Georges Bank Yellowtail Discussion Document

Mitigate impacts to Georges Bank yellowtail flounder

The Council identified mitigation of scallop fishery impacts to Georges Bank yellowtail flounder (GB yellowtail) as a 2019 work priority. The Scallop PDT, AP, and Committee have discussed this topic several times to date in 2019 and alternatives are under development that could be considered in Framework 32 to the Scallop FMP. Options include:

- Option 1—Extend current seasonal closure of CAII AA (August 15 to November 15) through December 31st. (page 2)
- Option 2—Seasonal Closure of CAII AA until from April 1st – April 30th. (page 3)
- Option 3—Establish a seasonal closure from February 1 to April 30 in the central and northeast portion of Closed Area II Access Area. (page 5)
- Option 4 – Establish a one-year, focused year-round closure in Closed Area II and surrounds to improve scallop yield-per-recruit and mitigate impacts on Georges Bank yellowtail flounder. (page 5)

At their January 18, 2019 meeting, the Committee tasked the PDT with exploring ways to reduce GB yellowtail bycatch in the scallop fishery through seasonal closures and reduced hanging ratio requirements. The PDT addressed this tasking by reviewing recent analyses completed in FW29 and FW30, which 1) estimated yellowtail and windowpane bycatch savings gained by closing Closed Area II AA (CAII AA) and Closed Area II Extension (CAII-ext) at certain times of the year, and 2) characterized typical hanging ratios used by industry in recent years based on observer records.

The seasonal closure analyses were prepared during the development of flatfish accountability measure alternatives in FW29. This analyses suggested that extending the current seasonal closure in CAII AA (August 15 to November 15) and through December 31 and including CAII-ext would be impactful to reducing GB yellowtail bycatch as well as Northern windowpane. Generally, landings from CAII AA are lower between November 16 and December 31 relative to the late spring and summer months, but GB yellowtail bycatch rates are higher, which translates to greater bycatch savings than what could be expected from a closure during some other part of the fishing year.

FW29 analyses also showed that typical hanging ratios used by industry in recent years ranged between 2:1 and 3:1. PDT discussion acknowledged that a lower hanging ratio can be a viable way to reduce flatfish bycatch; however, it was also suggested that a substantial reduction in flatfish bycatch would be unlikely by moving from a typical 2:1 hanging ratio to a maximum 1.5:1 hanging ratio. Other input on this topic suggested that enforcing a seasonal gear restriction, such as a maximum hanging ratio, could be difficult, particularly if the gear restricted area (GRA) encompassed part of the open area (i.e. because vessels on open area trips could potentially fish both inside and outside the GRA in the same trip).

At their May 23, 2019 meeting the Committee reviewed the above-mentioned analyses and tasked the PDT with developing time/area closure options in two week increments from August 1 to December 31 to mitigate the impact on GB yellowtail and Northern windowpane flounder in an upcoming management action if necessary. In addressing this tasking, the PDT analyzed discard to kept (d/K) ratios of GB yellowtail from observed hauls in CAII AA and CAII-ext and described bycatch seasonality in two-week increments relative to observed scallop catch between August 1 and December 31 (Figure 5). The PDT noted that, within the Committee tasking window, extending the current seasonal closure through the end of December would be more impactful in reducing bycatch compared to extending the closure to include early August. The PDT also noted that April tends to have high yellowtail bycatch (Figure 6), and that a delayed opening in years when the scallop fishery has access CAII AA would reduce bycatch and positively impact the scallop resource because scallop yield in CAII AA is not optimal during April.

The Council's SSC and the TMGC have recommended a Georges Bank yellowtail quota of 162 mt for FY2020. The following table provides preliminary estimates of what the scallop sub-ACL for GB YT could be for FY2020.

YT ABC	US Share	Scallop 'ABC'	Scallop 'sub-ACL'	150% of sub-ACL	5 million lb CAII AA trip
FY2020	74%	16%	95% of ABC		2019 YT bycatch estimate
162	119.9	19.2	**18.2**	27.3	10.5 mt

Option 1—Extend current seasonal closure of CAII AA (August 15 to November 15) through December 31st.

This option would extend the current seasonal closure of CAII AA (August 15- November 15) through December 31st.

Rationale: The GB yellowtail stock is in poor condition and the Council has prioritized work to mitigate scallop fishery impacts to this stock through this action (FW32). Interactions between the scallop fishery and GB yellowtail occur most on eastern Georges Bank, specifically within CAII AA. The scallop fishery has periodic access to CAII AA, and when it does, is subject to a seasonal closure from August 15 to November 15 aimed at proactively reducing GB yellowtail bycatch (i.e. which tends to be higher during this time period). By extending this seasonal closure through the end of December, scallop fishery catch of GB yellowtail is anticipated to decrease because bycatch rates of GB yellowtail flounder tend to be greater during this period relative to other times of the year. Proactively reducing GB yellowtail bycatch in the scallop fishery addresses the Council's 2019 work priority of mitigating impacts to this flatfish stock.

Additionally, it is likely that extending the closure through December 31st would be positive in terms of reducing Northern windowpane bycatch considering the scallop fishery encounters this flatfish stock at a higher rate relative to most other times of the year.

Option 2—Seasonal Closure of CAII AA until from April 1st – April 30th.

Under Option 2, Closed Area II would be closed to scallop fishing from April 1st-April 30th in FY2020 and FY2021. Scallop fishery access to CAII AA would be delayed until May 1stat the start of FY 2020.

Rationale: The scallop fishing year begins on April 1st, at which time either 1) updated fishery allocations become effective, or 2) default measures are implemented if there is a delay in the implementation process for updated specifications. GB yellowtail bycatch rates in CAII AA during the month of April are known to be among the highest across the year, and are greater relative to other times during the spring and summer months. In theory, for years that the scallop fishery is allocated harvest in CAII AA, vessels are able to access CAII AA starting April 1st; in this scenario, delaying access to CAII AA until May 1st would exclude scallop fishery effort from an area and time of year that is known to have greater GB yellowtail bycatch, thereby proactively mitigating impacts to this flatfish stock.

In addition to mitigating impacts to GB yellowtail, Option 2 would be positive in terms of reducing Northern windowpane bycatch considering that scallop fishery bycatch rates of this flatfish stock are highest relative to other times of the year. Delaying access to CAII AA until May 1st would also likely benefit the scallop resource in that it would align the timing of CAII AA fishing effort more closely with higher scallop yield.

Figure 1. Observed biweekly GB yellowtail (orange) and Northern windowpane (blue) d/K relative to observed scallop catch (blue hashed line, secondary axis).

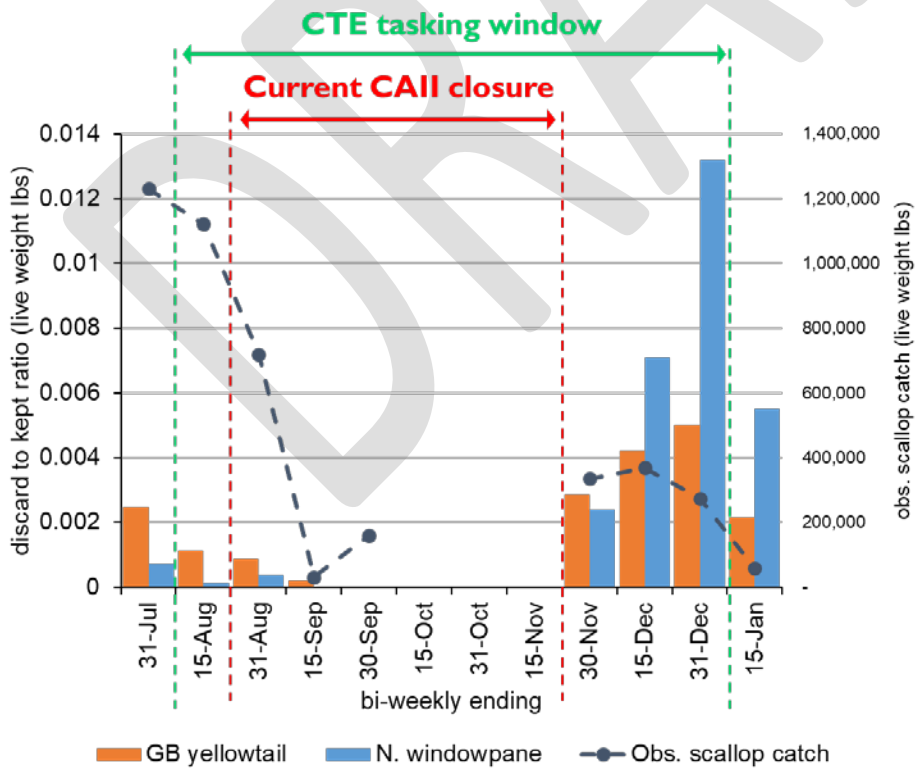
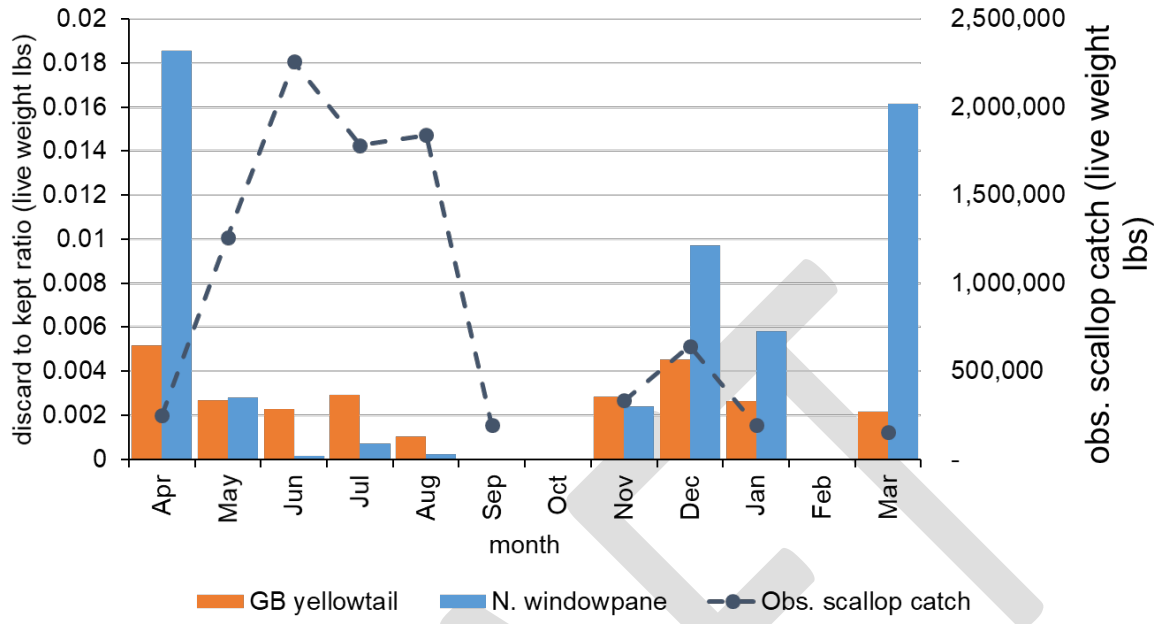


Figure 2. Observed monthly GB yellowtail (orange) and Northern windowpane (blue) d/K relative to observed scallop catch (blue hashed line, secondary axis).



In July 2019, the PDT revisited discussion around mitigating impacts to GB yellowtail and received a presentation on a recent Coonamessett Farm Foundation (CFF) RSA project that assessed a modified gear (i.e. extended link) to reduce bycatch of GB yellowtail and other non-target species. The final report for this study can be accessed at the following link: https://www.nefsc.noaa.gov/coopresearch/pdfs/FR17-0032_Revised.pdf. The presentation included analyses that described the relative GB yellowtail bycatch savings that could be gained by using the extended link gear modification in CAII AA on a seasonal basis. This exercise used preliminary yellowtail and windowpane bycatch rates estimated from the CFF seasonal bycatch survey in CAII at the station level. Yellowtail and windowpane savings appeared to be greatest during late winter/early spring (i.e. February to April), and savings appeared to be most substantial along the shallow depth contour in the central and northeast portion of CAII AA (Figure 3). While the PDT acknowledged that the estimated bycatch reduction from using the extended link modification was variable depending on the timing of the study and presence of GB yellowtail, it noted that the relative bycatch savings analyses suggest that a finer scale time/area closure within CAII AA could be a feasible option to mitigate impacts to this stock.

Option 3—Establish a seasonal closure from February 1 to April 30 in the central and northeast portion of Closed Area II Access Area.

Option 3 would implement a finer scale seasonal closure in the central and northeast portion of CAII AA between February 1 and April 30. In years that the scallop fishery is allocated access to CAII AA, scallop vessels would be prohibited from fishing within the closure area during this time, but could still elect to fish CAII AA allocations in the remainder of the access area.

Rationale: CFF seasonal bycatch survey data suggests that catch rates of GB yellowtail and Northern windowpane are greatest during late winter/early spring (i.e. February to April), and most substantial along the shallow depth contour in the central and northeast portion of CAII AA. By implementing a closure during this time in the portion of CAII AA highlighted above, overall bycatch of GB yellowtail and Northern windowpane could be expected to be reduced. This option offers a solution to proactively mitigate scallop fishery impacts to these flatfish stocks, as well as flexibility to the scallop fishery if vessels wish to fish CAII AA allocations during the closure given that effort be directed outside of the sub-area closure.

Option 4 – Establish a one-year, focused year-round closure in Closed Area II and surrounds to improve scallop yield-per-recruit and mitigate impacts on Georges Bank yellowtail flounder.

Option 4 would implement a focused closure along the central portion and southern boundary of CAII AA, and close CAII-ext and the Southern Flank SAMS area. The closure would be effective for one year (i.e. for FY2020).

Rationale: A focused, year-round closure within CAII Access Area and adjacent areas that are currently open bottom would reduce impacts on Georges Bank yellowtail flounder by redirecting fishing effort to parts of the access area where bycatch rates are lower and exclude fishing effort from adjacent open areas that can be subject to higher bycatch. This option acts two-fold as it corresponds with the distribution of a large incoming recruit class detected in the 2019 surveys of CAII and the Southeast Parts. Implementing this closure would reduce fishing activity in an area that has substantial overlap with the GB yellowtail stock and the incoming year class of scallop recruits, but also keep the eastern peak of CAII AA (i.e. where the majority of large adult scallops are distributed) available to the fishery should the Council elect to allocate access there in FY2020. Such a closure could be expected to both mitigate impacts to GB yellowtail flounder as well as optimize yield per recruit for the scallop fishery.

Figure 3. Estimated extended link apron bycatch savings for stations sampled during the 2018 Seasonal Bycatch Survey (source: CFF).

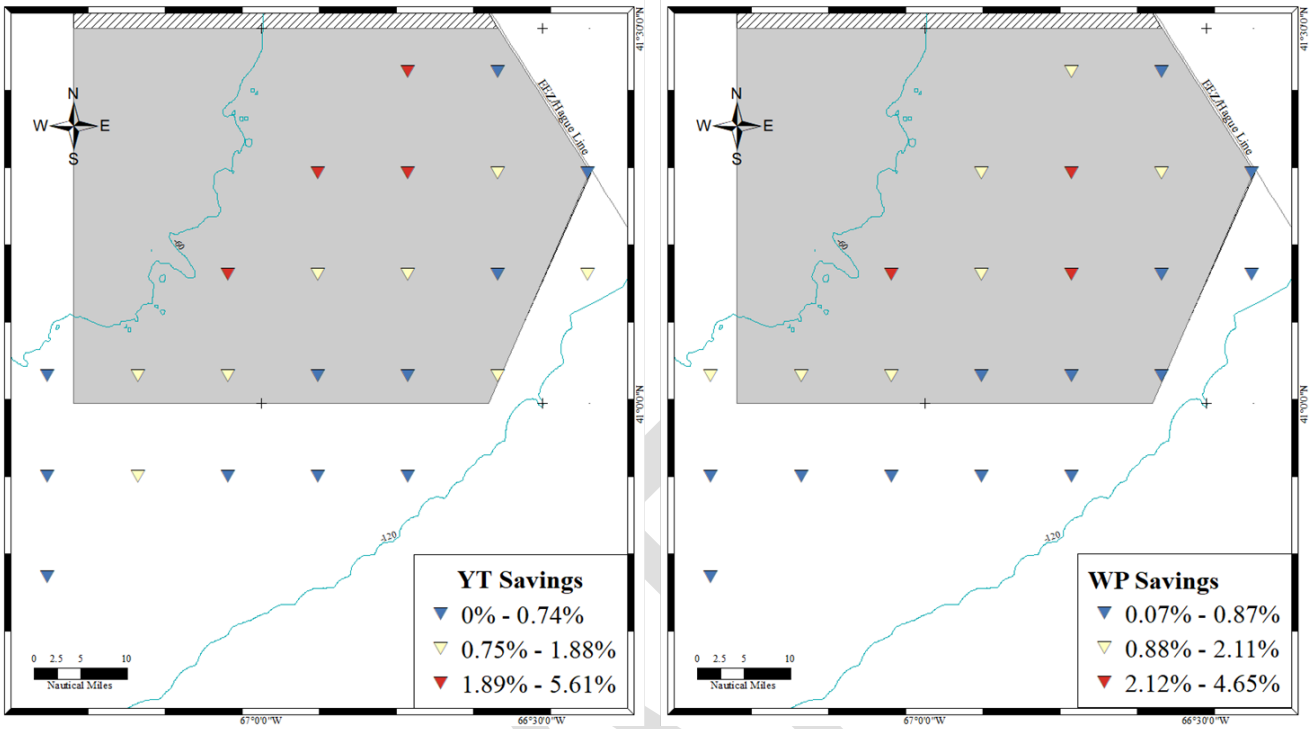


Figure 4. Scallop biomass distribution along south-eastern portion of Georges Bank for scallops < 35 mm (top) and 35-75 mm (bottom) (Source: CFF HabCam data and NEFSC).

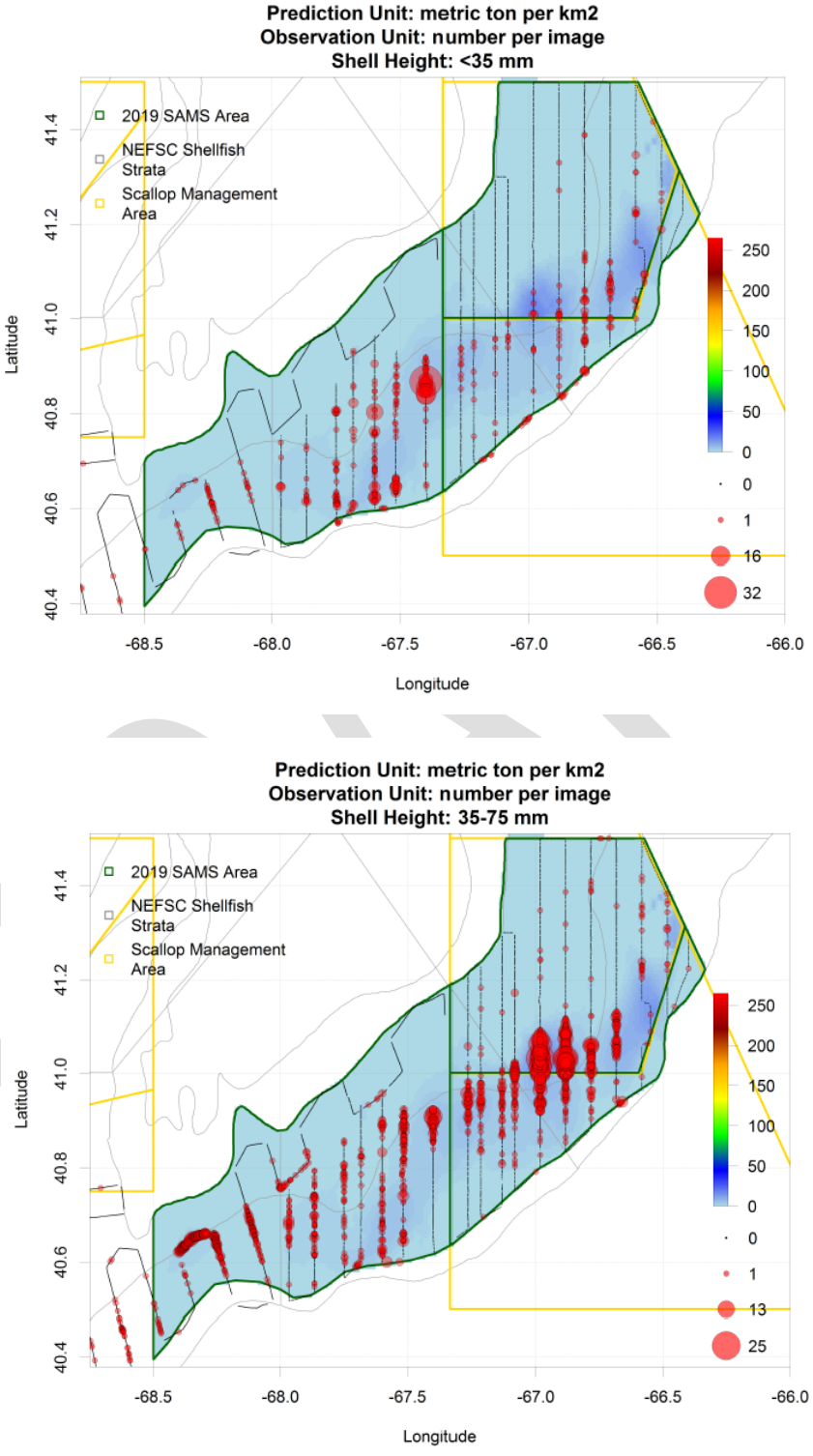


Figure 5. Scallop biomass distribution along south-eastern portion of Georges Bank (Source: 2019 CFF HabCam data and NEFSC).

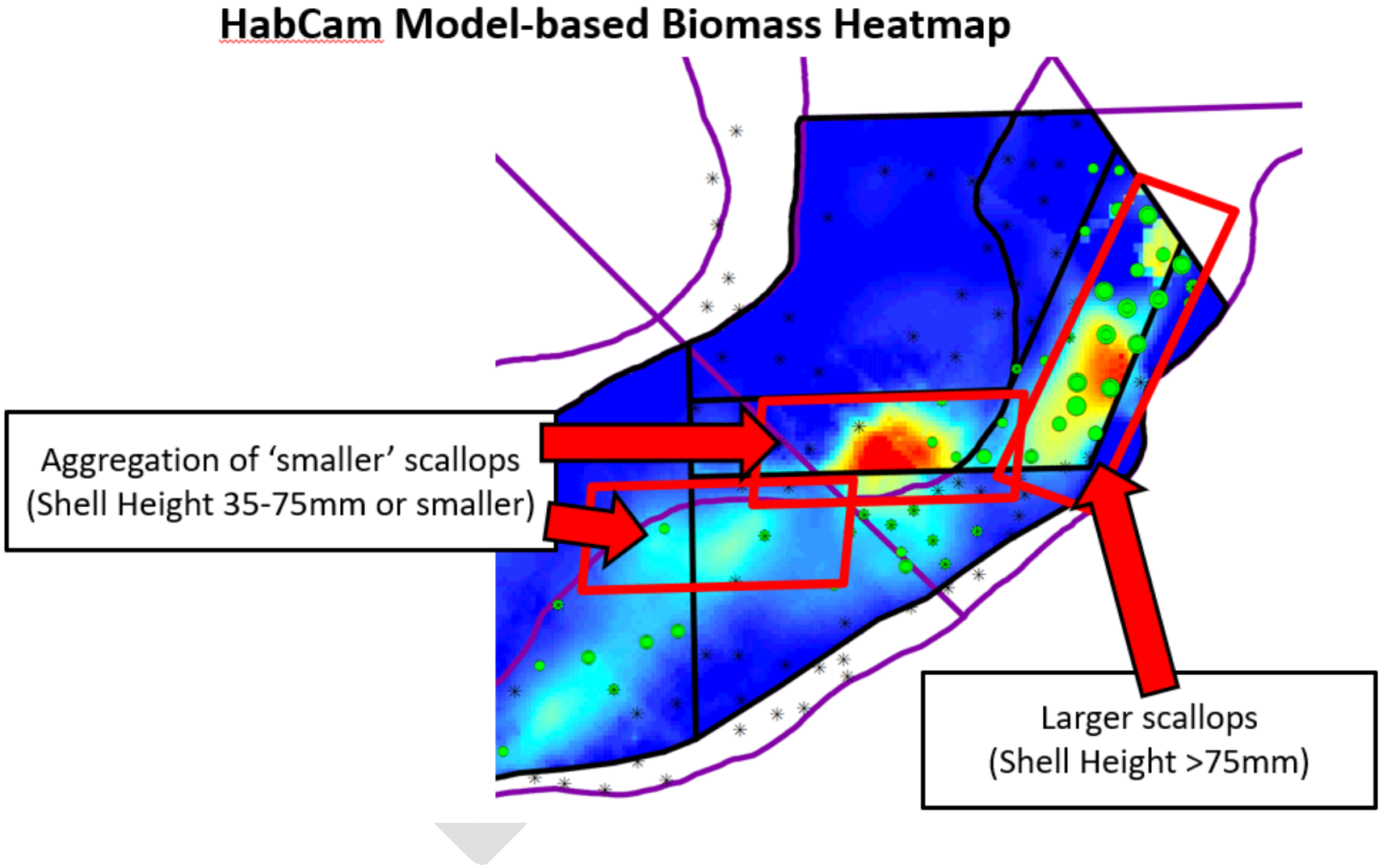


Figure 6. Scallop distribution by shell height from 2019 VIMS dredge survey of Closed Area II and surrounding areas (Source: VIMS).