



## New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116

Eric Reid, *Chair* | Thomas A. Nies, *Executive Director*

### MEETING SUMMARY

#### Scallop Plan Development Team

August 10, 2022

Webinar Meeting

The Scallop PDT met via webinar on August 10, 2022 to discuss: 1) the draft memo to the Groundfish PDT regarding GB yellowtail flounder; 2) seasonal meat weights and spawning in the context of seasonal closures; 3) possible management objectives and performance metrics for a Management Strategy Evaluation as a follow-up to the ERM project; and 4) discuss other business.

#### **MEETING ATTENDANCE:**

Jonathon Peros (Plan Coordinator), Sam Asci, Adam Delargy, Rachel Feeney, Amber Lisi, Danielle Palmer, Dave Rudders, Bill DuPaul, Jessica Blaylock, Kelly Whitmore, Naresh Pradhan, Sharon Benjamin, Travis Ford, Ben Galuardi. There were approximately 12 members of the public listening in on the call.

The meeting began at 9:33 AM. Following introductions, Council staff provided brief updates on the 2023/2024 Research Set-Aside announcement and [an interactive scallop fishery performance interface](#) that was developed by Mr. Ben Galuardi (GARFO).

#### Georges Bank Yellowtail Flounder Memo to Groundfish PDT

The PDT reviewed the draft memo to the Groundfish PDT related to Georges Bank yellowtail (GB yellowtail) bycatch in the scallop fishery and the outlook for the scallop fishery on eastern GB for FY2023. The purpose of the memo is to help inform the SSC on the outlook for the scallop fishery and potential overlap of scallop fishing and GB yellowtail when recommending the 2023 TAC for GB yellowtail. Key points from PDT discussion on this topic include:

- Related to delays in processing observer data, Ms. Jessica Blaylock (NEFOP) explained that data auditing is almost complete for trips through March 2021, and that the remainder of FY2021 data should be available by the end of August. Ms. Blaylock also notified the group that NEFOP is changing its protocol so that windowpane flounder discards are uploaded to the preliminary observer database (i.e., previously, only kept scallop catch, yellowtail flounder discards, and incidental take data were uploaded to the preliminary database). Ms. Blaylock noted that typically data processing works in chronological order of when observed trips occurred, though it is possible to request that observed trips in certain areas be prioritized to address management needs.
- The PDT felt that the FY2021 bycatch estimate of 30 mt was difficult to reconcile given other sources of information (i.e., recent scallop and groundfish surveys on EGB) that have indicated little to no yellowtail being caught. The group acknowledged that there is substantial uncertainty around the estimated catch of GB yellowtail due to data limitations (i.e., a lack of recent observer data available

for CAII) and suggested that the 2021 bycatch estimate be revisited when recent observer data become available. They also noted that if updated observer data are not available in the fall when the PDT is projecting bycatch for FY2023, a more detailed analysis could be performed to determine whether there are outliers in observer data from 2019 that could be driving GB yellowtail bycatch estimates.

## Seasonal Meat Yield Closure Discussion

Council staff noted that the Scallop Committee had tasked the PDT with examining the feasibility of seasonal closures to improve meat yield through development of FY2023 specifications. The PDT reviewed existing information on seasonal meat yield anomalies, spawning dynamics, and some information on flatfish bycatch trends on eastern Georges Bank. Key points from PDT discussion on this topic include:

- It was noted that available data indicate consistency in the seasonal differences in meat yield and spawning dynamics.
- Developing a seasonal closure to optimize many factors at once can be difficult, (e.g., optimizing yield and reducing flatfish bycatch). A member of the PDT noted that there are also economic drivers behind where and when vessels fish (e.g., they might fish when yield is low because prices are high), and that input from the Advisory Panel would be useful to inform this dynamic. Staff noted that the Committee tasking was focused on improving yield and reducing mortality, but that other factors such as spawning and potential impacts to flatfish bycatch should be considered.
- The group felt it will be important to consider the effect of a seasonal closure on fishing behavior. For example, concentrating fishing into smaller windows of time when yield is high might intensify fishing and have potentially negative consequences to the resource.
- A member of the PDT noted previous work conducted by Coonamessett Farm Foundation that examined meat yield trends on eastern Georges Bank as a function of season and depth. They suggested that analyzing shell height to meat weight relationships from the VIMS dredge survey by SAMS area (i.e., which accounts for depth) would inform the discussion of seasonal yield closures.
- The PDT discussed how the status of a rotational area might dictate whether use of seasonal closures is appropriate. For example, a rotational area that reopens after several years may not need a delayed start, compared to a rotational area that has been consistently fished for several years in a row.
- The PDT also discussed how a seasonal closure at the start of the fishing year might be administered in areas that have been fished for several years in a row (e.g., how would the 60-day carry over window for access area fishing be handled if a seasonal closure is in place during that window).
- The PDT will continue discussion on this topic at the two-day meeting in Falmouth on August 31 – September 1.

## Management Strategy Evaluation Discussion

Council staff reviewed tasking from the Scallop Committee for the PDT to identify possible management objectives and performance metrics for a Management Strategy Evaluation (MSE) as a follow-up to the Evaluation of Rotational Management final report. Key points from PDT discussion on this topic include:

- A stepwise approach is needed where problems or goals/objectives are identified first, followed by performance metrics for each.

- Potential issues that could be considered in an MSE include: stability in landings year to year, access area boundary size, seasonal fishing issues, fishing practices (e.g., high grading), and product quality issues, etc.
- A member of the PDT noted that the output of the SAMS model might cover elements that could be considered in an MSE, though it is possible that an MSE could incorporate more factors such as the impact of seasonal meat weight trends on fishing mortality.
- Another member of the PDT felt that having contradicting management objectives can pose challenges. For example, an objective of maximizing yield per recruit could be offset by an objective of stabilizing landings. An MSE should identify primary management objectives early in development.
- The PDT noted that other processes and projects should be accounted for if an MSE is considered, such as the 2024 research track assessment.
- A member of the PDT noted that the Council routinely completes annual frameworks to set specifications, and suggested that the timescale and replicability of the analysis should be considered in any MSE that is considered.

## Other Business

For travel planning purposes, Council staff noted that the September 1<sup>st</sup> PDT agenda will likely extend into mid-afternoon. No other business was discussed.

The meeting adjourned at 11:37 AM.



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### MEETING SUMMARY

#### **Scallop Plan Development Team**

August 31 – September 1, 2022

The Coonamessett

Falmouth, MA

September 7, 2022 Webinar

September 13, 2022 Webinar

The Scallop PDT met in Falmouth, MA on August 31 and September 1, 2022, and by webinar on September 7 and 13, 2022 to discuss: 1) results of the 2022 scallop resource surveys; 2) review information on nematode and shell disease in the Mid-Atlantic; 3) develop input for 2022/2023 specifications; and 4) discuss other business.

#### ***MEETING ATTENDANCE:***

August 31-September 1 meeting: Jonathon Peros (Plan Coordinator), Sam Asci, Adam Delargy, Dave Rudders, Bill DuPaul, Jessica Blaylock, Kelly Whitmore, Naresh Pradhan, Sharon Benjamin, Travis Ford, Chris Parkins, Dvora Hart. There were approximately 25 members of the public in attendance, including representatives of survey groups from SMAST, VIMS, and CFF.

September 7 meeting: Jonathon Peros (Plan Coordinator), Sam Asci, Adam Delargy, Dave Rudders, Bill DuPaul, Jessica Blaylock, Kelly Whitmore, Naresh Pradhan, Sharon Benjamin, Travis Ford, Ben Galuardi, Chris Parkins, Rachel Feeney, Danielle Palmer, Dvora Hart.

September 13 meeting: Jonathon Peros (Plan Coordinator), Sam Asci, Adam Delargy, Dave Rudders, Bill DuPaul, Jessica Blaylock, Kelly Whitmore, Naresh Pradhan, Sharon Benjamin, Travis Ford, Chris Parkins, Dvora Hart, Danielle Palmer.

### 2022 Survey Presentations

The PDT received presentations on findings from the 2022 scallop resource surveys. Short reports and presentations can be accessed at the following links. Key points from PDT discussion around each presentation are summarized below.

Virginia Institute for Marine Science	Short Report: <a href="#">Part 1</a> <a href="#">Part 2</a>	<a href="#">Presentation</a>
UMass Dartmouth School for Marine Science and Technology	Short Report: <a href="#">Georges Bank</a> <a href="#">Gulf of Maine</a>	<a href="#">Presentation</a>
Coonamesett Farm Foundation	<a href="#">Short Report</a>	<a href="#">Presentation</a>
Northeast Fisheries Science Center	Short Report: <a href="#">HabCam</a> <a href="#">Dredge</a>	<a href="#">Presentation</a>

### **An Assessment of Sea Scallop Abundance and Distribution in the Mid-Atlantic Bight, Nantucket Lightship, Closed Area II and Southern Flank – Sally Roman (Virginia Institute for Marine Science)**

- The Virginia Institute of Marine Science conducted dredge surveys of the scallop resource throughout the Mid-Atlantic (all SAMS areas). VIMS also covered the Nantucket Lightship region, Closed Area II and surrounds, and all of the southern flank SAMS areas in three cruises.
- The dredge survey detected recruitment in the Elephant Trunk, as well as incoming year classes on Georges Bank.
- Observations from the VIMS dredge survey of the Mid-Atlantic suggested that smaller pre-recruit scallops tend to not be infected with nematodes but are susceptible to nematode infection as they get older/larger.
- Related to the pre-recruits observed in DMV, the PDT noted that young scallops tend to not survive past a year or two of age in this area.
- Related to the strong two-year-old class of scallops observed in the Elephant Trunk, some were observed in the 2021 survey but not to the magnitude that was observed in 2022. This could have been a function of how dredge stations were allocated in 2022 compared to 2021.

### **Drop Camera Survey Results 2022 – Adam Delargy (School for Marine Science and Technology)**

- The School for Marine Science and Technology conducted drop camera surveys throughout Georges Bank, along the back side of Cape Cod, and in the Gulf of Maine. SMAST was the only survey group that conducted field work in the Gulf of Maine in 2022, including areas of the Northern Gulf of Maine.
- The drop camera survey observed high densities of pre-recruit and recruit scallops in Closed Area I, with strong overlap in the CAI-Sliver SAMS area. There was a suggestion that fishing in CAI has recently been focused in deep water outside of the CAI SAMS areas, and that surveys may not have captured all the biomass in deeper portions of CAI.

## HabCam v3 Survey of Closed Area II, Southern Flank, Nantucket Lightship South, New York Bight, Long Island, and Block Island – Tasha O'Hara (Coonamessett Farm Foundation)

- Coonamessett Farm Foundation conducted HabCam surveys in portions of the Mid-Atlantic and Georges Bank with HabCam v3.
- There was one comment noting that density estimates were relatively high across a large area of the Mid-Atlantic region.

## HabCam v2 and Dredge Survey of the Mid-Atlantic and Georges Bank – Dvora Hart (Northeast Fisheries Science Center)

- The Northeast Fisheries Science Center conducted 2022 scallop surveys aboard the R/V Sharp. The NEFSC surveyed portions of the Mid-Atlantic with HabCam, and completed dredge and HabCam surveys of the Great South Channel, Closed Area I, Northern Flank, and Closed Area II North.
- The distribution and magnitude of recruitment observed in the Elephant Trunk was consistent between the HabCam and dredge surveys.
- The NEFSC dredge survey has covered stations in the deeper part of CAI in the past. Scallops in deeper water (~130m) tended to have smaller meats and grow slower. This could be expected for some of the pre-recruit and recruit scallops observed in the deeper parts of CAI in the 2022 surveys. Visibility was limited due to bottom scour in some parts of CAI, which is typical for this area because of the strong currents.
- Survivability for one year old scallops is variable. The one-year old class observed in the NLS-West in 2021 was not as prevalent in the 2022 surveys.
- The NEFSC upgraded their HabCam system in 2022 with new higher resolution cameras. .

## Discussion on Survey Results and Data Treatment

The PDT discussed survey results and data treatment decisions over the course of several meetings. Key points from discussion are summarized below for each topic. Final PDT recommendations on survey data treatment are available in the group's memo to the SSC (forthcoming).

## Shell-Height Meat-Weight Relationships

Survey partners provided sensitivity estimates for several areas based shell height to meat weight (SHMW) parameter estimates from SARC 65. VIMS developed SHMW estimates for the NLS-South area using combined data from the 2016-2022 VIMS dredge survey, and estimates for the NYB-closure area using data from 2015-2022. SMAST utilized biological samples collected in the Gulf of Maine in 2022 to develop a SHMW curve.

Nantucket Lightship: The PDT agreed to continue using the updated VIMS 2016-2022 SHMW parameter estimates for biomass estimates of the Nantucket Lightship South area. Using the VIMS SHMW parameter estimates for the NLS-South area is consistent with how the PDT has estimated biomass for this area for several years.

Gulf of Maine: For the Gulf of Maine, SMAST collected biological samples through a series of dredge tows on Stellwagen Bank. While these data are the most recent available, there were some concerns around the uncertainty associated with such a low sample size (i.e., low number of stations (n=4) and

samples). Some on the PDT initially suggested that the 2022 SMAST data be combined with previous dredge data from Maine DMR surveys in 2021. The PDT noted that combining the two years of data might not change the SHMW equation, and the group suggested the application of the 2021 Maine DMR SHMW parameter estimates with covariates be applied, consistent with the approach that was used in 2021 for the Gulf of Maine.

New York Bight: For the New York Bight Closure that was created in 2021 through Framework 34, the PDT suggested developing an area specific SHMW equation because the new area included large portions of the Long Island SAMS area and the NYB SAMS areas. VIMS conducted a sensitivity analysis using SHMW parameter estimates from SARC 65, VIMS 2015-2022, and VIMS 2022. The SARC 65 equation includes a covariate on the status of the area with regard to it being a rotational area or part of the open bottom. Considering that the NYB closure is a new closure (i.e., not a traditional rotational area, such as the ET and HC), the PDT questioned whether it was appropriate to assign the SARC 65 covariate as “closed”. Discussion pointed out that SHMW relationships for this area may be more a function of geography than whether the area is open or closed to fishing. Sensitivity analyses showed that the NYB closure area had the highest SHMW relationship, and that estimates based on VIMS 2022 data were greater than both SARC 65 and VIMS 2015-2022 data. The PDT ultimately recommended using the VIMS 2015-2022 SHMW parameters, recognizing that they were area specific and representative of the dynamics in this area over the past several years.

### Survey Estimate Agreement

The PDT noted that there was agreement between survey estimates for each SAMS area. There were not data treatment recommendations offered beyond the sensitivity analyses on SHMW relationships described above.

### Survey Estimates Compared to Projections, Recruitment, and Outlook for FY2023

The PDT reviewed combined mean survey estimates by SAMS area from the 2022 surveys compared to projections from Framework 34 (biomass projections for 2022 based on 2021 survey data). Survey estimates were notably lower than projections for several areas, including Closed Area II Southwest, CAII – Extension, the Nantucket Lightship South. Dr. Hart explained that there are several sources of variation in the projections, such as uncertainty of the survey data used to initialize SAMS. Survey estimates could have a typical error of 20%, which translates to projections potentially being off by as much as 40%. SAMS projections used in management are the mean of 1,000 runs, with each run having variable recruitment. The PDT noted that natural mortality can be highly variable, and this could contribute to addition uncertainty. The group discussed the growth assumptions as a source of uncertainty in the forecast that has been addressed in recent years. Another point of uncertainty in the projection model could be the “cull size”, which is the assumption of the size of scallops that vessels will discard. The PDT suggested that cull sizes be reviewed in the future to ensure that the assumptions being used reflect the length frequency of scallops expected for each SAMS area.

The combined estimate for CAII-SW was roughly 72% lower than the projection from FW34. The PDT was concerned about the difference in estimate vs. projection for this area in particular given that scallop density was high in this area and that there was an expectation that it would support rotational fishing for several years. VMS data reviewed during the meeting indicated that the majority of effort in CAII (i.e., combined area of CAII-SW and CAII-Ext) occurred in the CAII-SW SAMS area. Industry members



present at the meeting did not think high grading was an issue and also noted that yield was better in CAII-SW compared to CAII-Ext. The PDT felt that fishing in CAII early in the fishing year when meat yield was low could have resulted in a higher than expected F.

*Based on observations of recruitment from the 2022 surveys, the PDT highlighted two areas that could be candidate for closures: Closed Area I and the Elephant Trunk (ET).*

The ET was reverted to open bottom in FY2022 following a decline in biomass in what was formerly part of the Mid-Atlantic Access Area. Both the dredge and HabCam surveys of the ET observed substantial recruitment in the central part of the area, spanning both the ET-Flex and ET-Open SAMS areas (Figure 2). While the PDT initially suggested that a focused closure around the recruitment could be designed to allow for some inshore open area fishing, a review of abundance of smaller (<100mm) and larger (100mm or greater) scallops indicated that the remaining larger scallops were actually located in the southeast corner of the ET, where nematode prevalence is high (Figure 1). The PDT recommended closing the ET for FY2023 to allow for the juvenile scallops to grow in the absence of fishing.

Closed Area I has been fished in FY2021 and FY2021 through an access area trip allocation to the LAGC IFQ component and by LA vessels fishing RSA compensation. The 2022 surveys detected high densities of pre-recruit and recruit scallops in the CAI-Sliver SAMS area (i.e., north and northwest part of CAI) (Figure 3). There was some discussion around survey observations relative to recent fishing effort in the area, which has been focused in deeper water outside of the survey domain (Figure 4). Some members of the public suggested that there could be unaccounted for biomass given the amount of fishing that has been occurring in deeper water outside of the surveyed part of CAI. The PDT noted that there is no way to incorporate biomass outside of the surveyed area into projections for FY2023, but that the depth of survey stations could be discussed for next year. The PDT suggested that CAI be a candidate for closure given the recruitment observed in this area. The PDT also evaluated whether expanding the CAI boundary northward would help protect recruitment observed in the GSC. After reviewing the modified boundary, the PDT felt that not much was gained by moving the closure boundary north and suggested that a potential closure should maintain the existing boundary of CAI.

The PDT recommended that the New York Bight closure should remain in place for FY2023. While there are some larger adult scallops in the area, the majority of biomass has yet to recruit to the fishery and likely would not do so by the start of FY2023. The aggregation of scallops in the NYB closure are north of areas with high nematode and shell blister prevalence, and another year of growth in the absence of fishing could result in a high yield rotational fishing opportunity in FY2024. The PDT also highlighted the potential that scallops in the NYB closure contributed to downstream recruitment in the ET and felt that maintaining the closure may continue to bolster recruitment.

In the Nantucket Lightship region, a sharp decline in biomass was observed in the NLS-South. Biomass continues to be low in both the NLS-West and NLS-North. The PDT discussed the criteria for closing/opening areas under the rotational management program and noted that despite the NLS-North being a historically productive area, recruitment has been very low for several years, and that the NLS-North could be reverted to open bottom. Doing so might help spread open area effort out, and it would give the fishery an opportunity to target the lower abundance of larger scallops that were observed in the area in the 2022 surveys. For the NLS-South, the PDT suggested reverting the area to open bottom on



May 30<sup>th</sup>, which would allow any vessels with outstanding FY2022 allocation to harvest it within the 60-day carryover window.

The PDT recommended that rotational fishing be focused in Closed Area II in FY2023, and that the boundary of CAII be modified to include all three SAMS areas (i.e., CAII-SW, CAII-SE, CAII-Ext). Despite the sharp downturn in biomass estimates between 2021 and 2022 in CAII-SW, the larger continuous CAII holds enough biomass to support access area fishing in FY2023. The larger boundary would also allow for effort to be spread out over a larger area, which could have benefits to the resource on eastern Georges Bank. The PDT also noted that the current flatfish AM applies to the CAII combined areas, and that the gear modification is designed to reduce flatfish bycatch and the catch of small scallops. Given that the smaller scallops observed in the 2022 surveys will not enter the fishery for several years, options for access area fishing will be limited for FY2023 and FY2024. For this reason, the PDT suggested fishing CAII conservatively in FY2023 so that access is possible in FY2024.

After several years of average and below average recruitment in the Mid-Atlantic and on Georges Bank, the PDT recommends taking a conservative approach for FY2023. The recommended base run for FY2023 includes: 1 trip to CAII with a modified boundary (i.e., including CAII-SW, CAII-SE, and CAII-Ext SAMS areas), 20 DAS, and a closure of CAI, the ET, and continued closure of the NYB. The PDT also felt it was worth considering reverting the NLS-South and NLS-North to open bottom.

### Management Strategy Evaluation (MSE) Discussion

In March 2022, the Committee tasked the PDT to identify possible management objectives and performance metrics for an MSE as follow-up to the Evaluation of Rotational Management (ERM) final report. The PDT discussed a draft memo outlining the ERM recommendation, and provided input on the goals/problems, management objectives, and performance metrics that could be examined through an MSE. The PDT focused on identifying issues that could be addressed through a modeling framework like an MSE, such as optimizing yield per recruit and reducing impacts on bycatch, and revisiting guidelines for rotational management (opening areas and closures).

### Other Business

Travis Ford (GARFO) notified the PDT that GARFO is working to modify the shell stock possession limit for the LAGC IFQ component in response to a request from industry members. The shell-stock possession limit has been volumetric, which has been difficult to both comply with and enforce. GARFO is working to convert the shell stock possession limit to pounds, so that a consistent metric is used in regulation as well as at-sea. GARFO is planning to make this change under the RA's authority through the rulemaking for Framework 36.

Figure 1 – Distribution of 100m or greater scallops (left) and <100mm scallops (right) in the ET based on observations from the VIMS survey dredge.

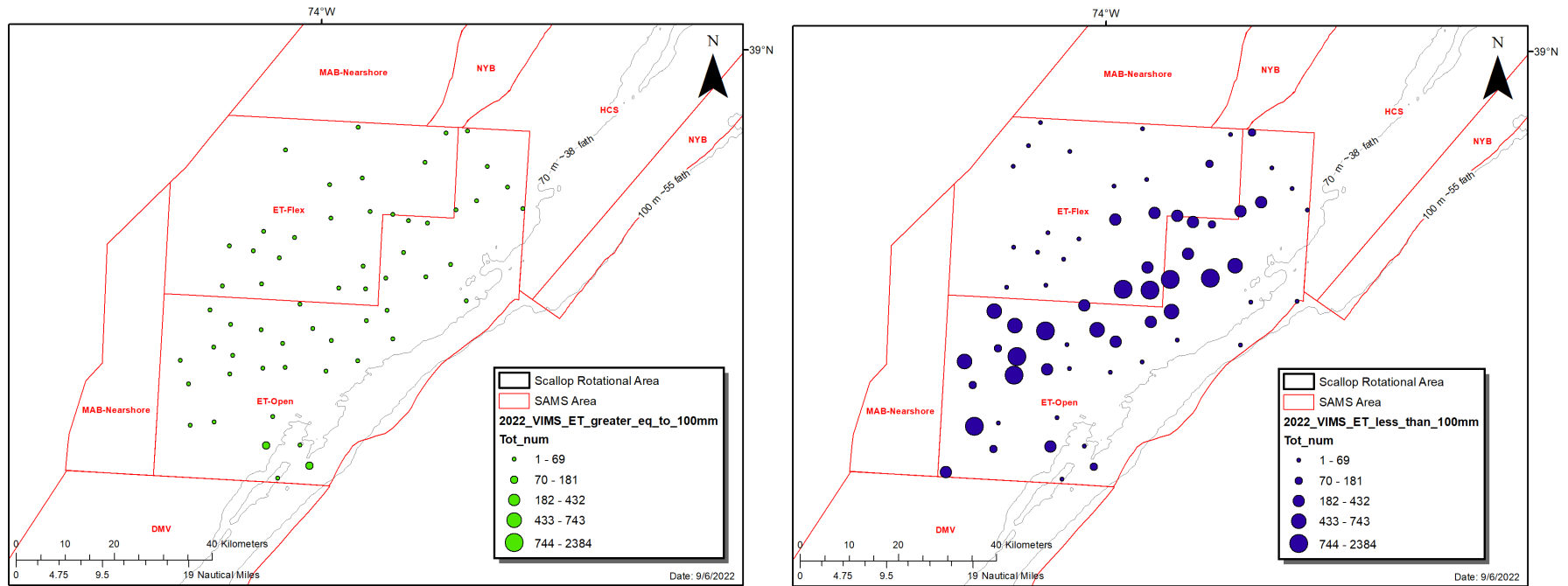


Figure 2 – Length frequencies of scallops in the ET based on observations from the 2022 VIMS survey dredge (red) and commercial dredge (blue).

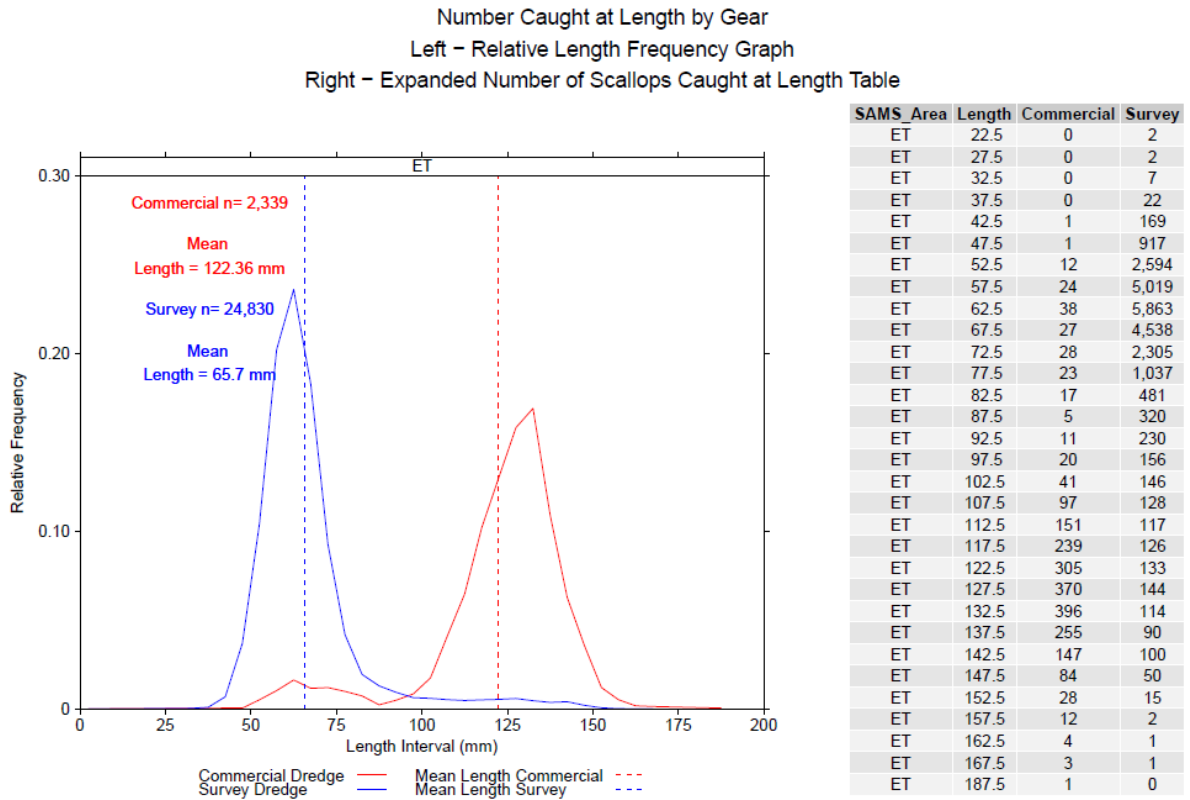


Figure 3 – Length frequencies of scallops observed in CAI-Sliver by the 2022 SMAST drop camera survey.

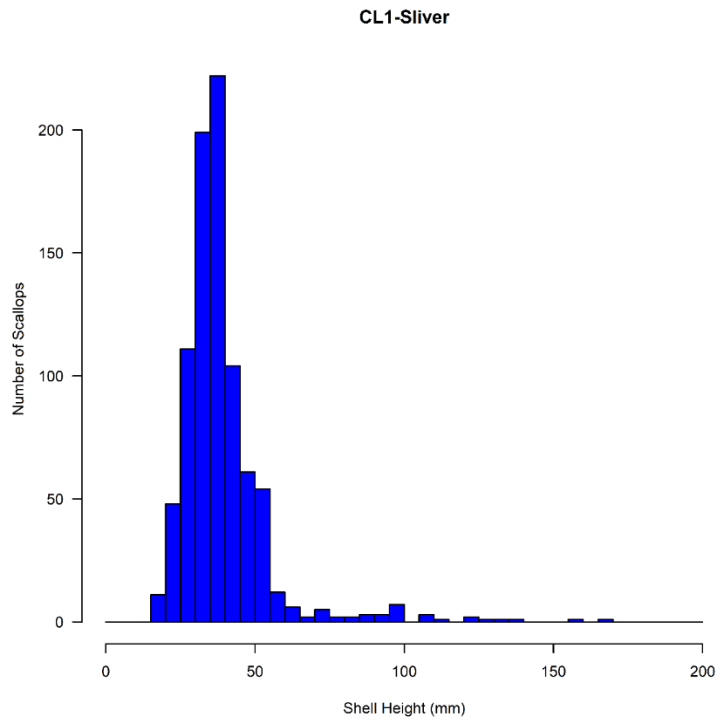


Figure 4 – Density of scallops 35-75mm per  $m^2$  (SMAST) relative to 2022 VMS data (Apr-Jul) and HabCam tracks surveyed in 2022.

