



Scallop Report

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**NEFMC
Gloucester, MA
September 26, 2019**



Outline of Presentation:

- Review of 2019 scallop survey results and specification alternatives under development for FY2020 (FW32).
 - *No Council Action Required.*
- Review of management measures under development in FW32.
 - *No Council Action Required.*
- Review progress on Amendment 21.
 - *No Council Action Required.*
- *Plan: Present on all topics before breaking for questions.*



Summary of 2019 surveys

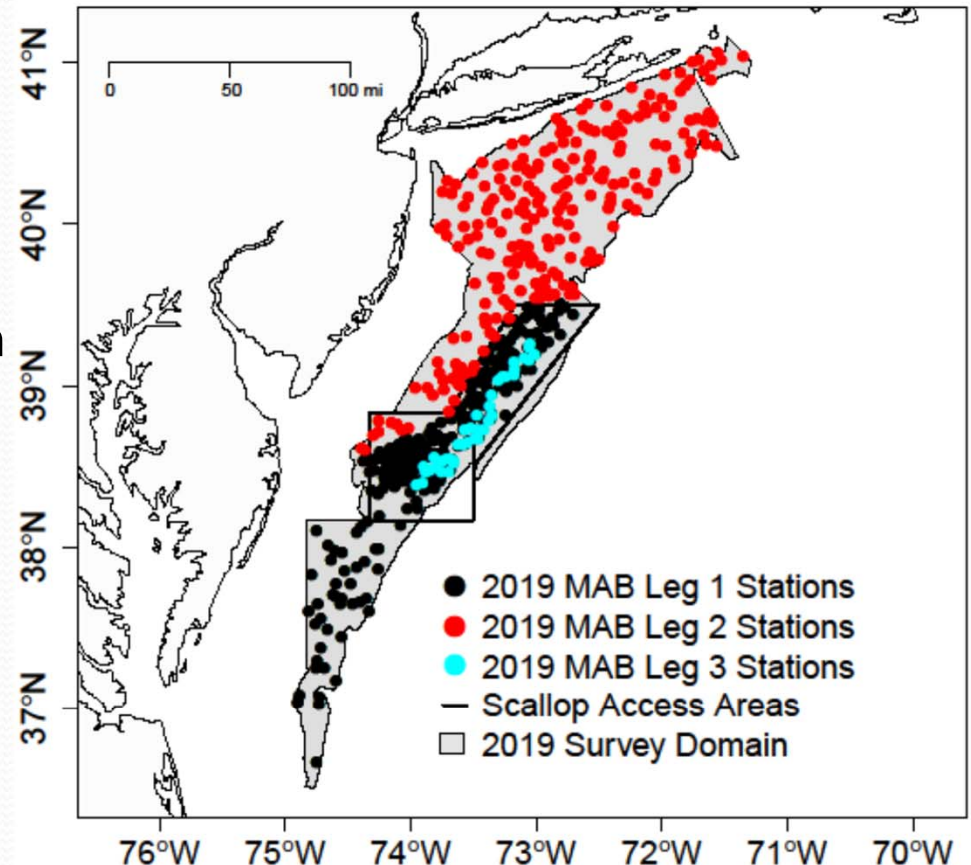


- Standardized Survey “Short Reports” Online
- **High level findings:**
 - ACL could decrease; still over 100 million lbs. Set by SSC Oct. 17 & 18, 2019.
 - Recruitment on Georges Bank, large recruitment event on Stellwagen Bank
 - High densities of exploitable scallops in rotational areas.



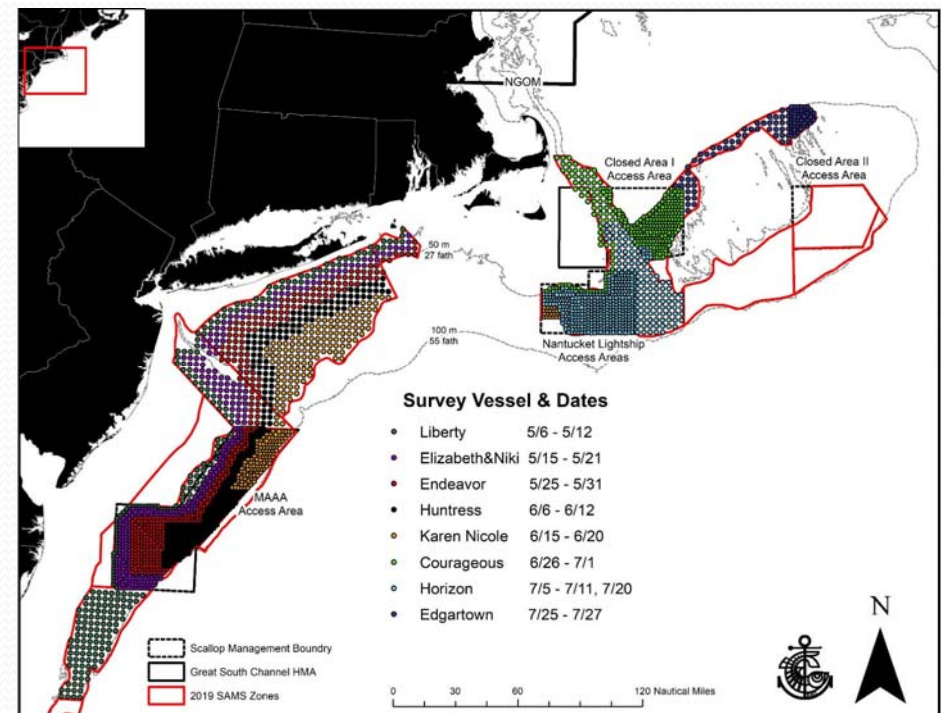
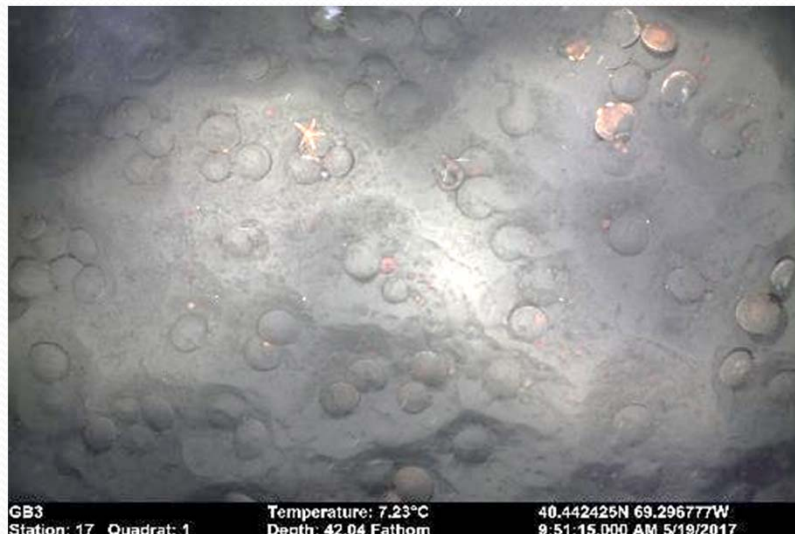
VIMS surveys: Mid-Atlantic, Nantucket Lightship, Closed Area I & II

- 5 cruises this summer (May → July)
 - Mid Leg 1: 5/4 – 5/13 (VB → HC)
 - Mid Leg 2: 5/19 – 5/29 (ET → BI)
 - NLS - 7/24 – 7/31
 - CAI & CAII - 6/7 – 6/14
- Continued use of stratified random sampling design to increase precision, automated data collection
- 785 dredge tows (stations)
- SH:MWV relationships used in fine scale data treatment in the NLS



SMAST surveys: Mid-Atlantic, Nantucket Lightship, Channel, CAI & II N

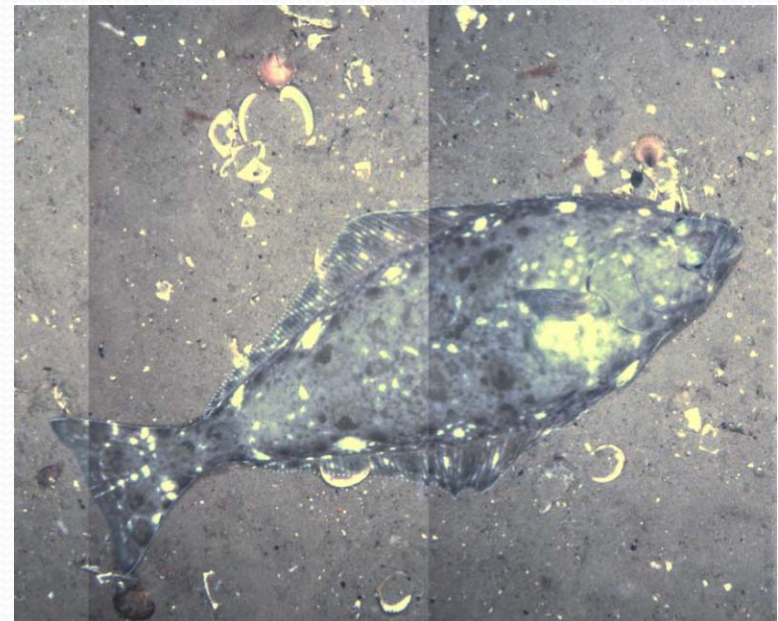
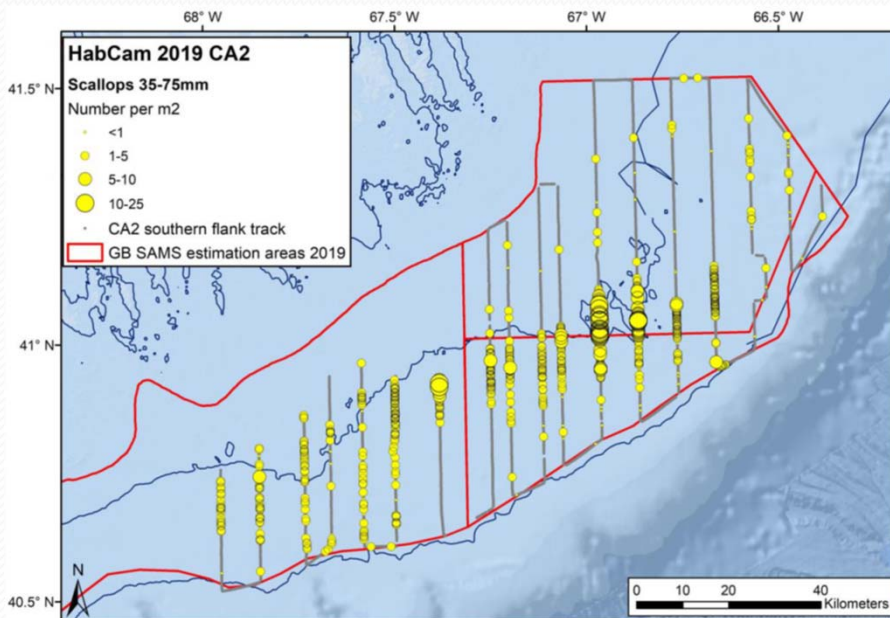
- High-res surveys of access areas and HAPC
- 2,728 total stations on 8 survey vessels (May – July)
- Imperx DSC camera
- Web-based image sharing: <http://bit.ly/scallopsurvey>
- Coverage on Northern Flank and CAI-N added this summer.



Coonamessett Farm Foundation: Nantucket Lightship, Elephant Trunk, Closed Area II & Surrounds



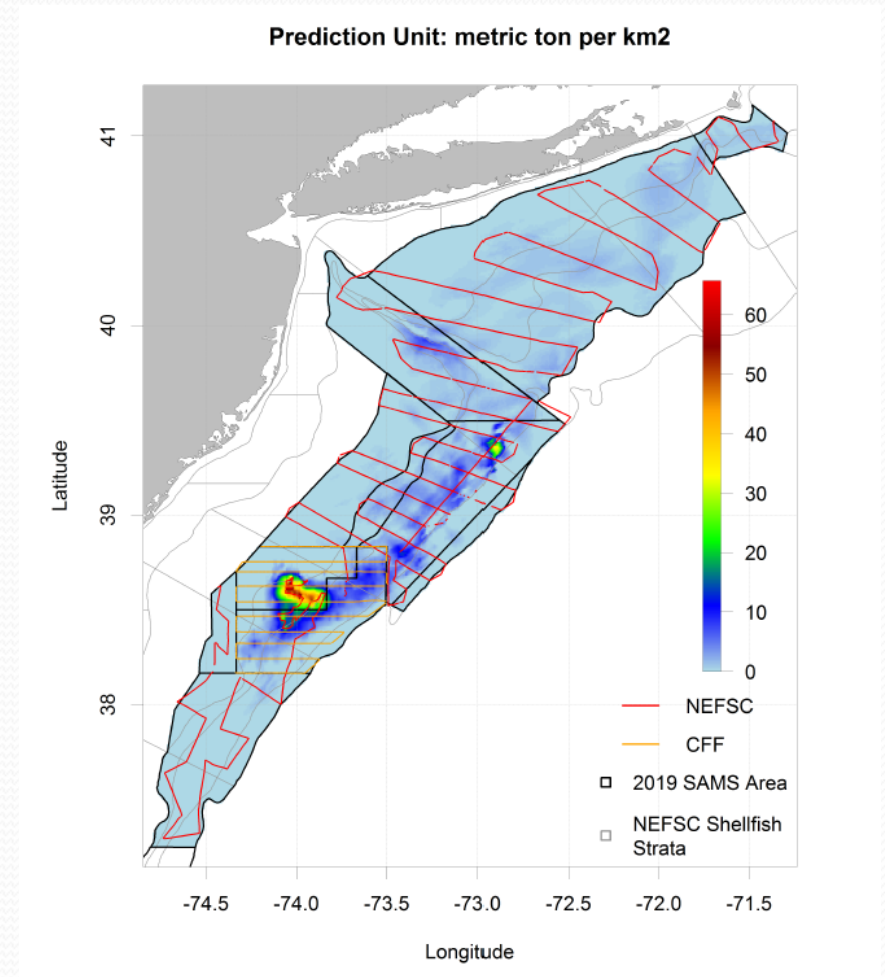
- Three cruises with HabCam v3
- F/V Kathy Marie (June → July)
- Over 1,500 nm of transects
- 1/250 & 1/400 annotation rates



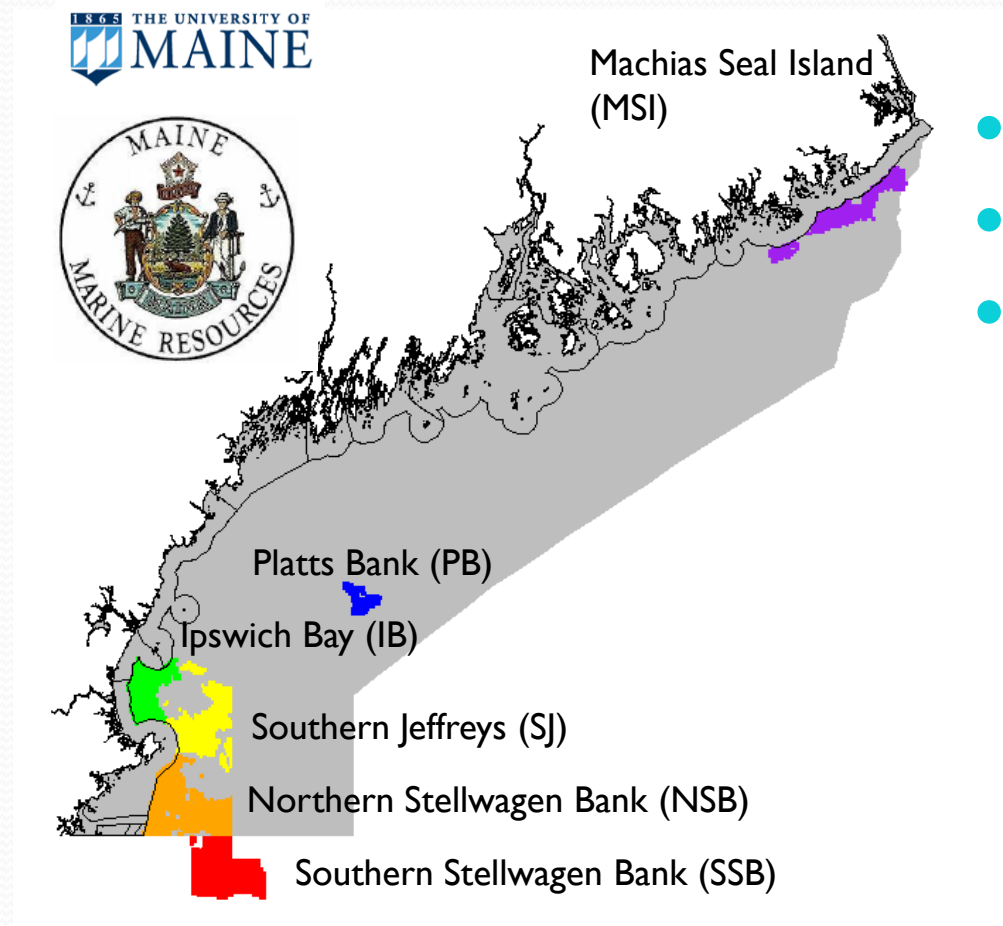
NEFSC Survey: Mid-Atlantic, Channel, Northern & Southern Flank, and CAI N



- R/V Huge R. Sharp
 - Mid-Atlantic: 5/15 – 5/28
 - Georges Bank: 5/30 – 6/15
- 104 dredge tows on GB
- HabCam v4 mostly in Mid, over 2.5 million images taken, estimates based on ~85,000 manual annotations (~1/30)



ME DMR/UMaine: Northern Gulf of Maine and Southern Stellwagen Bank



- F/V Clean Sweep
 - Survey: 5/27/19 – 6/24/19
- NGOM Fishery open 4/1 – 4/25
- 323 dredge tows (5 min)
- Random stratified survey design



2019 NGOM Survey & Outlook

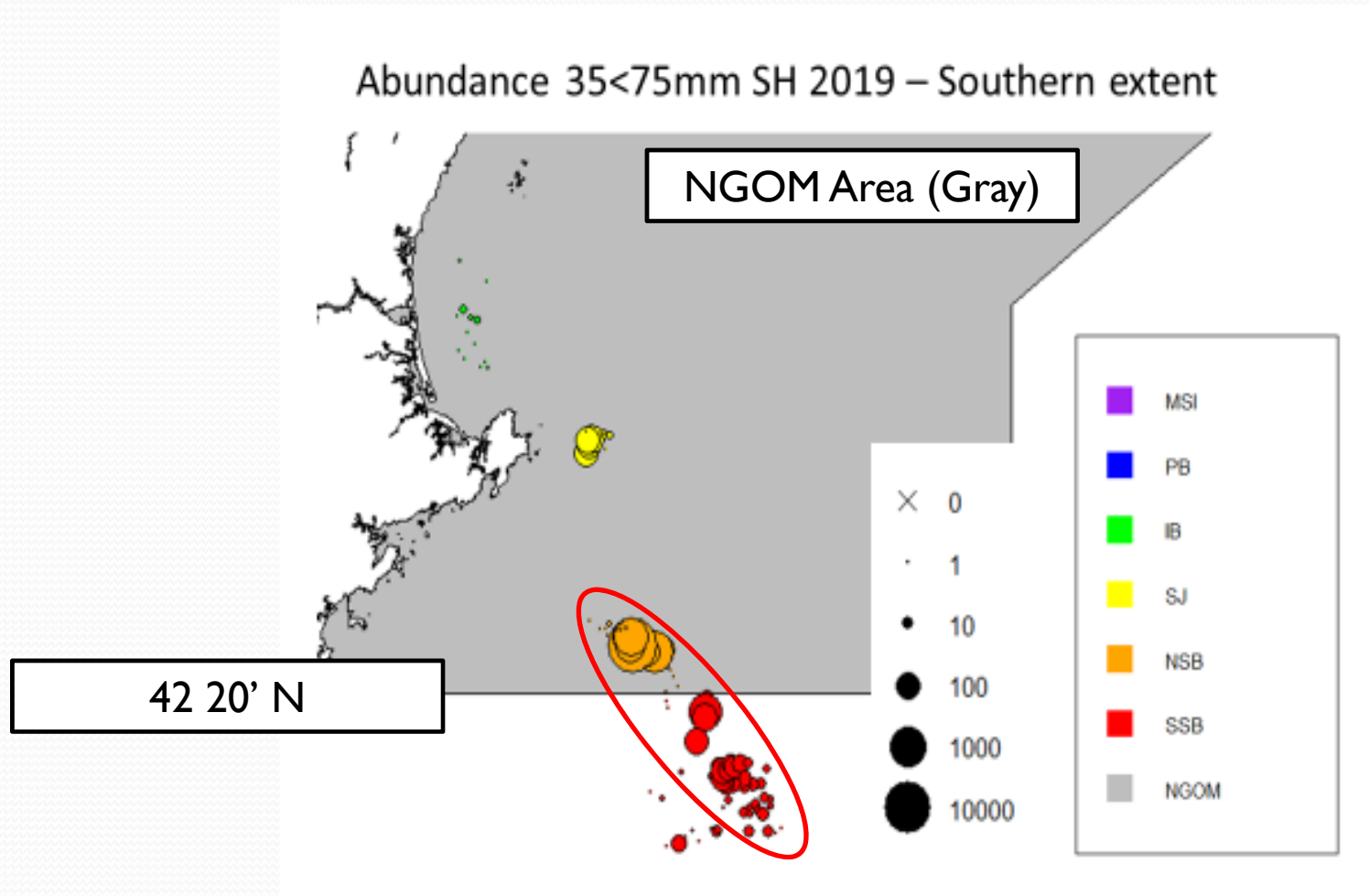
- Strong recruitment event on Stellwagen Bank (N & S).
- Jeffrey's Ledge: Highest density per meter squared (2.53).

Area	Number of Scallops (mil.)	Biomass (mt)	Mean meat weight (g)	Average Shell height (mm)
Machias Seal Isl.	24	288	11.9	113.5
Ipswich Bay (Fed Waters)	~7	135	18.0	107.1
Jeffrey's Ledge	~25	682	19.4	108.3
Northern Stellwagen Bank	~54	622	2.2	53.6

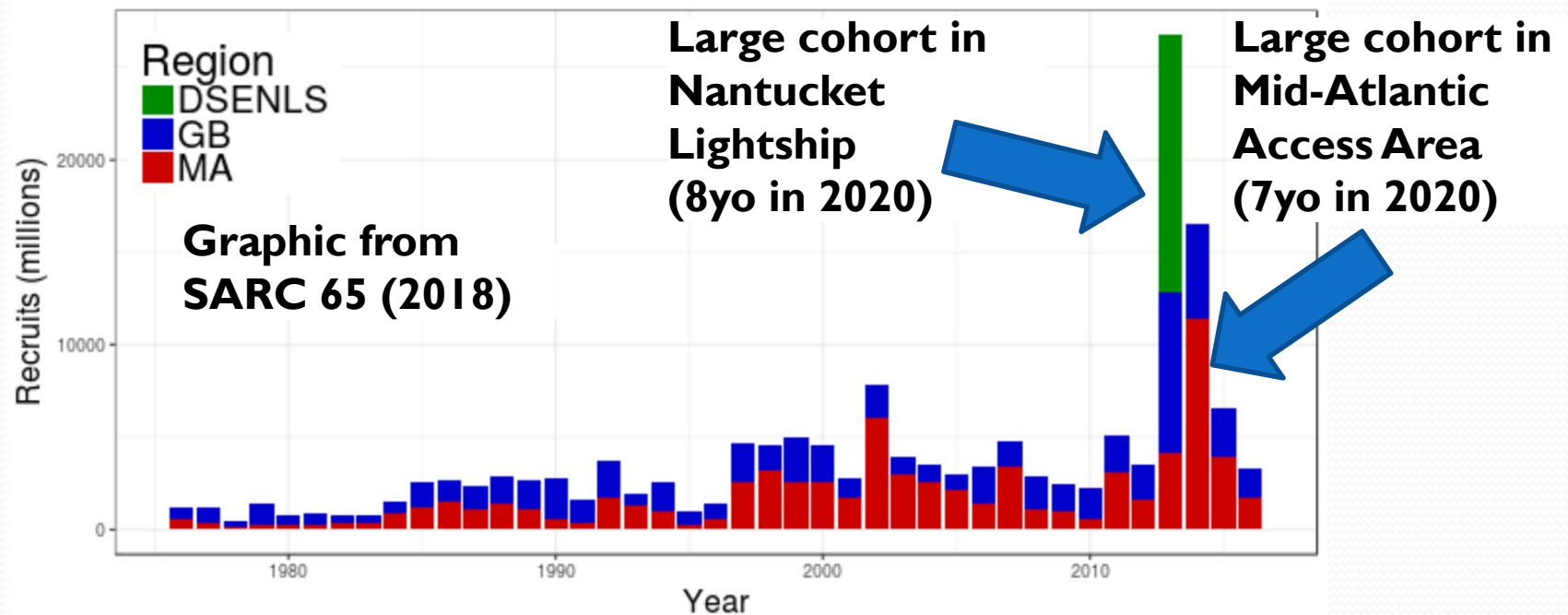
- 2020/2021 TAC: Projection method used in FW29 and FW30. (Reviewed in SAW/SARC 65)

Management Considerations

- Committee Tasking to develop a targeted closure to protect the strong YC on Stellwagen Bank.



Recruitment:



- No very large incoming year classes since 2012
- Recruitment on Georges Bank & Stellwagen Bank
- Some pre-recruits observed in Elephant Truck
- Currently fishing exceptional cohorts

- Can likely support fishing in 2020 (<1 trip)
- Majority of animals and fishing in “sliver”
- Landings: Us and 10/20s
- Minimal recruitment

Projection	F=0.51 (mt)	F=0.51 (mt)
CAI Sliver	1131	2,493,
CAI Access	235	518,0

Mean SH: 98.2 mm
Mode ~ 120 mm
N=165

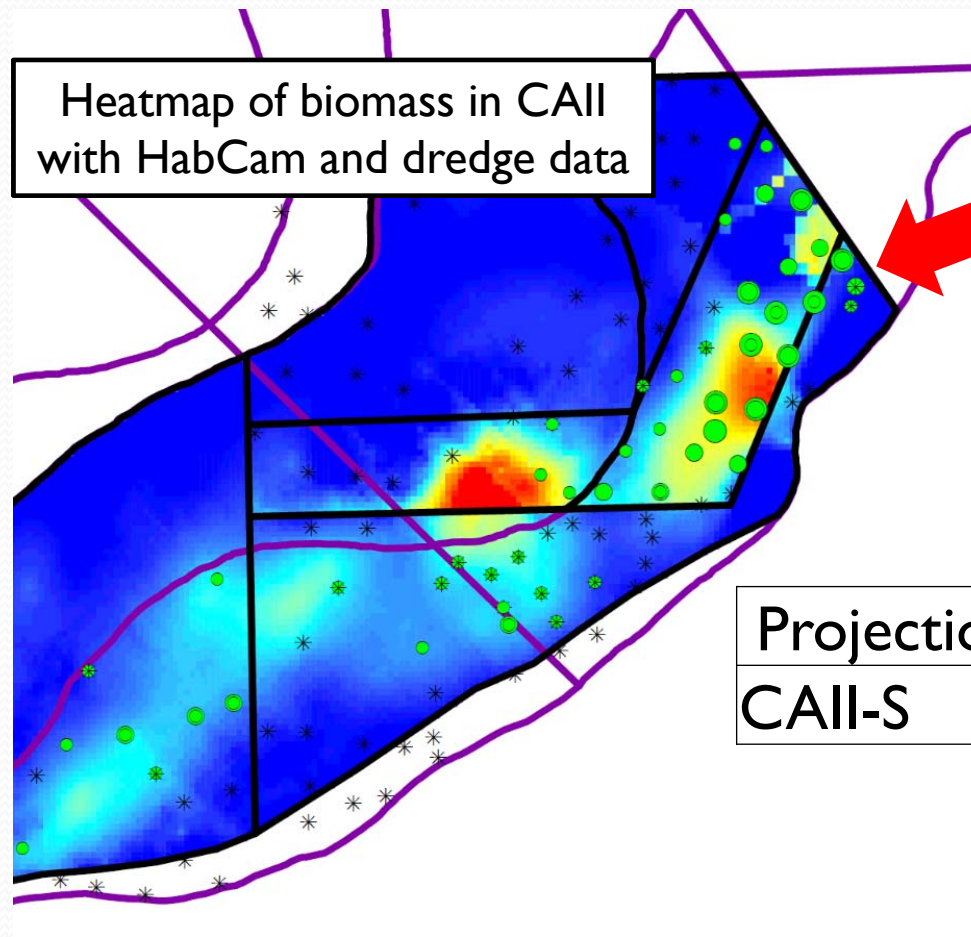
1-Sliver

Shell Height (mm)	Number of Scallops
15	2
20	3
25	7
30	6
35	4
40	6
45	3
50	1
55	1
65	2
70	1
85	2
90	7
95	6
100	14
105	16
110	18
115	19
120	15
125	7
130	10
135	10
140	3
145	3



Closed Area II - South

- Candidate in 2019, delayed to improve YPR
- Candidate for a **FT trip+ in 2020**
- 2 cohorts in the area – oldest will be 6yo in 2020.

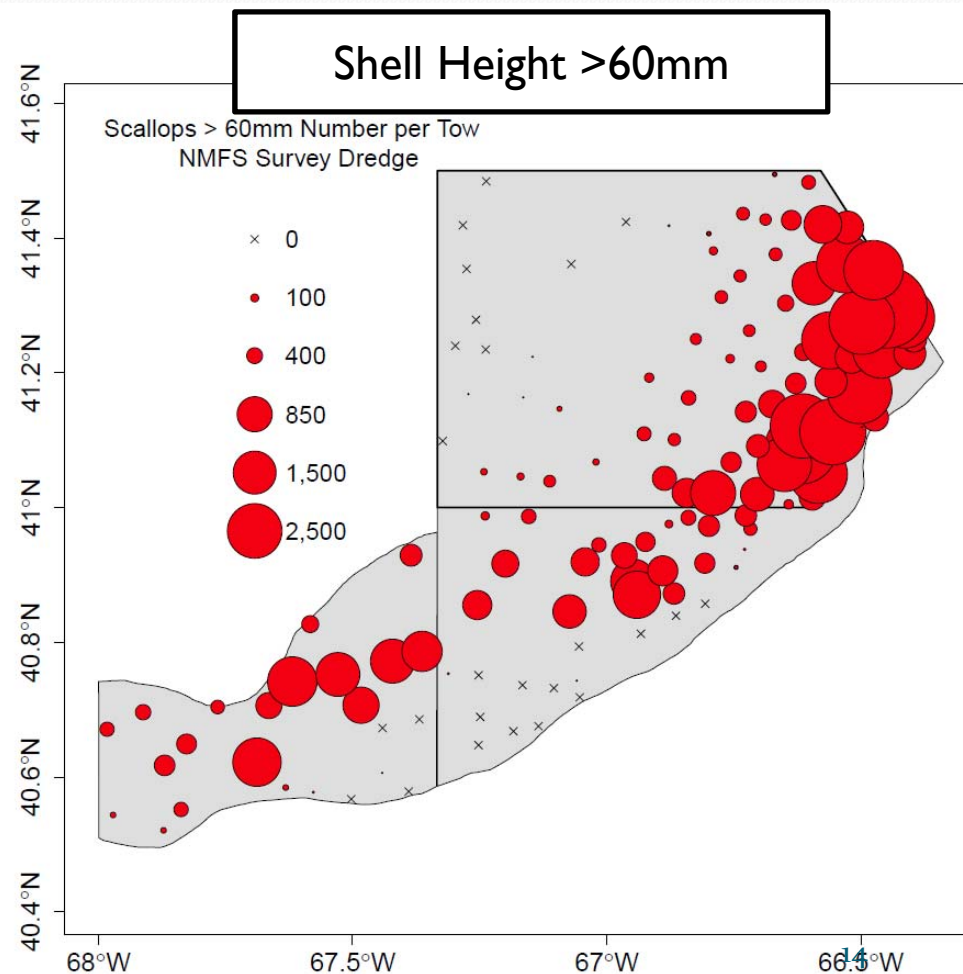
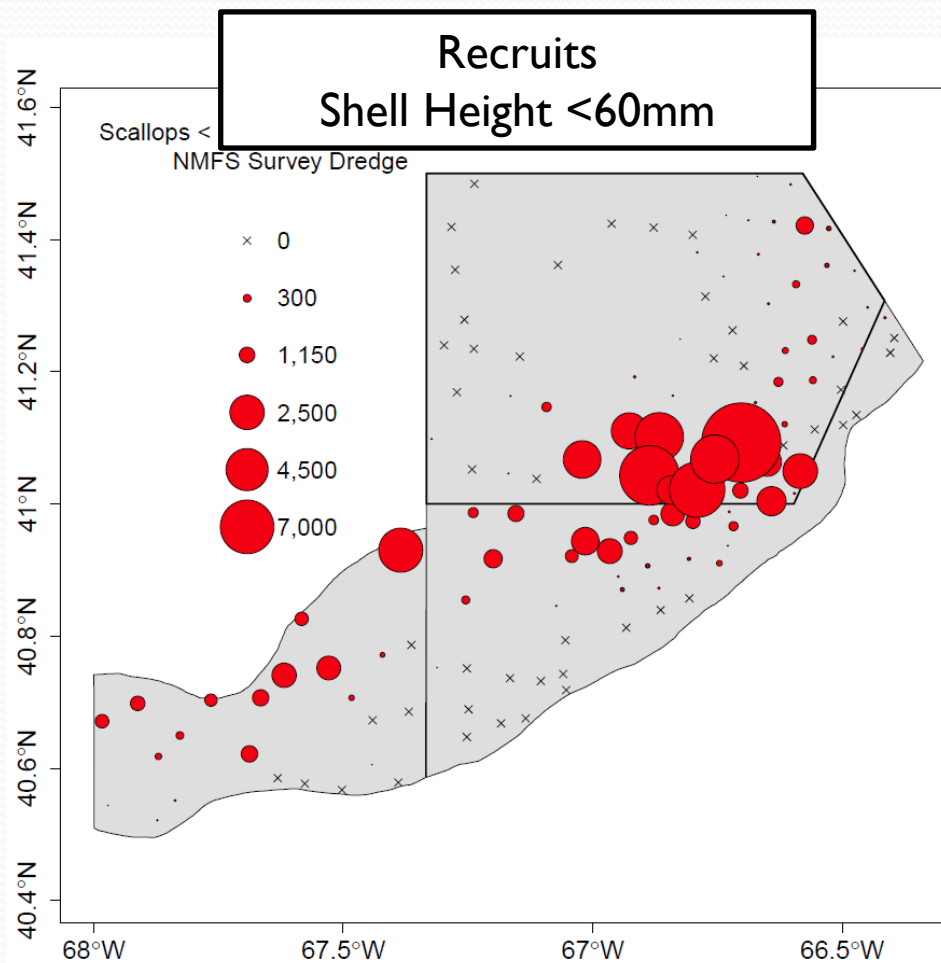


- Majority of biomass in eastern portion of stratum 62
- 2019 Surveys: 1.35 billion scallops, 35.7 mil. lbs

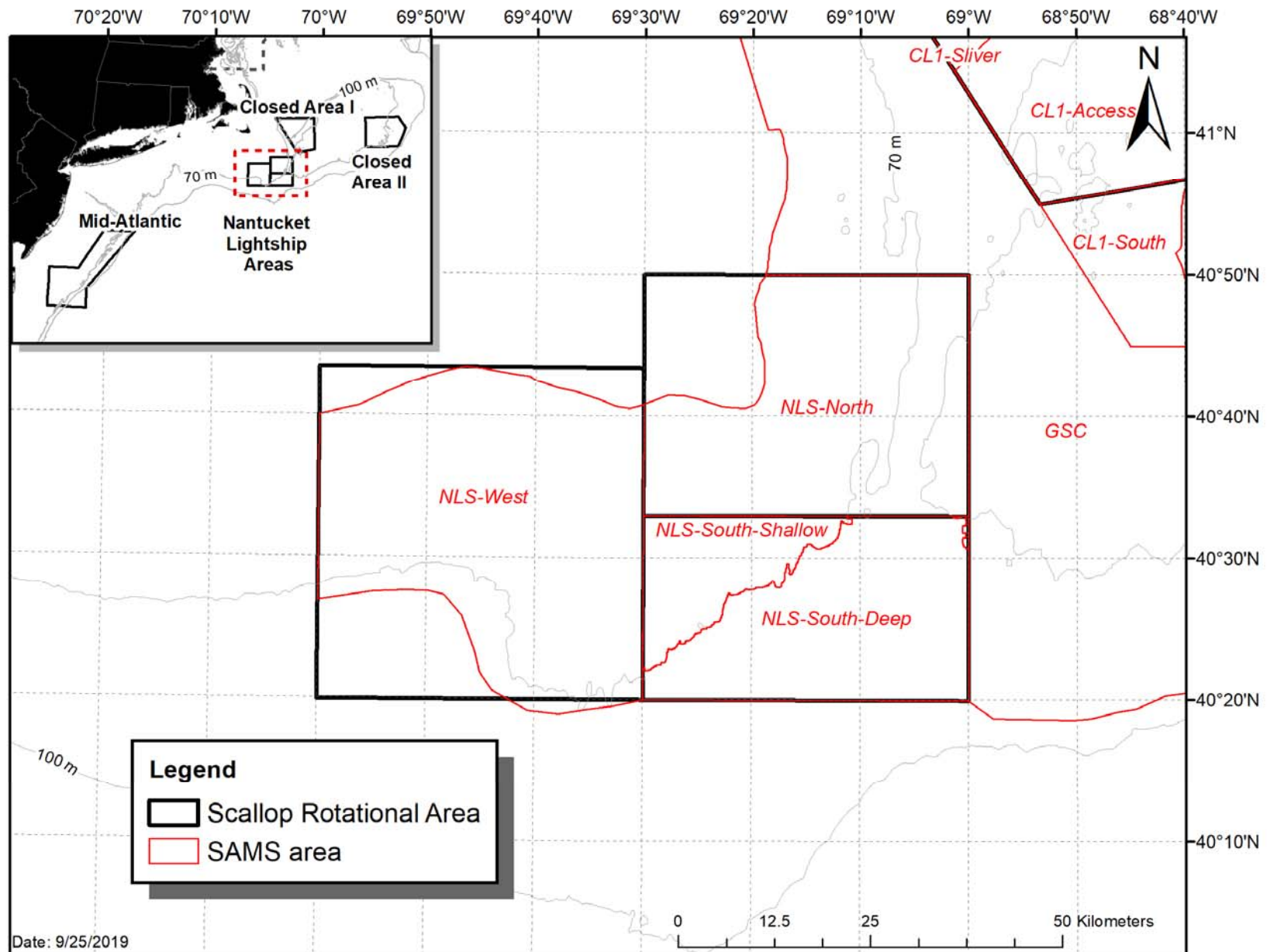
Projection	F=0.51 (mt)	F=0.51 (lbs)
CAII-S	4998	11,018,704

Closed Area II - South

- Committee Tasking: Consider a closure to improve yield-per-recruit within CAII AA.
- Cohorts in this area are somewhat spatially distinct.



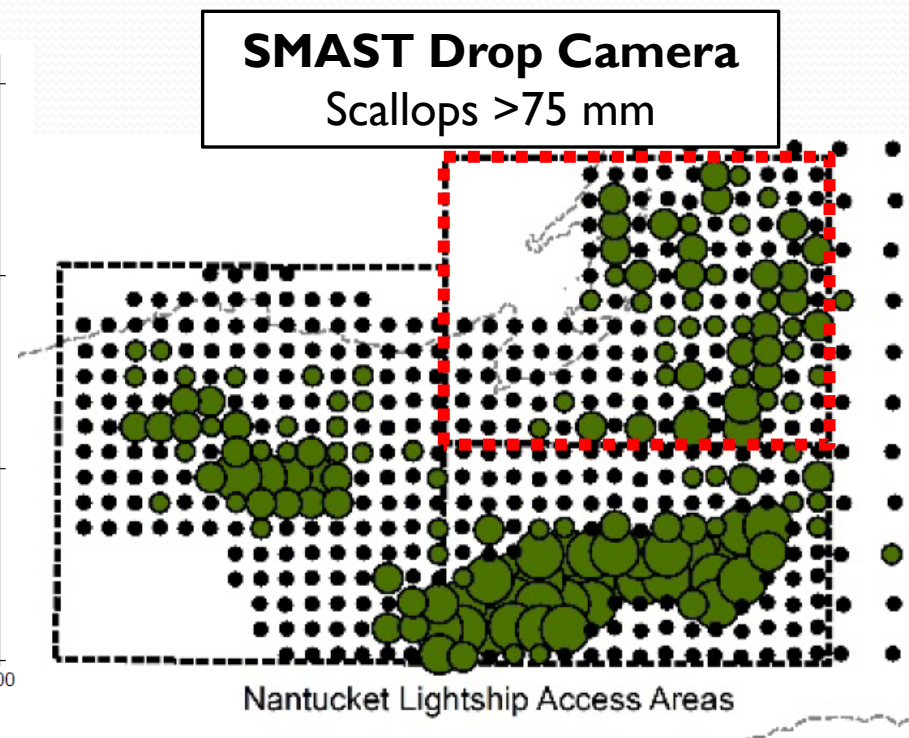
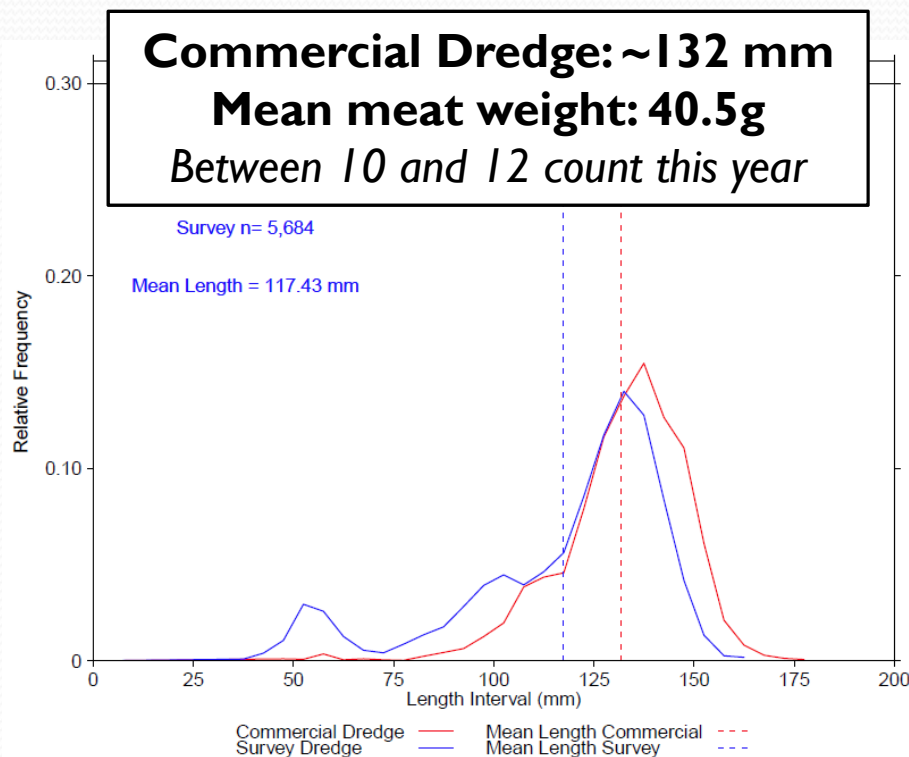
Nantucket Lightship Region



NLS-North

Projection	F=0.5I (mt)	F=0.5I (lbs)
NLS-N	1,096	2,416,266

- Candidate for **partial trip in 2020**.
- Minimal recruitment, largest cohort exploitable.



Nantucket Lightship West

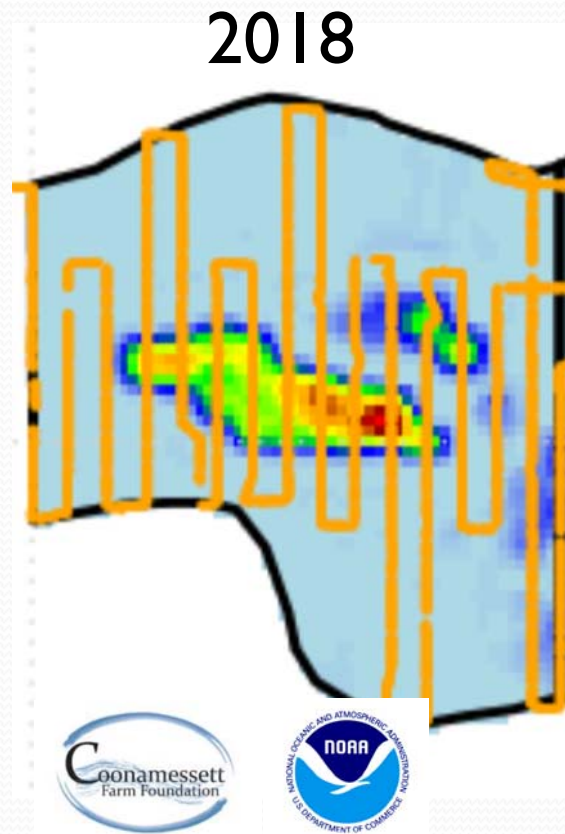
Substantial downturn in biomass.
High total mortality (F, discard, M)

One year class

FY 2018: 2 Trips

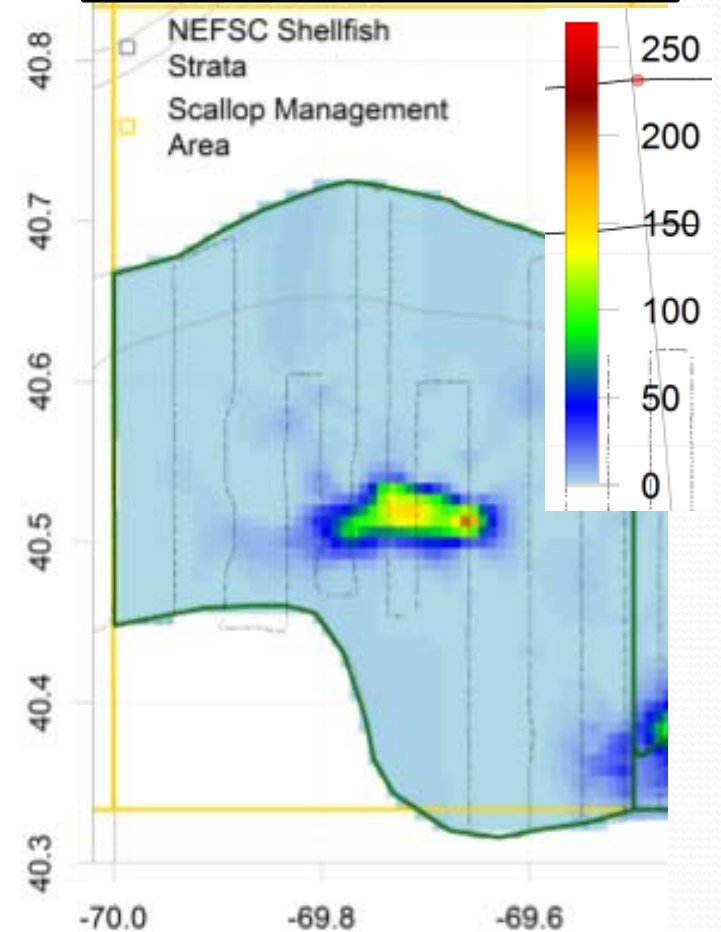
FY 2019: 3 Trips

~50 million lb
decline in total
biomass estimate
from 2018 - 2019



2019

Prediction unit: mt per km²

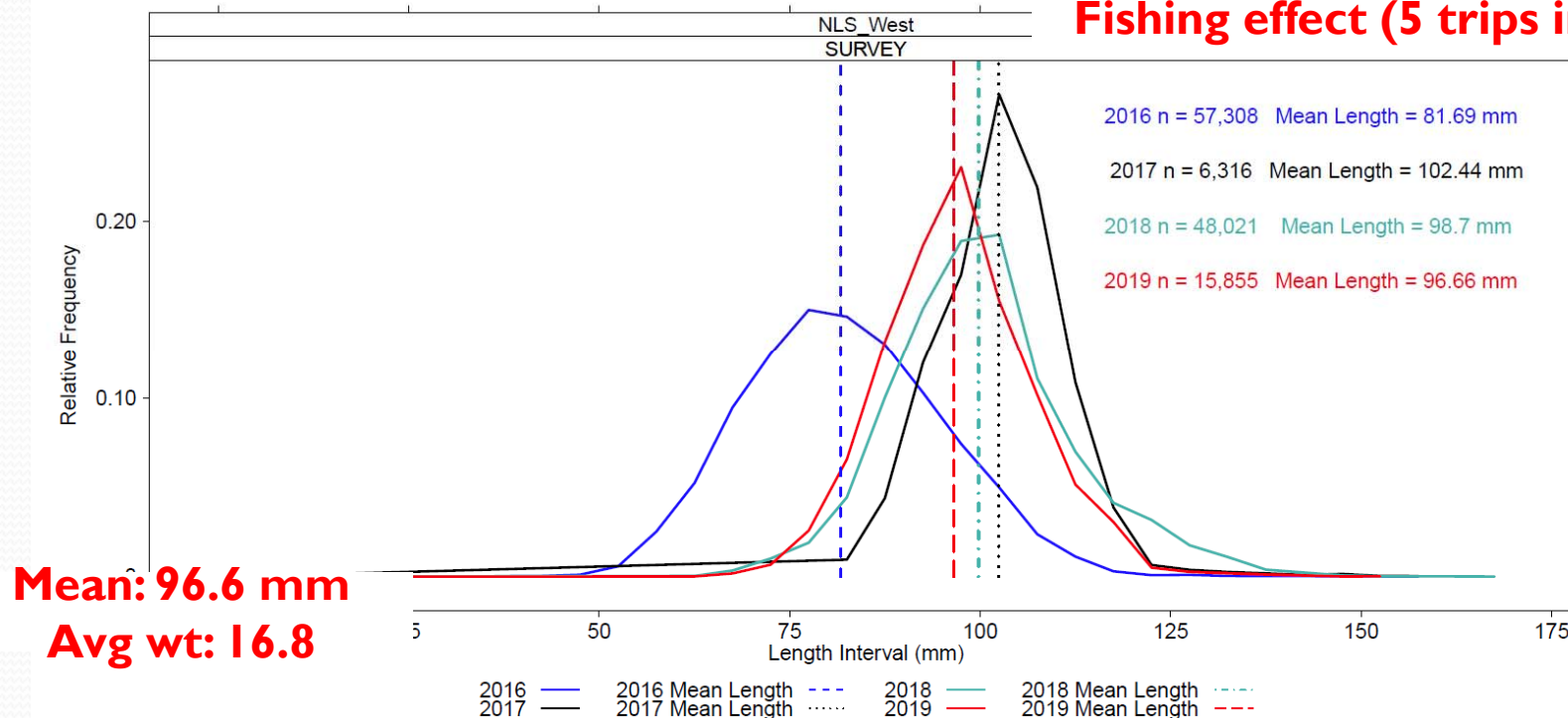


Nantucket Lightship West

Projection	F=0.5I (mt)	F=0.5I (lbs)
NLS-West	1,434	3,161,429

- **Model suggests that there is not another trip in NLS-W in 2020. Need to re-think default allocation.**
- **Uncertainty around growth.**

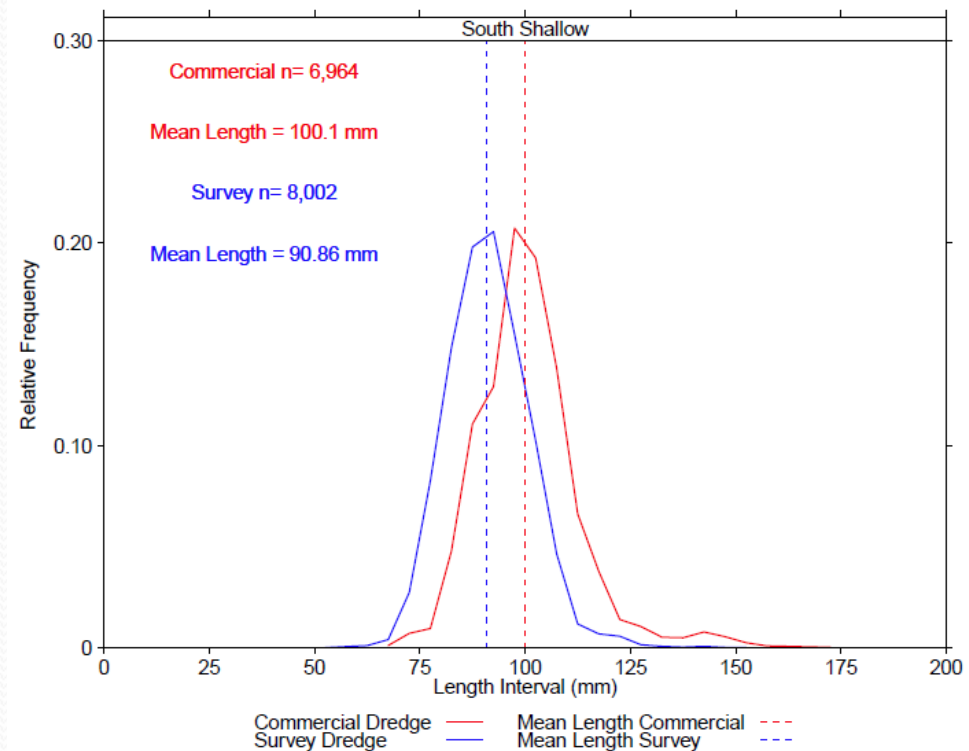
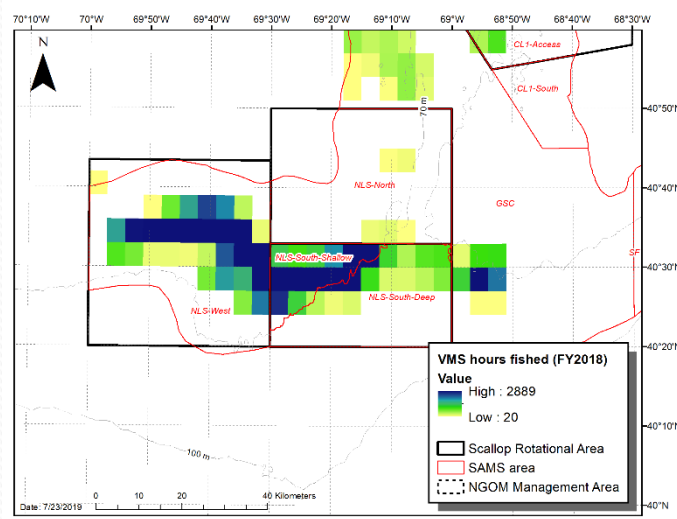
**Very little growth observed
between 2017, 2018, 2019
Fishing effect (5 trips in 2 year)**



NLS-South Shallow

Projection	F=0.5I (mt)	F=0.5I (lbs)
NLS-S-shallow	1,376	3,033,561

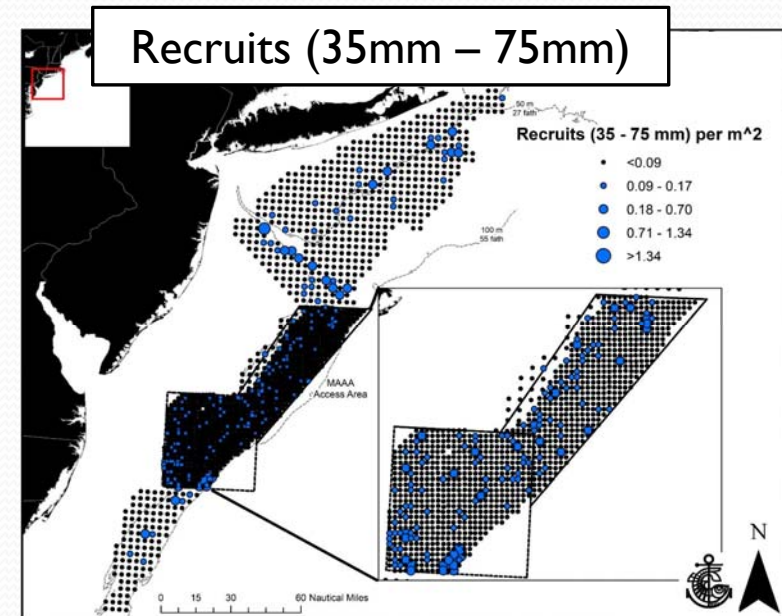
- Not expected to support a full trip in 2020 on its own.
- Committee tasking to combine with other Lightship areas.
- L-F is comparable to the NLS-W



Mid-Atlantic Access Area

- **Combined Projection Results:**

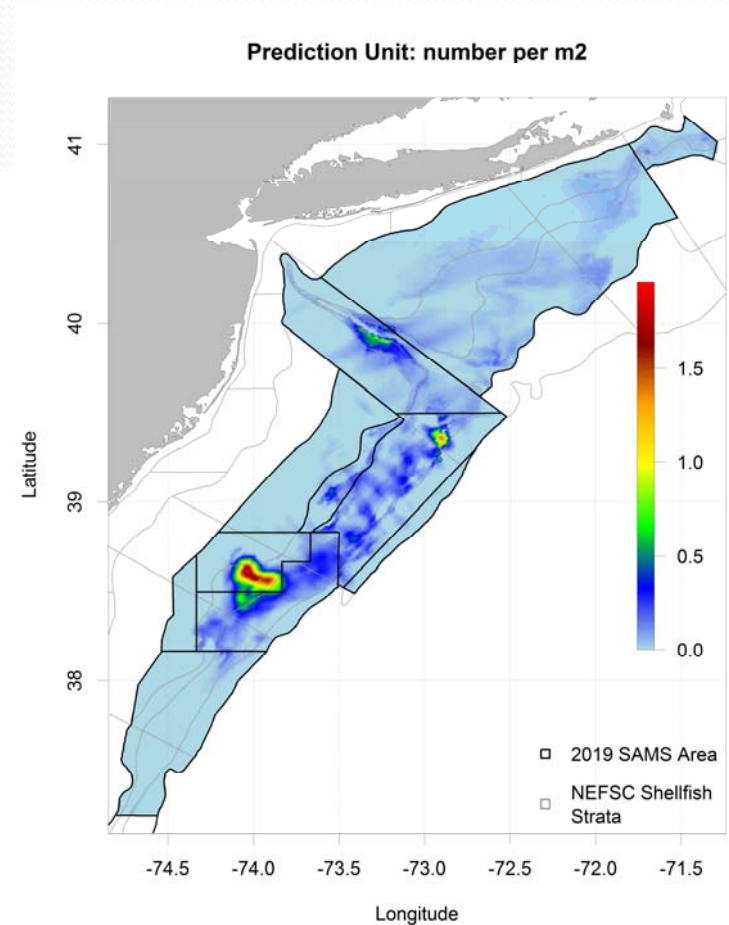
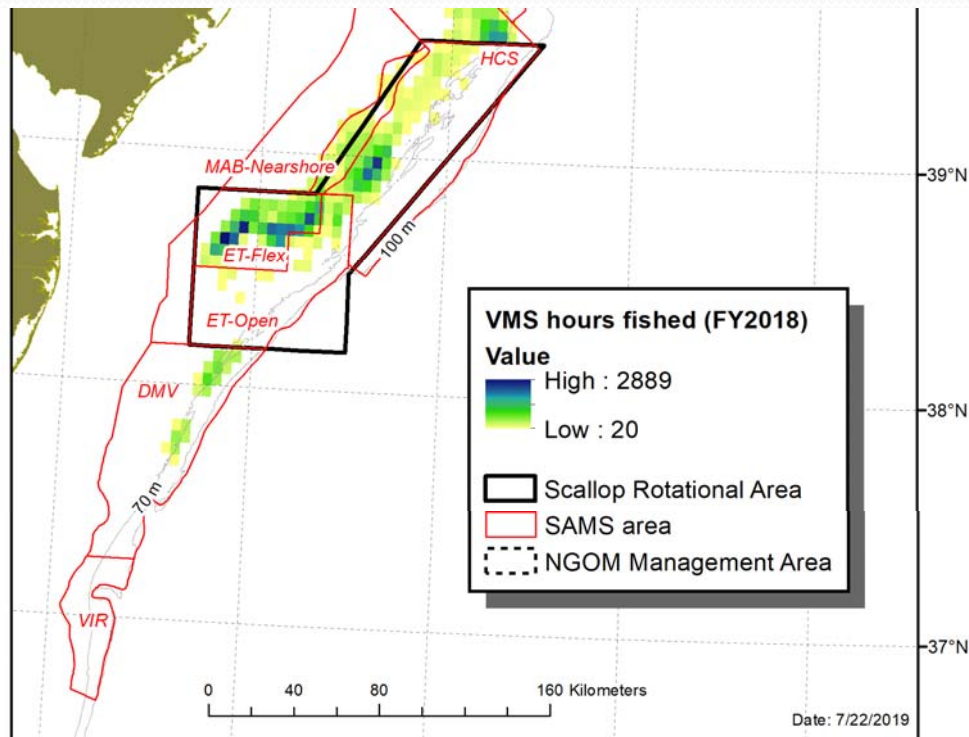
MAAA		ABC	OFL
	Total	F=0.51	F=0.64
HCS	8,221	2,814	3,283
ETFlex	15,088	5,120	5,956
ETOpen	13,929	4,616	5,366
Total	37,238	12,550	14,605



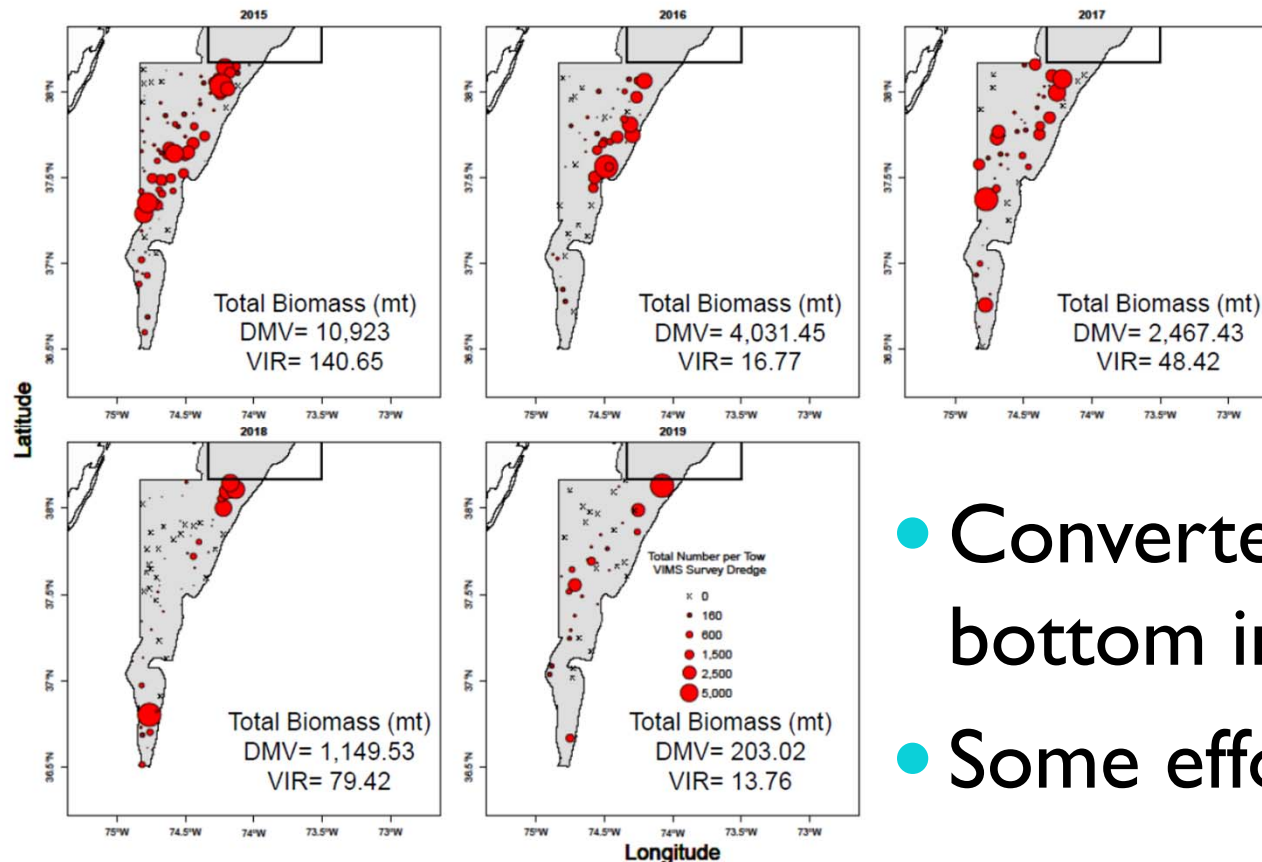
- Could **support multiple trips in 2020. (2)**
- Fishery is working on one dominant YC (7yo in 2020).
- Some pre-recruits and recruits ET.
- Meat quality may be improving, still issues.

Mid-Atlantic Access Area

- Majority of FY 2018 effort was north of 38.5° latitude.
- Some fishing in Delmarva (no longer part of MAAA)



Delmarva:



VIMS Biomass

2015: 10,923 mt

2016: 4,031 mt

2017: 2,467 mt

2018: 1,149 mt

2019: 203 mt

- Converted to open bottom in 2018 (FW29).
- Some effort in FY2018.
- Order of magnitude reduction in biomass.
- Animals are at the southern extent of their range.

NLS-South-deep

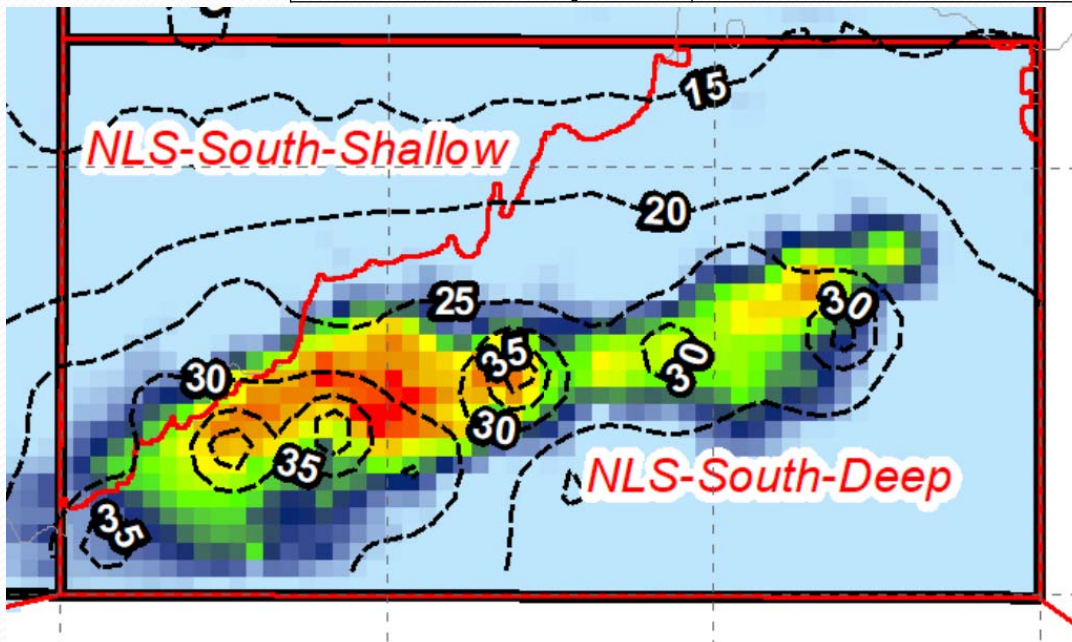
The outlook for these scallops has changed some since the Council voted in June to prioritize work to modify the FMP to accommodate harvest of these scallops through a separate TAC, outside of the 94.5% and 5.5% allocation split.

- **Then:** the majority of animals would be 40-50 count and 8 years old in 2020, and may be more susceptible to large scale mortality as they get older in age.
- **Now:** The 2019 survey information in this area suggests that these scallops grew between 2018 and 2019, and that meat counts have improved enough to make the NLS-S-deep a more viable candidate for fishery access in the future.

NLS-South-deep

- **What:** There is one exceptional year class in this area. These scallops are in deeper water, with marginal habitat.
- **Where:** Two high-density patches (i.e. depths of 70 m or more). The SAMS area is approx. 22nm east to west, and 13 nm north to south.
- **How many scallops are in the area?** over 35,000 mt (over 3 billion animals) with an average meat weight of 10 g.

Projection	F=0.5I (mt)	F=0.5I (lbs)
NLS-S-deep	8,234	18,152,863



NLS-South-deep

2018 → 2019

- Density per m² stabilized
- Observed Growth

Density

2017: 13.66 m²

2018: 6.85 m²

2019: 6.26 m²



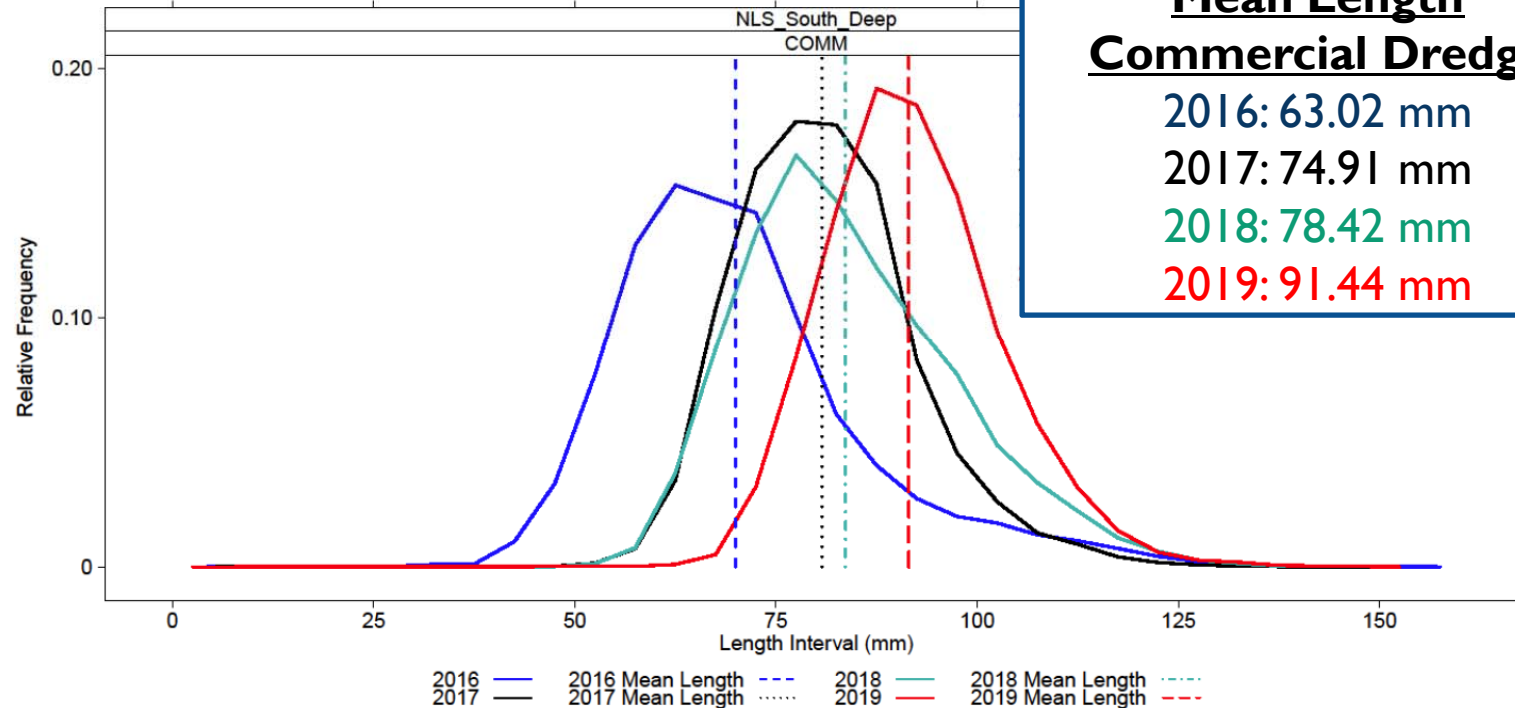
Mean Length Commercial Dredge

2016: 63.02 mm

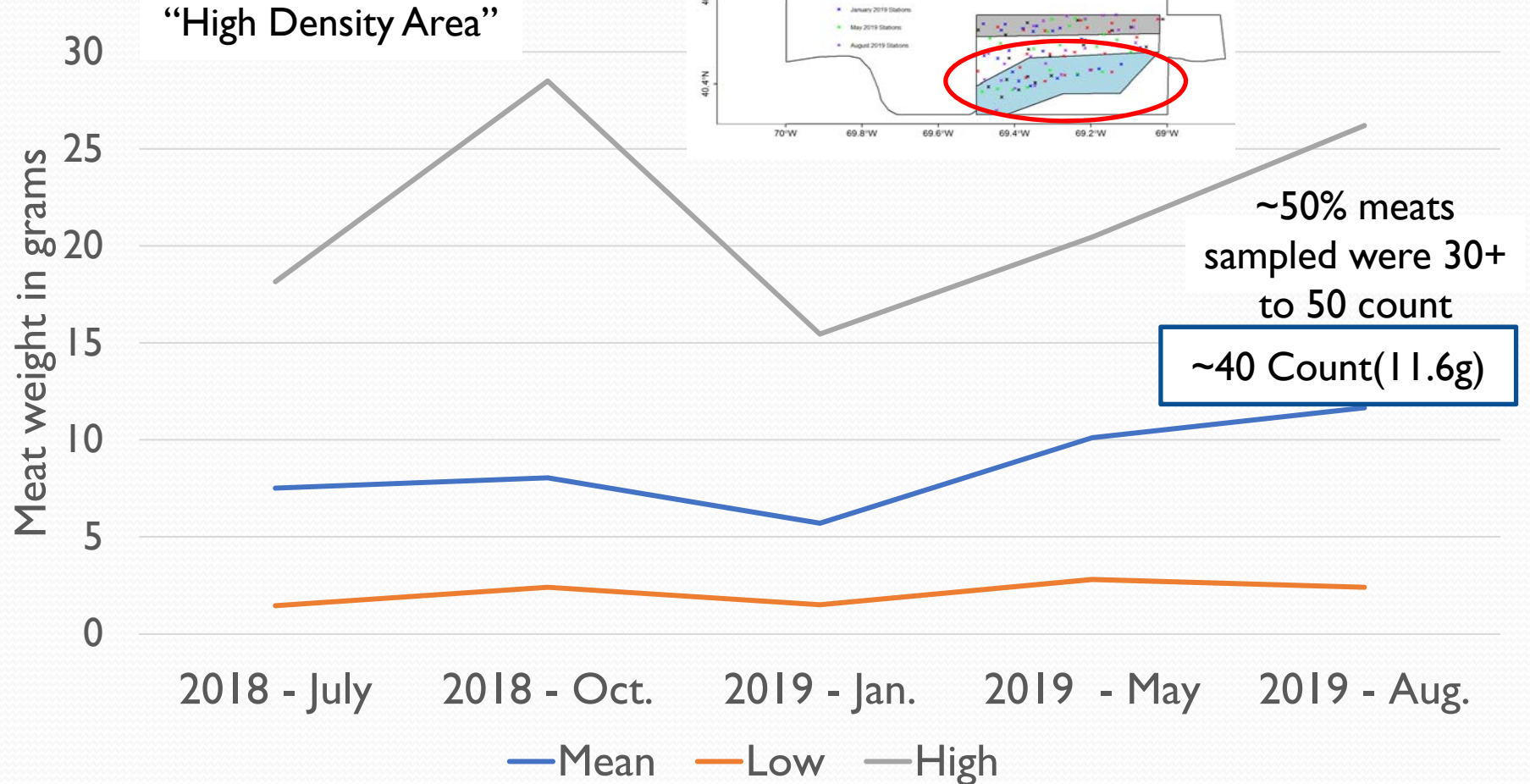
2017: 74.91 mm

2018: 78.42 mm

2019: 91.44 mm

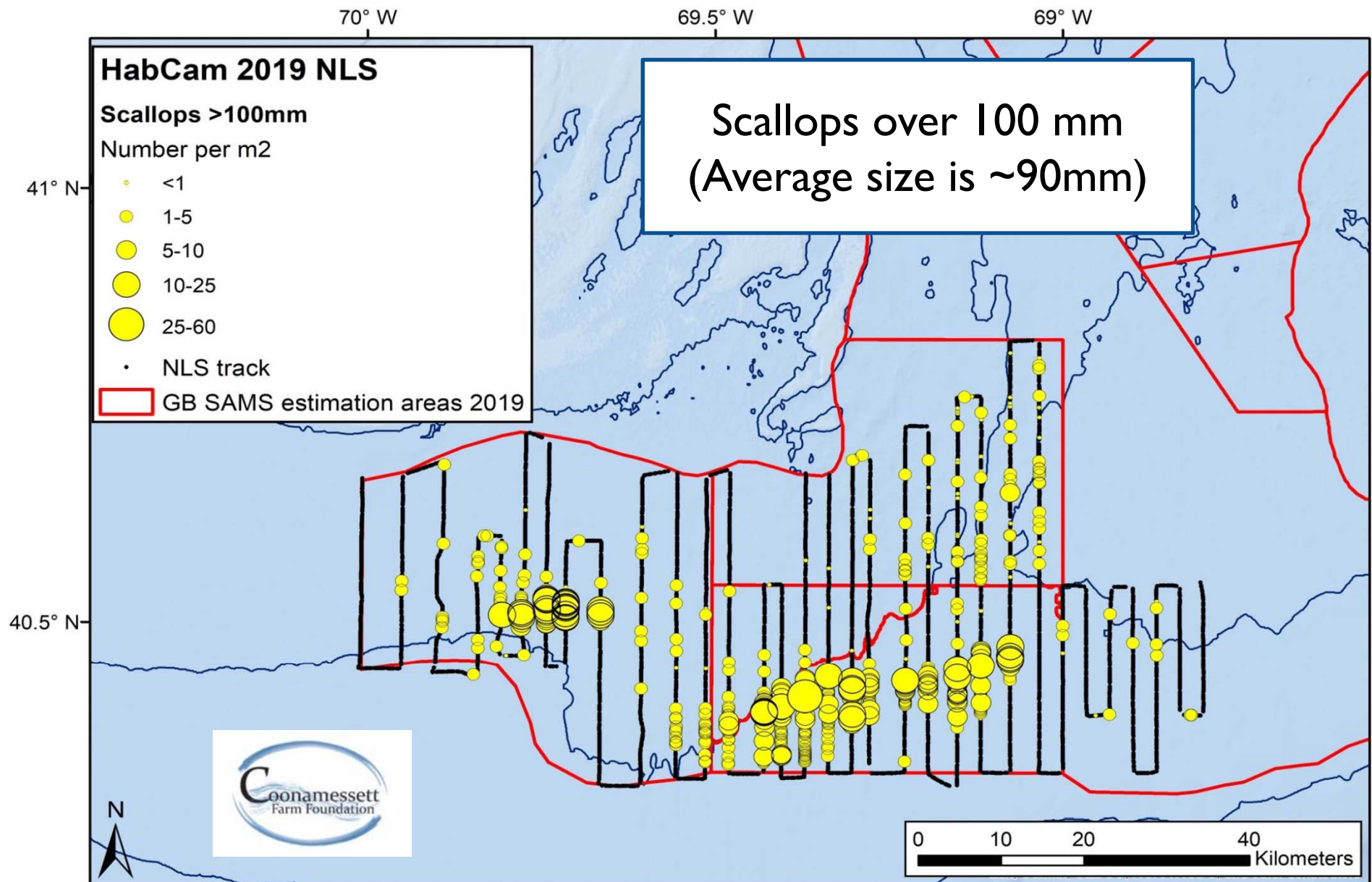


Meat Weights



- Data from VIMS RSA Project (5 surveys from July 2018 – August 2019)
- Wide range of market grades in the NLS-S. Not all 40 count.

Lengths in NLS-S-deep



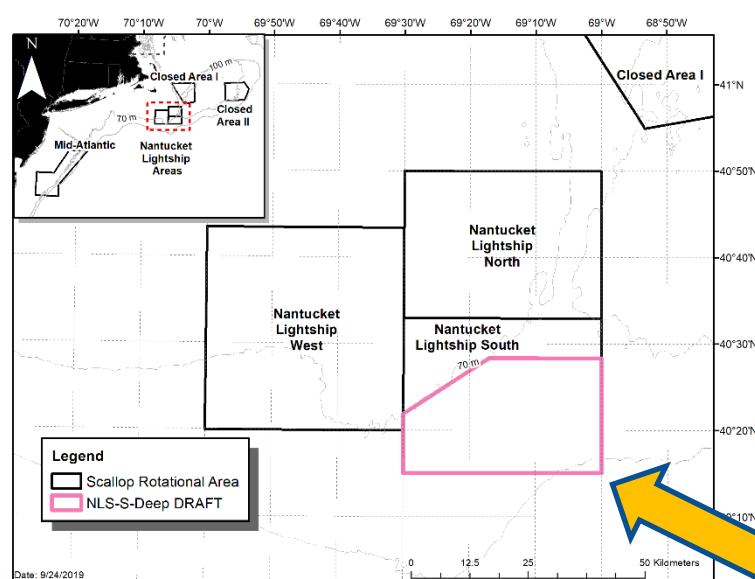
Selectivity in NLS-S-deep

- Not all scallops have recruited to the 4" ring.
- Commercial dredge (4" ring) capable of retaining a range of sizes.



NLS-S-deep video

NLS-S-deep tasking (Doc.2)



- Treat as a standard access area trip (18k or 15k)



Potential boundary for rotational area

- Expand the southern boundary of the NLS-S-deep area.
- Increase crew limits by 2 for each LA permit category.
- Incorporated into spatial management options, not treated separately in projections or alternative analyses.



2019 Fishery Performance

As of September 9, 2019 ~40% of FY complete

- FW30 Final Rule: April 1, 2019

Component	Landings to-date (lbs)
Limited Access	37,009,689
LAGC IFQ	1,800,769 (60% of APL)
LA w/ LAGC IFQ	51,189
Observer Set-Aside	419,799
TOTAL	39,281,446

- LA & IFQ Projected landings: ~60 million lbs.
 - Does not include set-asides

PDT input:

- Without strong incoming YC, focus on options that will support harvest for next two years (2020 and 2021).
- Exceptional recruitment events have posed (new?) management challenges. Dense aggregations in small areas: don't fully understand non-harvest mortality.
 - Past: NLS-West
 - Present: NLS-S-deep; ET-Flex
 - Future: Stellwagen?
- 2020 Specs: How to utilize older scallops that are within rotational areas, where full trip is not an option.
 - Lottery?
 - Lower trip limits and allocate to everyone?

Specifications Tasking (Doc.2)

- Motion 1: Committee tasking for several spatial management configurations (see following slides), three open area F rates.
 - FT LA trip limits of 18,000 lbs and 15,000 lbs

5 FT trips is ~30 million lbs	6 FT trips is ~36 million lbs
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- Open area F rates: $F=0.23$, $F=0.295$, $F=0.4$ (All below F_{msy})

	Run 1	Run 2	Run 3	Run 4
F=0.23				
F=0.295				
F=0.4				

12+ possible combinations



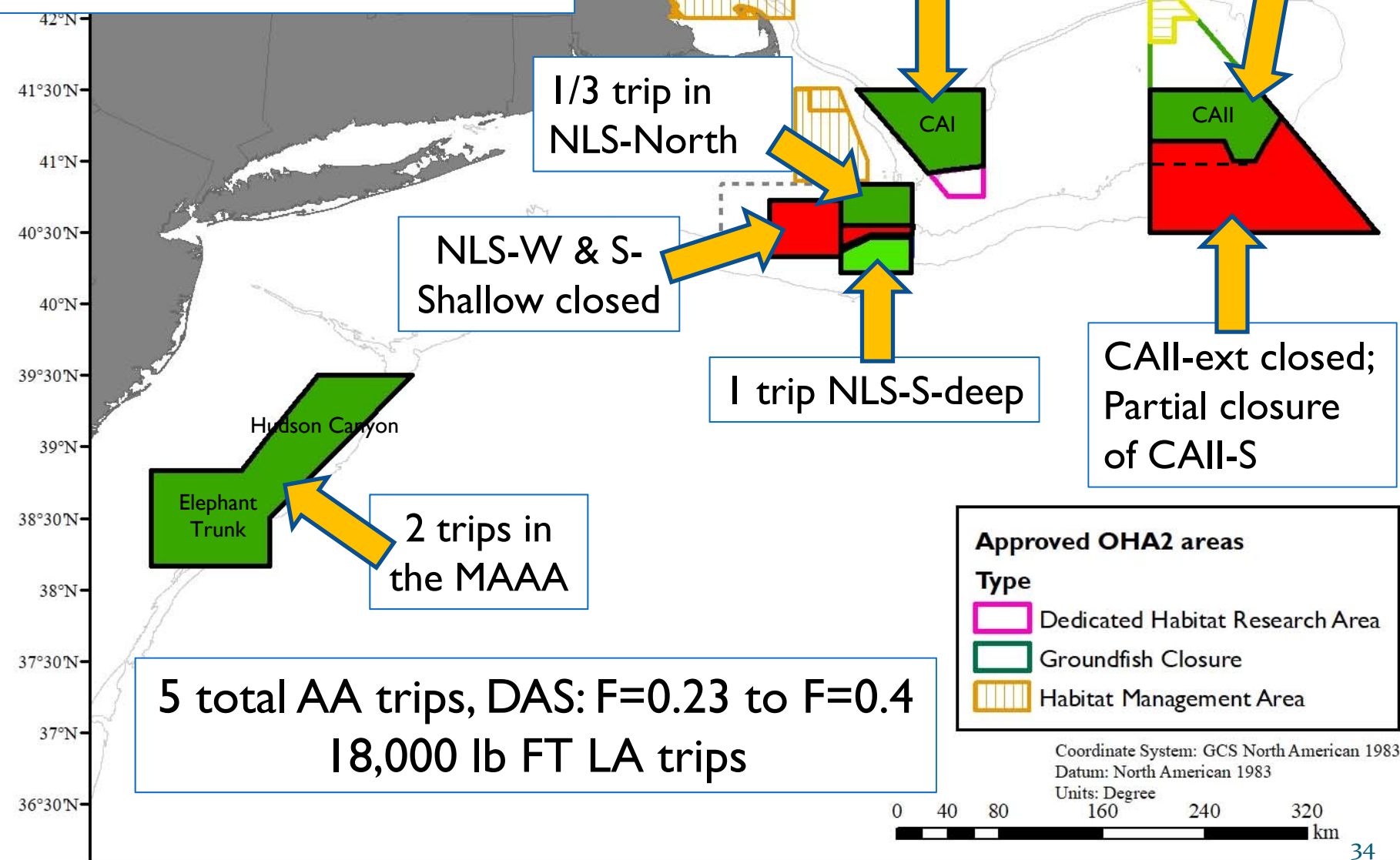
Committee Tasking to PDT (Doc.2)

Motion #1 – “Run 2”

Specifications Run of AAs, open area F.

RED – Potential Rotational Closure

GREEN – Potential Access Areas



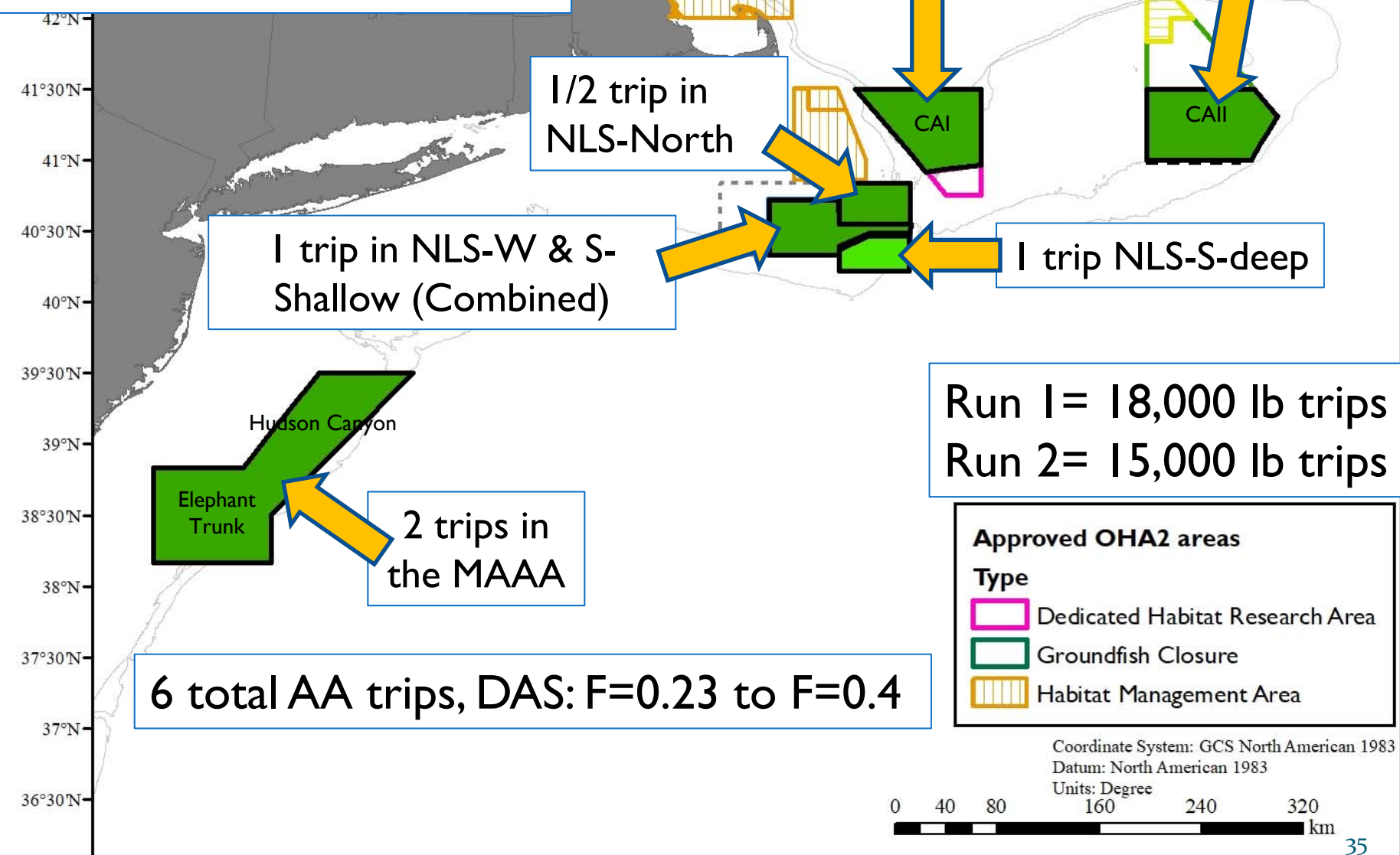
Committee Tasking to PDT (Doc.2)

Motion #1 – “Runs 1 & 3”

Specifications Run of AAs, open area F.

RED – Potential Rotational Closure

GREEN – Potential Access Areas



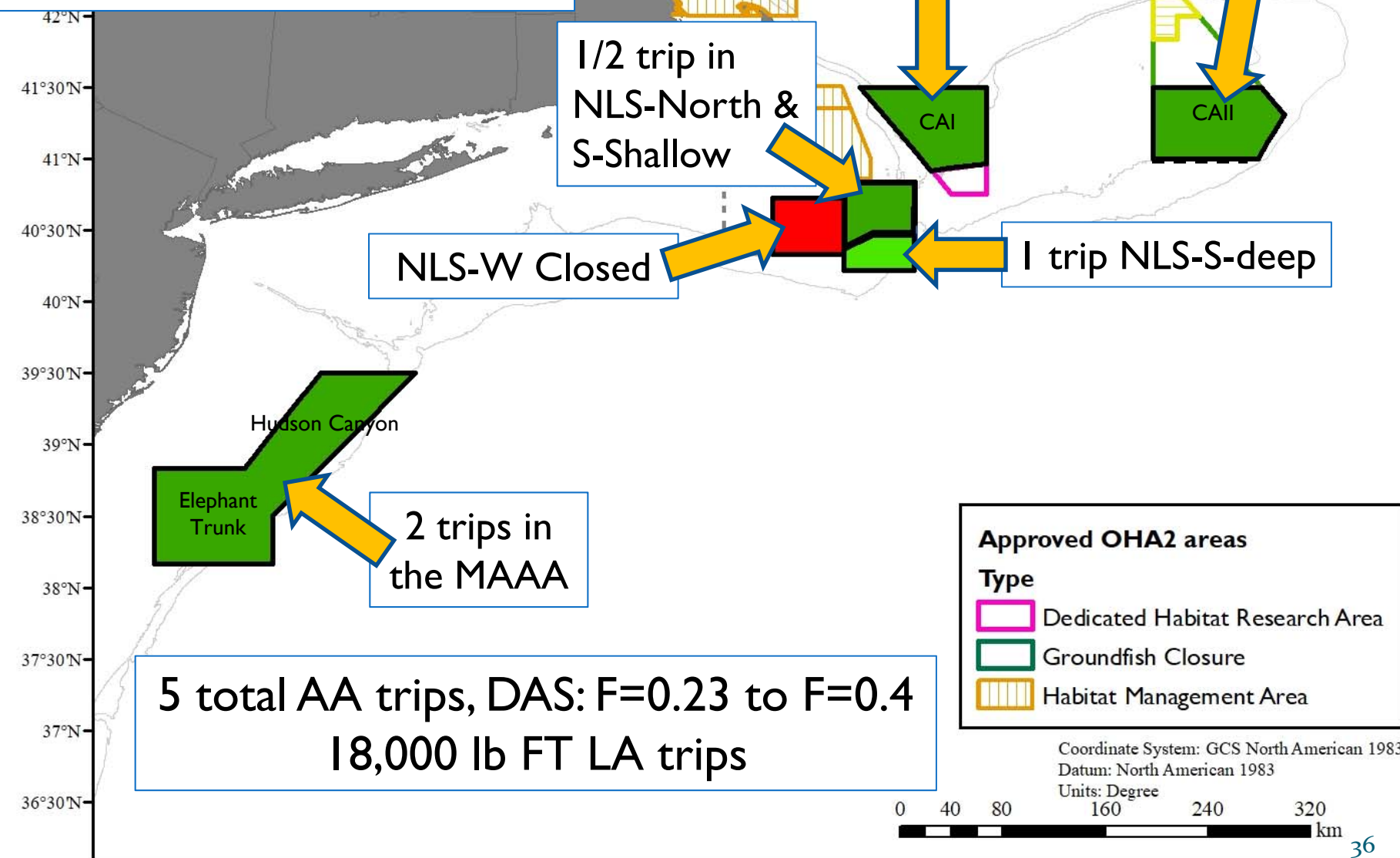
Committee Tasking to PDT (Doc.2)

Motion #1 – “Run 4”

Specifications Run of AAs, open area F.

RED – Potential Rotational Closure

GREEN – Potential Access Areas



Mitigating Impacts on GBYT

- Evaluation of an AA trip in CAI for FY2019
- Committee tasking in January and May
 - Several options outlined in Doc. 3d
 - Contribution to GF PDT memo to the SSC
- Evaluate bycatch projections associated with tasking. EX: 'Run 2' closes CAI-ext & part of CAI

YT ABC	US Share	Scallop 'ABC'	Scallop 'sub-ACL'
FY2020	74%	16%	95% of ABC
162	~120 mt	~19 mt	~18 mt



A2I progress since June:

- Committee and Council tasking in May/June, first formal update on progress last week.
- Discussion on A2I at several recent PDT meetings, focus has been on developing NGOM options for the Council to consider.
- See Document 4a. (Draft options and data).
- Focus has been on mechanics of options that support research, fund monitoring, and support a directed GC fishery in the NGOM.

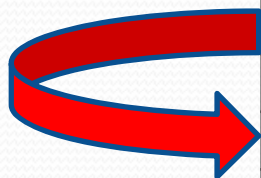


Outlook for Amendment 2I

- Anticipate some progress on NGOM alternatives by October AP/CTE meetings, but short-term focus is on FW32.
 - New options to develop based on tasking and need to begin work on other June tasking.
 - Continue to gather data to support decision-making.
- Develop text to address tasking on IFQ trip limits and transfers.
- Evaluate need for EIS vs. EA once full range of alternatives are developed.

Amendment 2I Timeline

2019	
JAN	NEFMC - approve scoping document
FEB-APR	NOI for developing an EIS is published – Scoping period
JUN	NEFMC - Review Amendment 2I scoping comments; develop goals and objectives;
JULY-JAN	Scallop PDT, AP, Committee work to develop background information and alternatives
2020	
JAN	NEFMC – Approve range of alternatives for Draft EIS
JAN-MAY	Impact Analyses
APRIL	?
MAY	Staff completes draft DEIS submission
JUN	NEFMC - Review/approve Draft EIS for public hearings, select preferred alternatives
AUG	Final submission of DEIS to NMFS
SEP	NMFS publishes DEIS
SEP-DEC	Public comment period and public hearings
2021	
JAN	NEFMC – Review public comments, select final preferred alternatives



Questions?