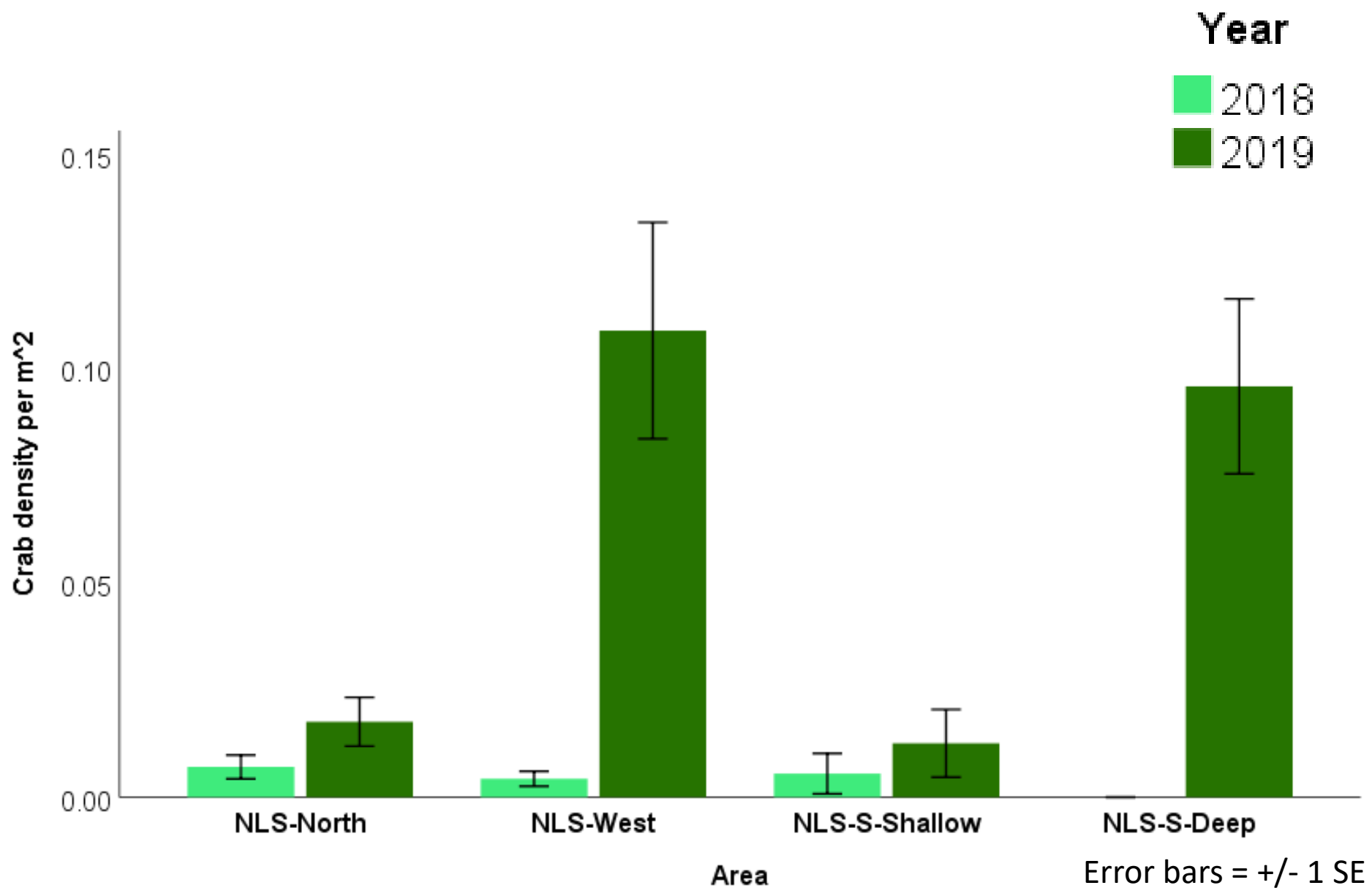
- ⋯ Scallop Management Area
- ▭ 2019 SAMS Zones

0 3.75 7.5 15 Nautical Miles

Density categories based on 2019 quantiles



NLS-Crabs



NLS-Crabs

Year	Month	Stations	Crabs Counted
2010	May-June	204	9
2011	May	107	2
2012	May	254	5
2013	September	229	9
2014	May-June	130	8
2015	May	125	4
2016	Late June	241	11
2017	May	141	4
2018	May	457	22
2019	July	460	377

Seasonal difference?

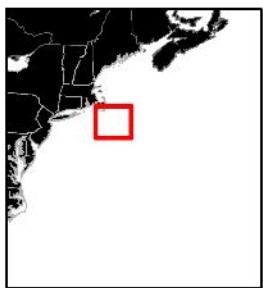
Scavenging?

Predation?

**Crabs seem small
Weak shells**

Thanks to C.Lego for 2010-2018 information

NLS-Scallops & Crabs

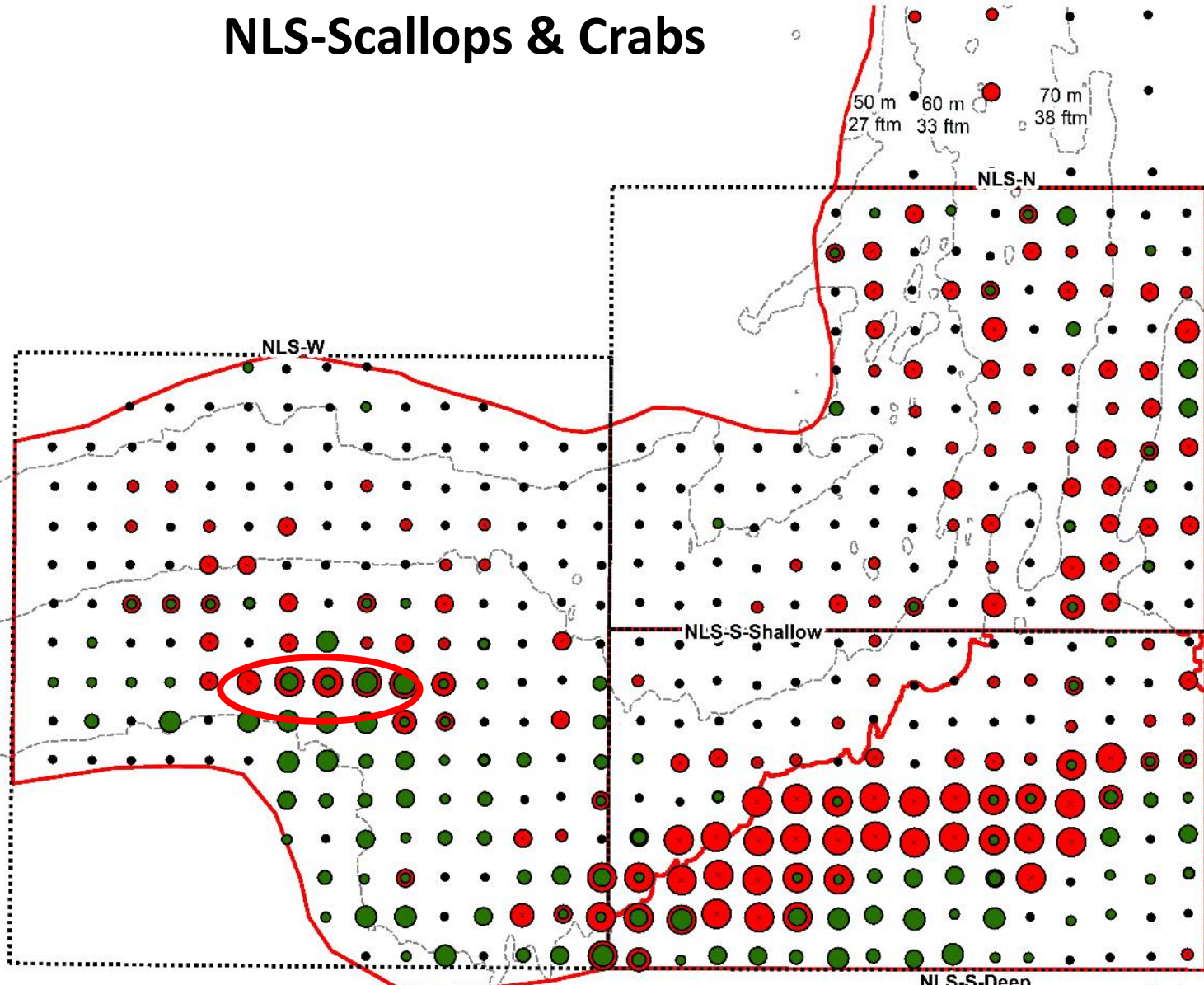


Scallops per m²

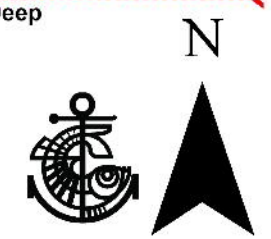
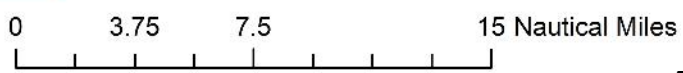
- <0.09
- 0.09 - 0.17
- 0.18 - 0.70
- 0.71 - 1.34
- >1.34

Crabs per m²

- <0.09
- 0.09 - 0.11
- 0.12 - 0.22
- 0.23 - 0.43
- 0.44 - 2.93



Scallop Management Area
2019 SAMS Zones

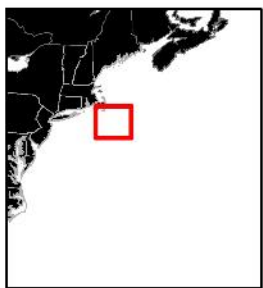


Density categories based on 2019 quantiles

NLS-Scallops & Crabs



NLS-Scallops & Crabs

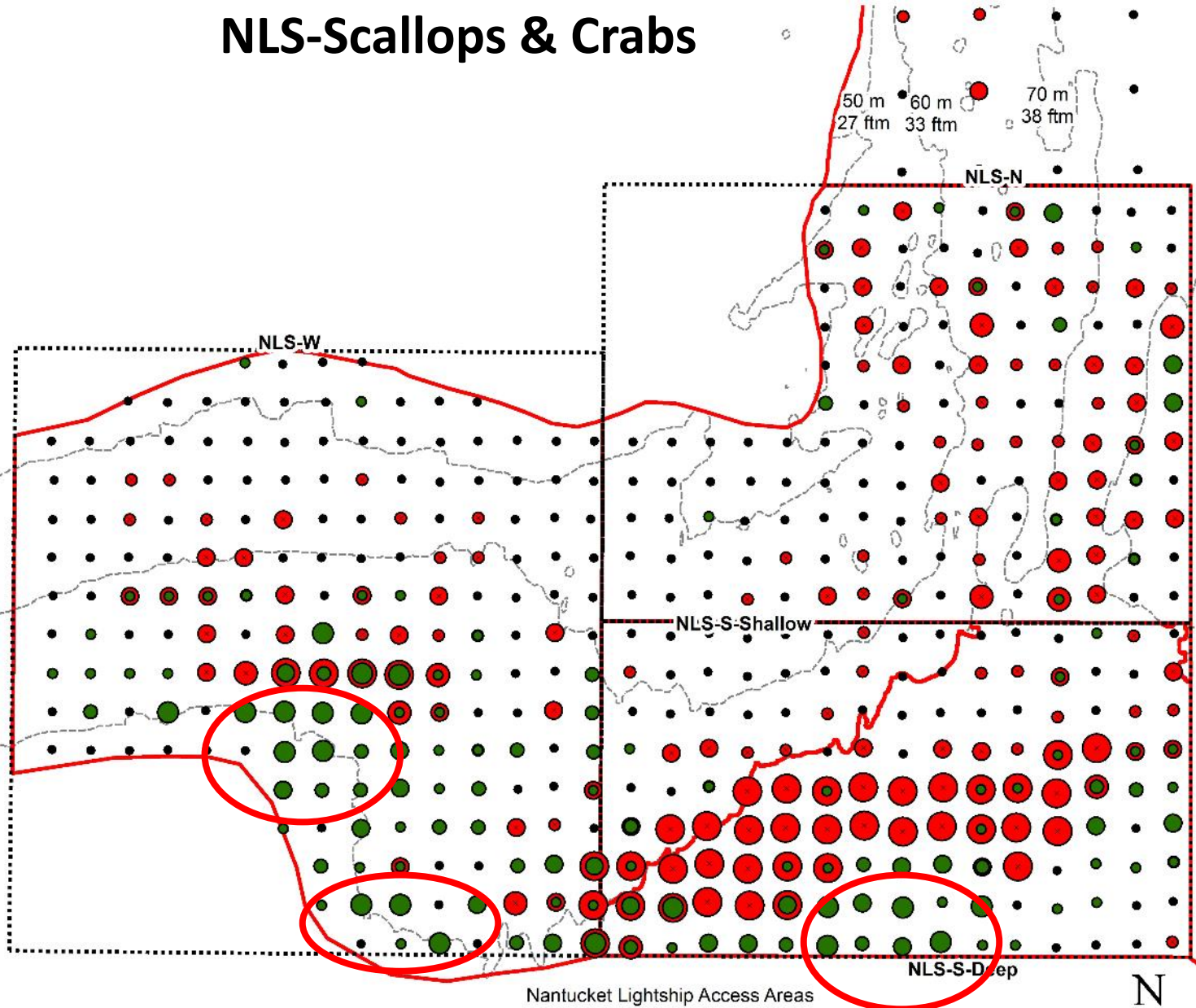


Scallops per m²

- <0.09
- 0.09 - 0.17
- 0.18 - 0.70
- 0.71 - 1.34
- >1.34

Crabs per m²

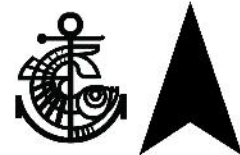
- <0.09
- 0.09 - 0.11
- 0.12 - 0.22
- 0.23 - 0.43
- 0.44 - 2.93



- ⋯ Scallop Management Area
- ▭ 2019 SAMS Zones



Density categories based on 2019 quantiles



NLS-Shell debris & Crabs



NLS-Shell debris & Crabs

