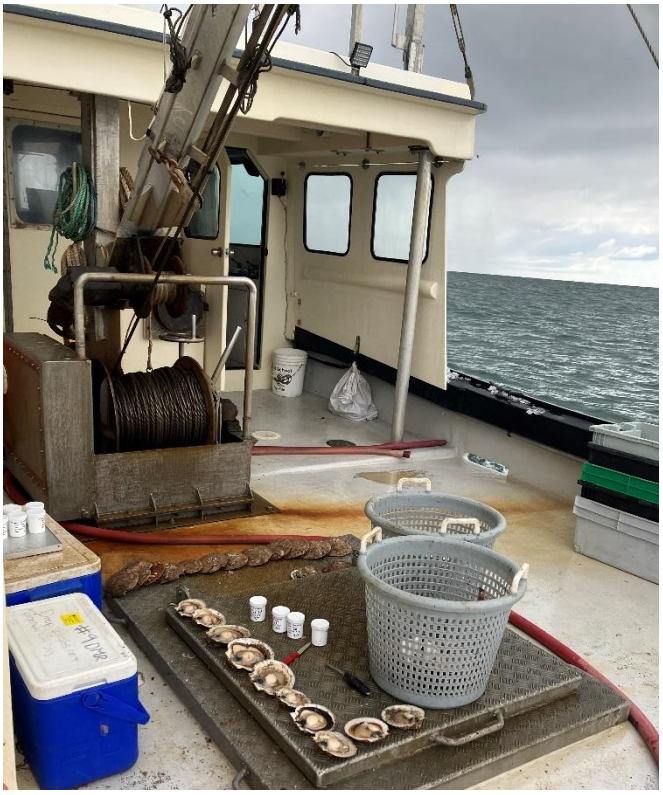
2025 Scallop Survey Report

Maine Department of Marine Resources



www.maine.gov/dmr/science/species-information/scallop

Last Updated 8/7/25

Maine Scallop Survey Report

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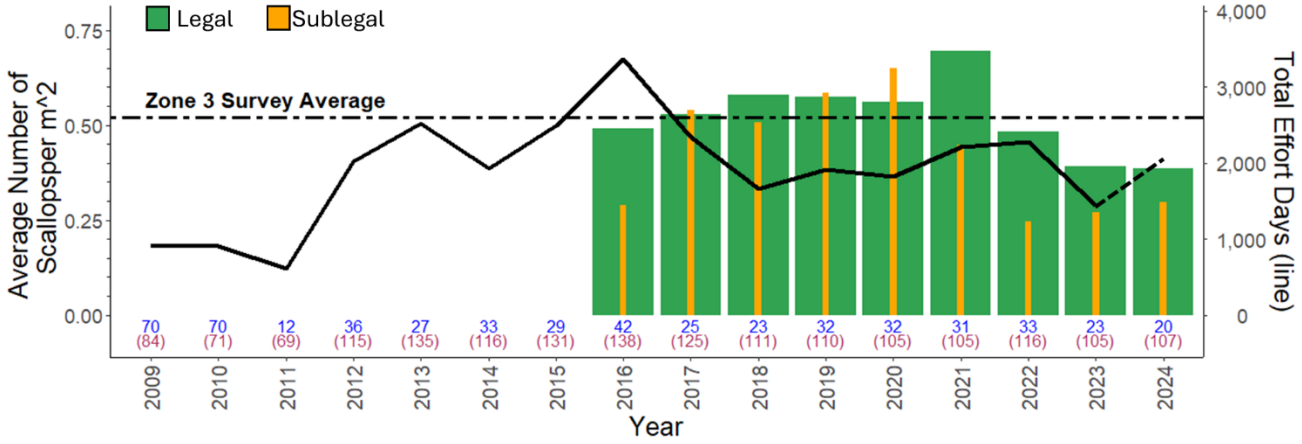
Zone 3 Summary

Landings in zone 3 over the past decade are closely linked to the total fishing effort. More harvesters became active in state waters following the transition into the current management plan in the 2010s. This surge in active licenses led to a sharp increase in reported landings for zone 3. Landings peaked at 297,000 lbs in 2016 with a 42-day season and a maximum daily boat count of 138 boats. After this peak in landings, the number of days was reduced, but it remained stable at around 30 days from 2019 to 2022. This initial reduction of fishing effort may have led to an increase in seed in 2019, which was tracked through the survey data resulting in a peak in legal density in 2021. Following the peak survey data there was an increase in effort in 2021, followed by a notable decline in sublegal and legal scallops. The most recent 2024 survey observed a slight increase in the density of sublegal scallops and the lowest density of legal scallops in survey history for zone 3.



Landings and Survey Data for Zone 3: *The solid black line represents the total days fished for each season. Each year indicates the start of the corresponding fishing season. The final year of effort in 2024 is preliminary (Dashed Line). The length of the season is shown as the blue number at the bottom with the maximum number of vessels reporting in red below. The green bars represent the average survey density of legal scallops for each fall survey, and the orange bars are the average survey density of sublegal scallops (<4 inches).*

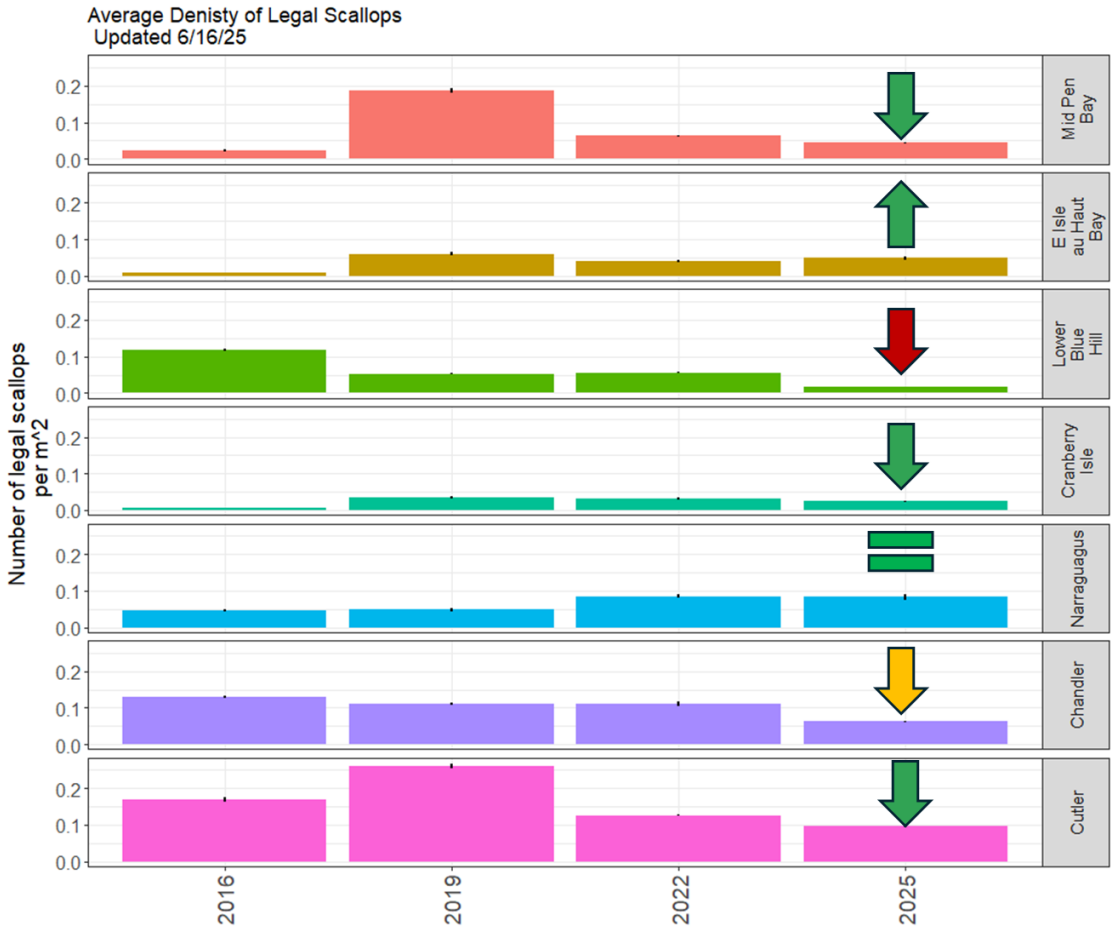
In recent years, the number of very high-density stations (yellow bars >1 scallop/m^2) has decreased. The number of high (pink bars 0.25-1 scallop/m^2) and medium-density (green bars 0.01-0.25 scallop/m^2) stations varied, while the percentage of low-density stations (blue bars <0.1 scallop/m^2) increased. Many of these low-density stations had high scallop densities in the past and were either large catches of either sea stars or old shells in 2025.

The decline in the number of high-density areas and, the total number of legal scallops, as well as the below average sublegal catch, were the primary reasons that management was conservative for the 2024-2025 fishing season. This resulted in closing the majority of zone 3 after 20 days of fishing and recommending low effort for the upcoming season to encourage recovery of the legal scallops.

Zone 2 Survey Summary

The primary goal of the spring survey is to provide input for the management of the upcoming fishing season. In 2025-2026 Rotation B in zone 2 is scheduled to be open (Mid Penobscot Bay, E. Isle au Haut Bay, Lower Blue Hill Bay, Cranberry Isle, Narraguagus, Chandler, and Cutler). Rotation B has historically been the most productive rotation in Zone 2, despite a continued decline in scallop densities since 2021 following the peak landings in the second full rotation (2017-2020).

The 2025 spring survey showed a continued decline of scallops overall. This decline was the most notable in Chandler Bay and Lower Blue Hill Bay. Although no high settlement events were observed, there was a slight overall increase in sublegal scallops compared to the previous rotation.



Survey Density of Legal Scallops For Each Year of the Spring Survey By Area. *The height of each bar indicates the average number of legal scallops in each area for a given year. The arrows for 2025 are the comparison with the 2024 survey where green arrows are within the standard error, yellow arrows are outside the standard error, and the red arrow is a difference of more than 2 times the standard error.*

Background

Large areas throughout state waters were closed in 2008 with a goal of rebuilding the Maine scallop fishery. In 2012, Zone 2 (Penobscot Bay to Lubec) began a transition period into the current rotational management plan. The current plan divides 21 subareas in zone 2 allowing seven areas open for harvest in each season (Fig. 1). This allows two years of no dredging activity for each subarea.

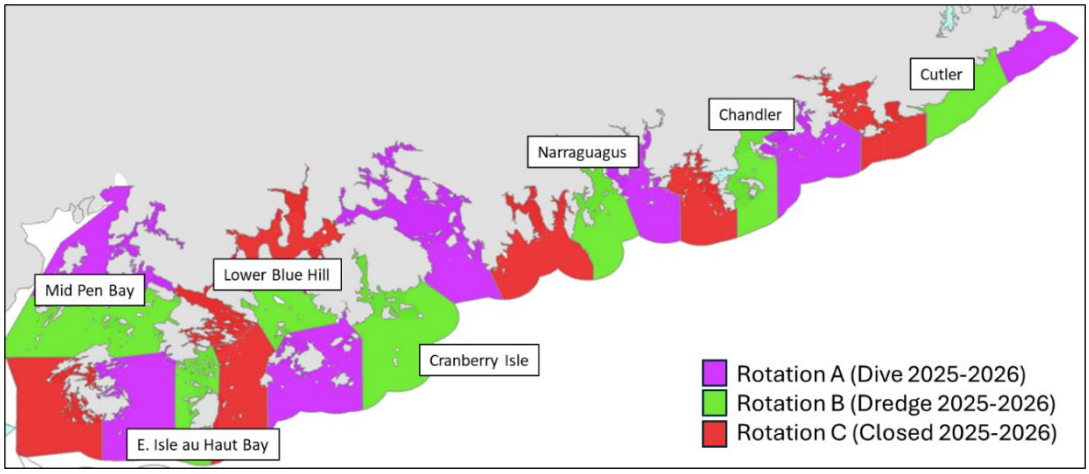


Figure 1. *Map of zone 2 scallop rotational areas. For the upcoming 2025-2026 season, Rotation A (Purple) is scheduled to be open to diving, Rotation B (Green) is scheduled to be open to dredging and Rotation C (Red) is scheduled to be closed.*

At the start of these large-scale closures, the State started the harvester reporting program. Comparison of the survey data and the landings data show the same pattern indicating declines in harvestable scallops in recent years. Total landings for all rotations peaked in the second full year they were open and still remain dramatically higher than the years prior to rotational management (Fig. 2).

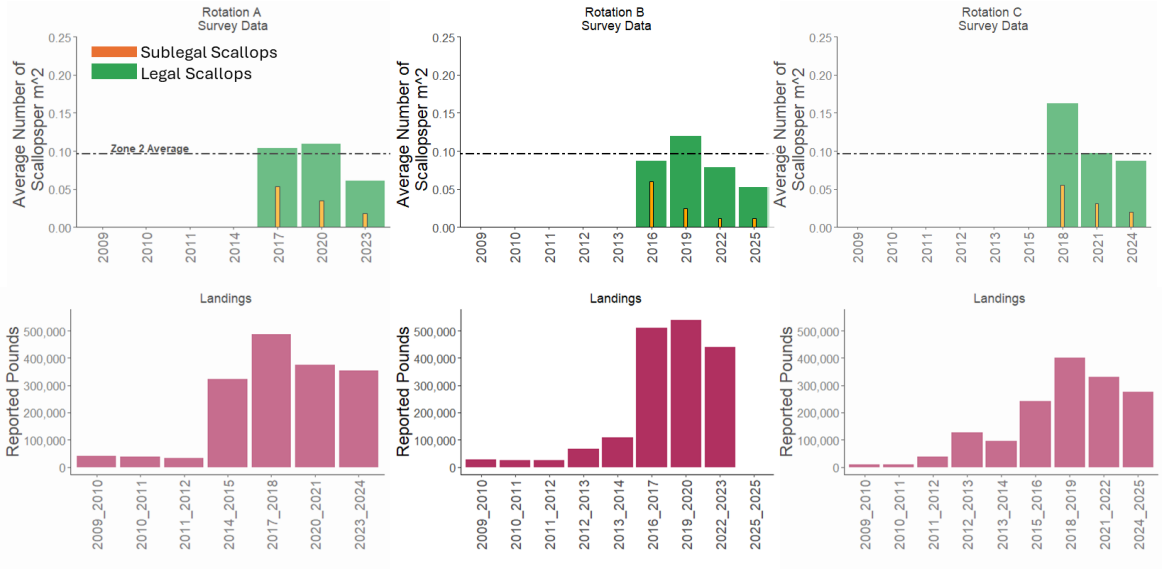


Figure 2. *The annual spring survey densities for each rotation where the average density of legal scallops are the green bars and sublegal scallops are orange (Top). Total reported pounds landed in Zone 2 for each season grouped by the current rotation areas (Bottom).*

Since 2016, the DMR has conducted a spring scallop survey to sample the areas in zone 2 scheduled to be open in the coming season. In 2024, the spring scallop survey was slightly modified to collect data for additional management advice. The current goals of the spring survey are:

1. To estimate density and to describe the scallop populations for the upcoming season.
2. To monitor historic scallop beds or potential scallop habitat with low fishing pressure.
3. To evaluate density and size structure of scallops in priority areas and to provide data in response to recent management actions.

In order to accomplish these goals, we modified the survey domain. Instead of matching our rotational management footprint, we created 60 individual survey areas based upon historic scallop survey data, landings data, depth contours, and local oceanographic features (i.e. enclosed bays, bottom type, etc.; Fig 3).

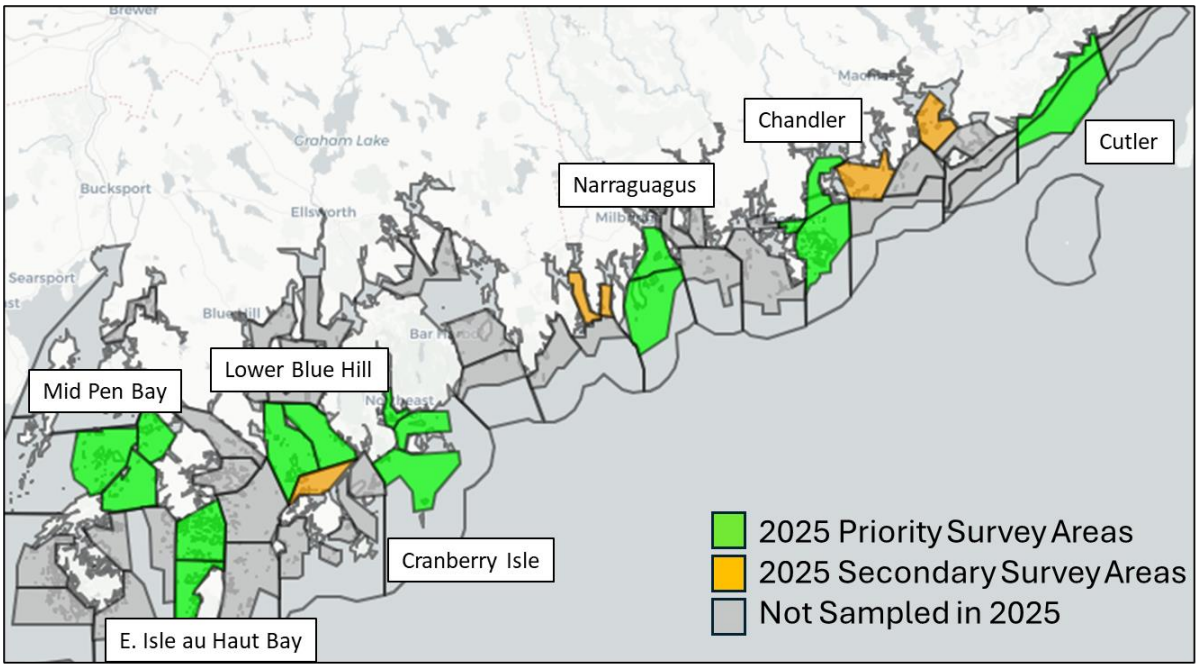


Figure 3. *Map of the new survey domain used for the 2025 spring scallop survey. The areas in green were the priority areas surveyed (scheduled to open in 2025) and the areas in orange are the areas surveyed for the secondary objectives. The thick black lines represent the current scallop management boundaries.*

Although the survey domain was modified, our station selection process remains the same. In this process a 500m grid is overlaid over the survey areas. Past survey work and interviews with fleet members have identified grids which are either not towable or poor scallop habitat, and these grids have been removed from our domain. The remaining grids are identified as either high-density or low-density area. The high-density grids were selected as areas where previous survey tows caught above the survey average of scallops or as areas with high concentrations of landings reports. These grids were then reviewed with local fleet members and modified as necessary. Improving our survey grid is an ongoing process, for those interested in helping, please reach out to Carl Huntsberger at carlton.j.huntsberger@maine.gov. The stations sampled each year are a subset randomly selected from the available survey grid.

Survey Methods

The annual spring scallop survey sampled 224 stations in Scallop Management Zone 2, between April 2nd and 30th, 2025, aboard the F/V Miss Sarah. All survey areas inside Rotation B (Fig 3) that are scheduled to be open in the 2025-2026 season were sampled. Upper Machias Bay, Sand Bay, Gouldsboro & Dyers Bays, and Casco Passage were also surveyed to better inform management.

Each station was sampled following the same methods used since 2016 with our standardized 7-foot survey drag, rigged with 2-inch rings and a 5-inch twine top. This survey dredge and our tow specifications are designed to catch representative samples of the entire size range of scallops older than 2 years, not to maximize the catch of harvestable scallops. At each station, the drag is towed for a target time of 2.5 minutes covering approximately 300m (0.16 nautical miles).

The total volume and composition of the catch are recorded, then the scallops are counted and measured. For each rotational area, a representative sample of the scallops are selected for meat weights and quality measurements during which the scallops are visually screened for specific diseases (Fig 4).

Figure 4: *Meat quality categories used for analysis (left) and an example of a scallop collected from outside of Maine with evidence of a bacterial infection (right).*

The data in this report are standardized for the number of legal scallops per square meter. Fishable densities of scallops are generally considered to be above 0.1 scallops/m^2. A typical 7-foot commercial dredge towing in a density of 0.25 scallops/m^2 should catch approximately 5 bushels in a 10-minute tow. For more information on the sampling details please contact the DMR Scallop Research Program.

Rotation B Overview

Within Rotation B, the Spring 2025 Scallop Dredge Survey caught a total of 3,201 scallops. The standardized count was approximately 19% fewer than the 2022 spring survey (prior to the previous opening of this rotational area) (Fig. 5). This decrease was primarily observed in the harvestable scallops between 4 and 5.5 inches. There was a slight increase in the average density of sublegal scallops (3-4 inches) and seed (<3 inch) scallops. The greatest decreases were observed in Lower Blue Hill Bay and Chandler Bay.

Across the survey domain, 1,006 scallops were measured for meat yield and visually examined for quality, of which 6 (0.6%) were fair quality and 2 (0.2%) were poor quality, which was consistent with other rotations in recent surveys.

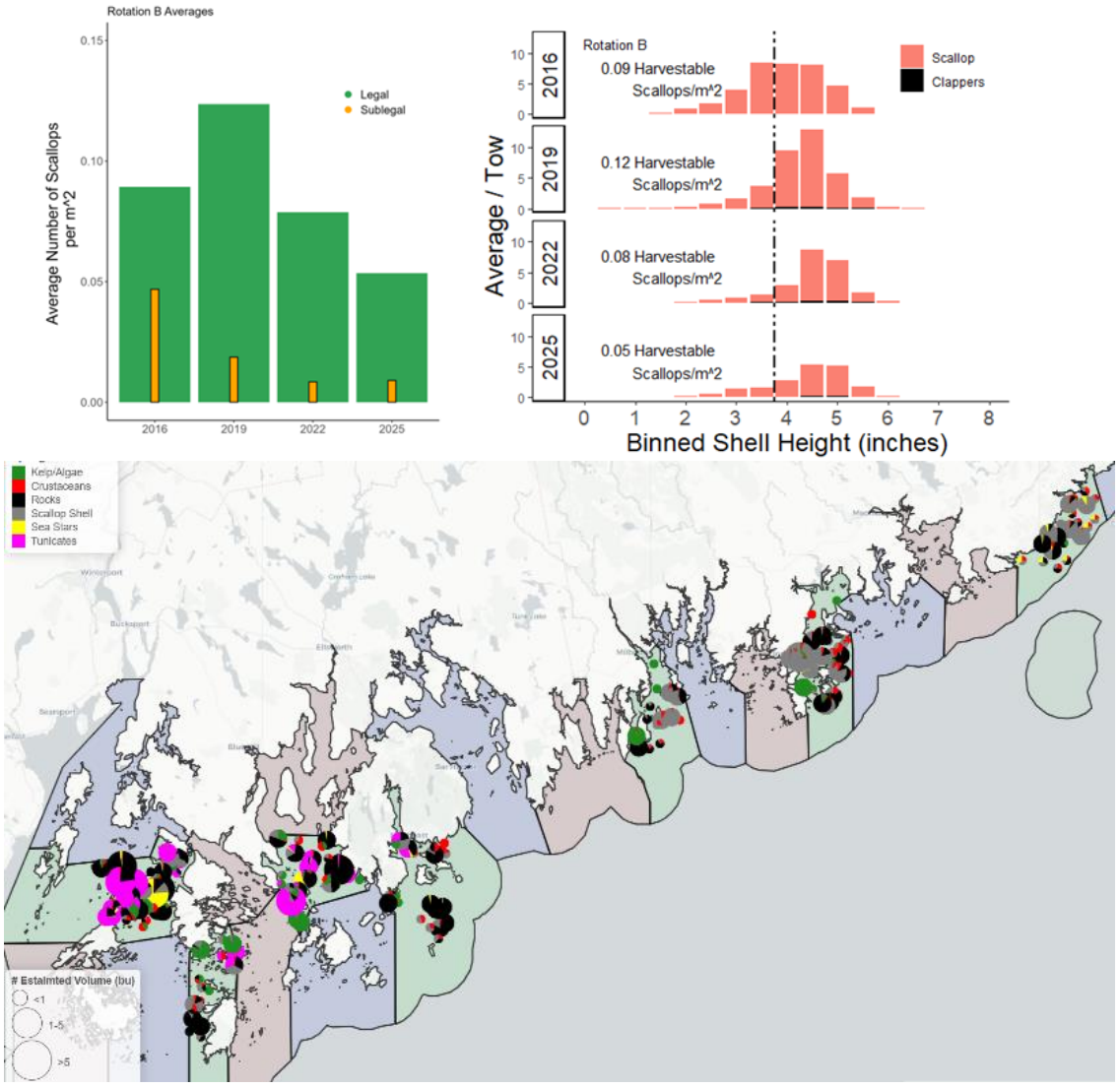


Figure 5. *The height of each bar in the top left figure represents the average number of scallops caught for all tows of the past three surveys in Rotation B, the green bars are all legal scallops >4 inches and the orange bars are all sublegal scallops <4 inches. The top right is the size of scallops (orange) and clappers (black) for an average tow shell height frequency binned into 0.5 inch groups for each survey year. Map of the primary bycatch for each survey tow in the 2025 survey. Large circles are total catches >5 bushels medium circles are catches 1-5 bushels and the small circles are <1 bushel.* Green=kelp/algae, red=lobsters and crabs, black=rocks, grey=scallop shells, yellow=sea stars, and pink = tunicates (sea squirts).

Since the start of the rotational management plan, the number of stations with high (pink: >0.25 scallops/m^2) and moderate (green: 0.1-0.25 scallops/m^2) densities of scallops have decreased as the number of stations with few scallops (blue: 0.01-0.1 scallops/m^2) have increased, particularly in the eastern areas (Fig. 6).

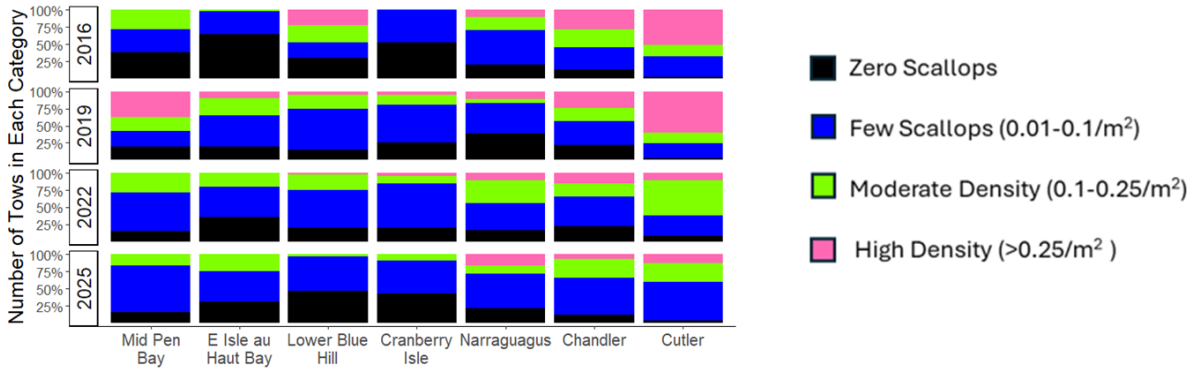


Figure 6. *Percent of survey tows catching either zero (black), few (blue), a moderate amount (green) or many (pink) scallops for the past four years of surveys in rotation B.*

The typical tow for this survey east of MDI included a mixture of scallops, crabs and shell. To the west of MDI, scallops, sea cucumbers, starfish, flounders and tunicates (sea squirts) were the most commonly observed species. There were several areas with very large catches of tunicates. These areas were mostly observed in Somes Sound, Lower Blue Hill Bay, the northern part of E. Isle au Haut Bay, and many areas in Mid Penobscot Bay. In the areas of high tunicates our survey dredge has low efficiency for scallops.

For most areas in Rotation B, the number of legal scallops is similar to the numbers observed from the same areas in the 2022 Spring Survey, despite not observing a strong signal of newly settled scallop seed since 2016. Chandler Bay had significant declines in survey density, but an increase in the sublegal density. Lower Blue Hill Bay had a significant continued decline in the scallop catch. It was also the only area to have poor quality scallops (2 total). These samples, as well as control scallops from other areas, were collected for further disease screening by the DMR pathologist.

Additionally, 500 scallops were tagged and released in Sand Bay to continue to collect additional data on growth. In 2023, 500 tagged scallops were released in Lower Blue Hill Bay which is scheduled to be open this season. For any tagged scallops caught: the shells should be saved with the tag, location and date of capture. These shells should be returned to ME DMR, either by calling the number on the tag or 207-350-6004, to improve our understanding of the current conditions and growth for the scallops in specific areas.

Harvester Reported Landings

The daily reported landings from fleet members were grouped into each rotational area using the reported positions from the landings data for all years. These data were then used to calculate the total pounds harvested and the maximum boats fishing in that area on any given day. These data are only as reliable as the information provided by the fleet.

For all reported landings in zone 2 in rotation B, the most recent season observed a decline in the total number of boats fishing matching the reductions in the landed pounds (Fig. 2). Cutler has consistently been the highest landings area in rotation B with an increase in landings and number of boats for each open rotation. The mid-Penobscot Bay rotational area experienced peak landings in the 2019-20 season with a significant increase in the number of vessels for that given season. Landings in Lower Blue Hill Bay and Chandler Bay have continued to decline each rotation. Landings and total effort are relatively low and have remained fairly consistent for E. Isle au Haut Bay, Cranberry Island, and Narraguagus (Fig. 7).

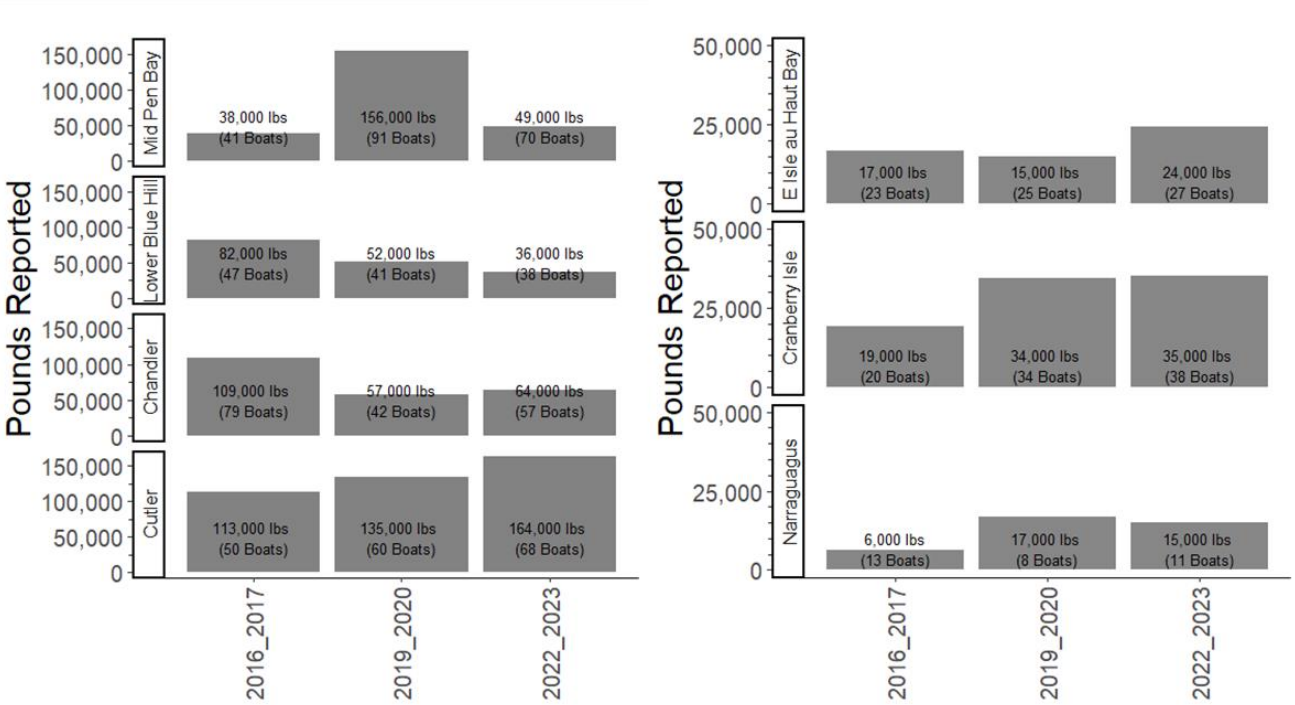


Figure 7*. Total harvester reported pounds by season for each rotational area in rotation B. The total reported pounds are also reported as text within each bar as well as the maximum number of boats reporting in the area on a given day.*

Cutler Rotational Area

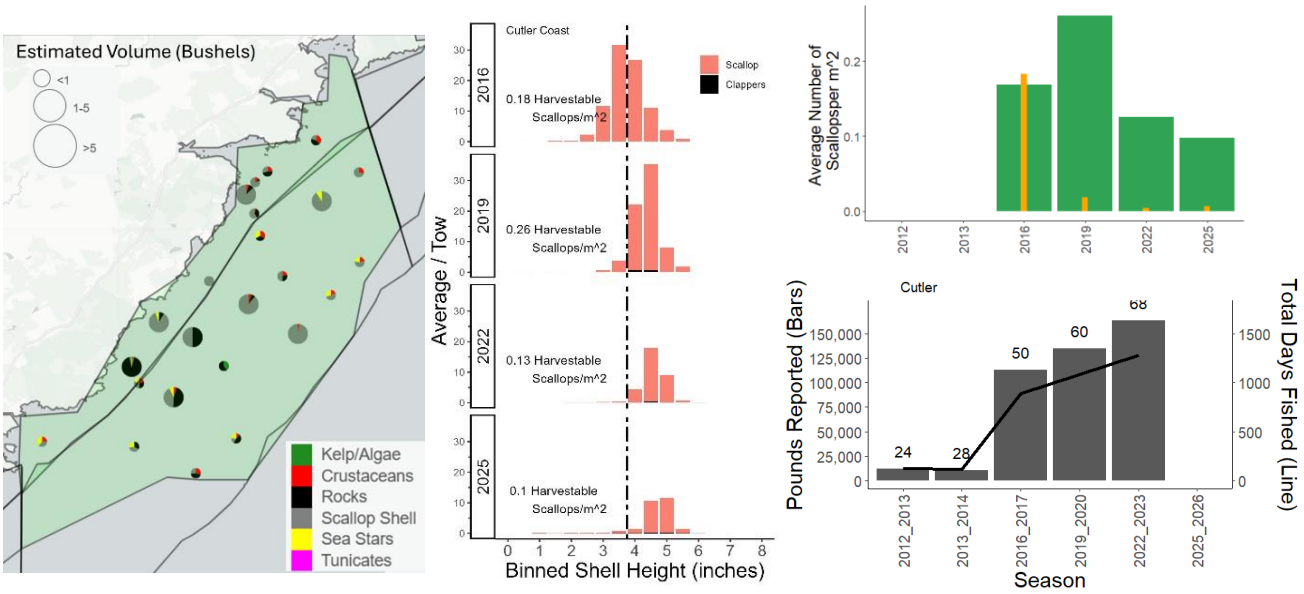


Figure 8. *Map of the primary bycatch type by color for each tow within the survey domain (green areas, left). Annual survey average size frequency of scallops (orange) and clappers (black), labeled with the average density of legal scallops. No Clappers were measured in 2016 (center). Average survey density of legal (green) and sublegal (orange) scallops within this rotation for each year (top right). Harvester reported pounds by season as the solid bars, with the number representing the maximum number of boats reporting in the area and the line as the total days reported fished from all harvesters (bottom right)*

The Cutler Rotation Area is consistently the highest producing area in Rotation B, but it has experienced a continued decline in the density of legal scallops since the peak survey data in 2019. Despite the decrease in survey density prior to the most recent opening, the 2022-2023 season was the highest total landings for this region since the start of the harvester reporting program with 68 vessels reporting from the area. The high abundance of sublegal scallops in 2016 likely supported these high landings with those scallops reaching an average size of 4.75 inches during the 2022-2023 season.

Unfortunately, since 2016 there has been a low abundance of small scallops in this region. The 2025 survey did show a slight increase in the abundance of seed scallops <3 inches particularly at inshore stations. Most of the stations had a fair number of sea stars and Jonah crabs, which are scallop predators.

Chandler Rotational Area

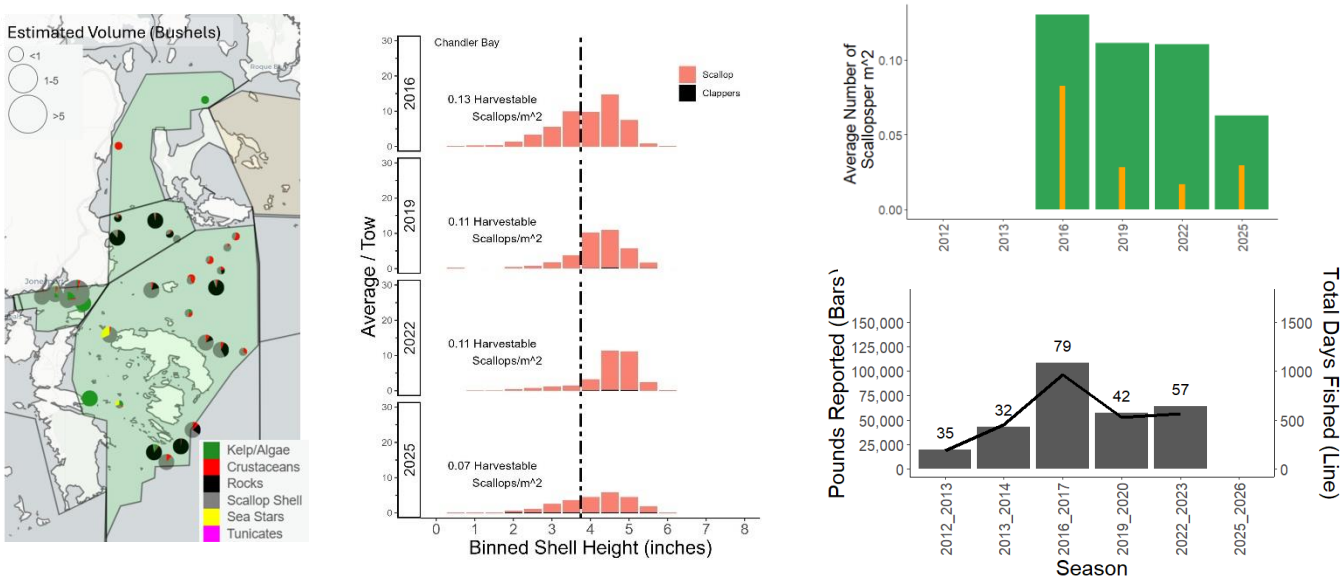


Figure 9. *Map of the primary bycatch type by color for each tow within the survey domain (green areas, left). Annual survey average size frequency of scallops (orange) and clappers (black), labeled with the average density of legal scallops. No Clappers were measured in 2016 (center). Average survey density of legal (green) and sublegal (orange) scallops within this rotation for each year (top right). Harvester reported pounds by season as the solid bars, with the number representing the maximum number of boats reporting in the area and the line as the total days reported fished from all harvesters (bottom right)*

The Chandler/Head Harbor Rotational Area is a very productive scallop area which often has areas of high density of scallops but also heavy fishing pressure. Outside of Mooseabec Reach, the 2025 survey observed a significant decline in the density of scallops but a notable increase in the abundance of sublegal scallops. These sublegal scallops were spread out over most of the sampling sites, except for north of Ballast Island.

Mooseabec Reach survey density peaked in 2022 followed by heavy fishing effort during the season. The 2025 survey observed the lowest density of legal scallops of the past four years of survey data in Moosabec Reach (0.14/m^2) but near average density of sublegal (3-4 inches) and seed (<3 inch) scallops.

Table 1. *Survey data from Moosabec Reach where densities are reported as the number per square meter*

Year	Density of Seed	Density Of Sublegal	Density of Legal	Percent Legal	Total (n/m2)
2016	0.07	0.05	0.31	71%	0.44
2019	0.03	0.10	0.32	72%	0.44
2022	0.04	0.10	0.67	83%	0.81
2025	0.02	0.07	0.14	61%	0.23

Narraguagus Rotational Area

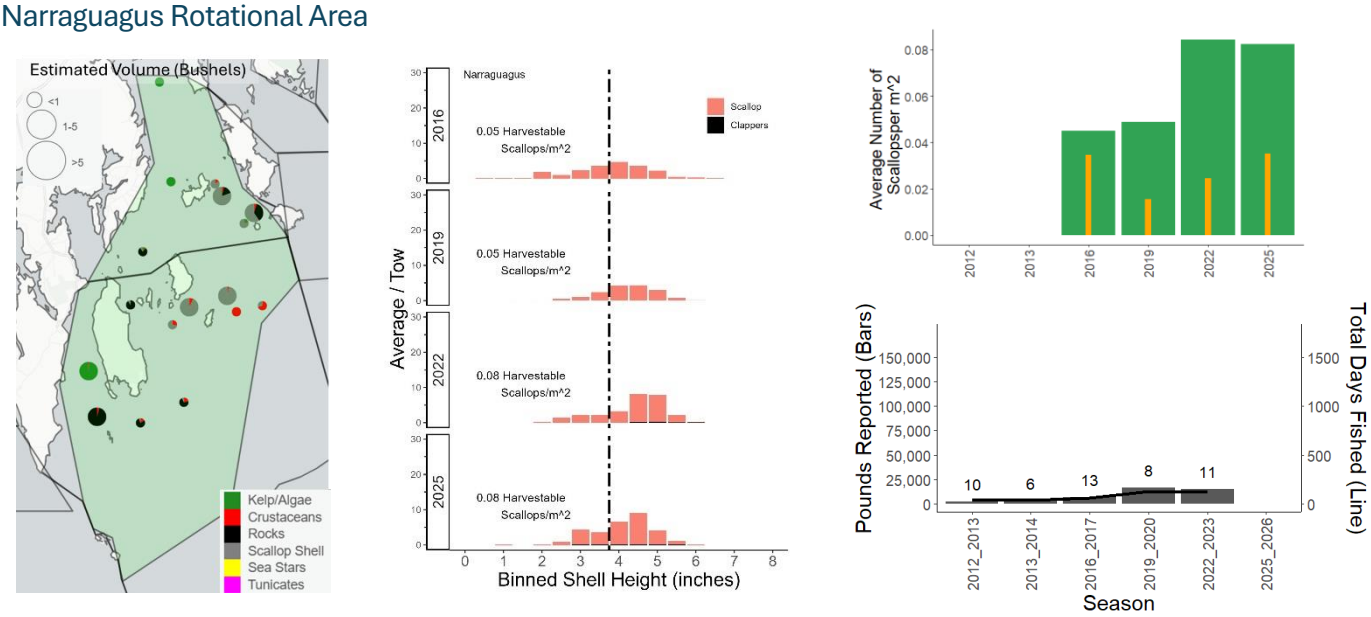


Figure 10. *Map of the primary bycatch type by color for each tow within the survey domain (green areas, left). Annual survey average size frequency of scallops (orange) and clappers (black), labeled with the average density of legal scallops. No Clappers were measured in 2016 (center). Average survey density of legal (green) and sublegal (orange) scallops within this rotation for each year (top right). Harvester reported pounds by season as the solid bars, with the number representing the maximum number of boats reporting in the area and the line as the total days reported fished from all harvesters (bottom right)*

Narraguagus is a relatively small rotational area. It has some regions with moderate scallop density that have supported low, consistent levels of harvest, despite a slight increase over the rotations. This year there was an increase in the sublegal scallops, with newly settled seed observed as well. The increase in survey density is likely due to the conservative fishing effort in this region, and it is unlikely that the region could support much increased effort. The meat yield for 2025 was nearly identical to the 2022 survey.

Cranberry Isle Rotational Area

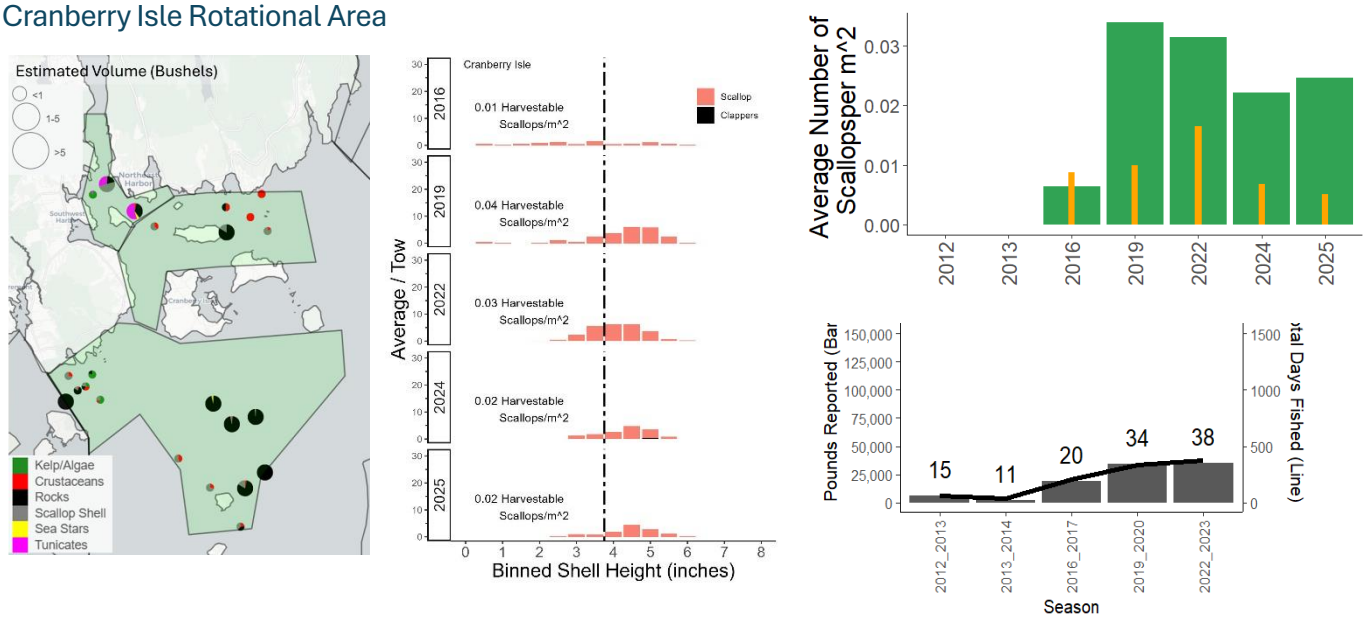


Figure 11. *Map of the primary bycatch type by color for each tow within the survey domain (green areas, left). Annual survey average size frequency of scallops (orange) and clappers (black), labeled with the average density of legal scallops. No Clappers were measured in 2016 (center). Average survey density of legal (green) and sublegal (orange) scallops within this rotation for each year (top right). Harvester reported pounds by season as the solid bars, with the number representing the maximum number of boats reporting in the area and the line as the total days reported fished from all harvesters (bottom right)*

The Cranberry Isle Rotation was also surveyed in 2024 to provide insight on observed growth for a hypothetical two-year rotation compared to a three-year rotation. The additional year of no dredging resulted in the scallops being slightly larger, an increase in the legal density, and an increase in the number of ten-twenty scallops in 2025 (Fig. 12).

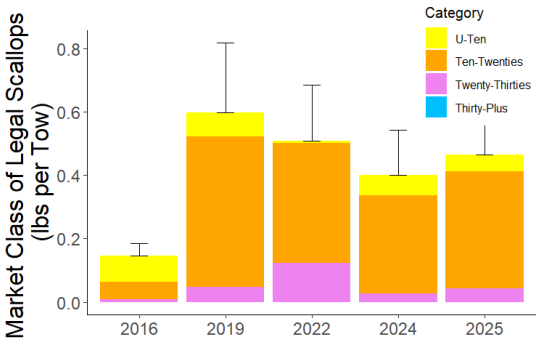


Figure 12. *Average weight of legal scallops per tow with the color representing the market class*

Overall effort and landings have been relatively stable with a slight increase during recent years despite it being the area with the lowest average survey density. The survey stations north of Cranberry Isle have been consistently declining with little evidence of smaller scallops. These survey stations had moderate levels of tunicates but likely not at densities which would change the dredge performance. At the sampling sites north of Cranberry Isle that had scallops, 30% of the scallops were fair quality whereas the remaining 70% were normal.

Lower Blue Hill Rotational Area

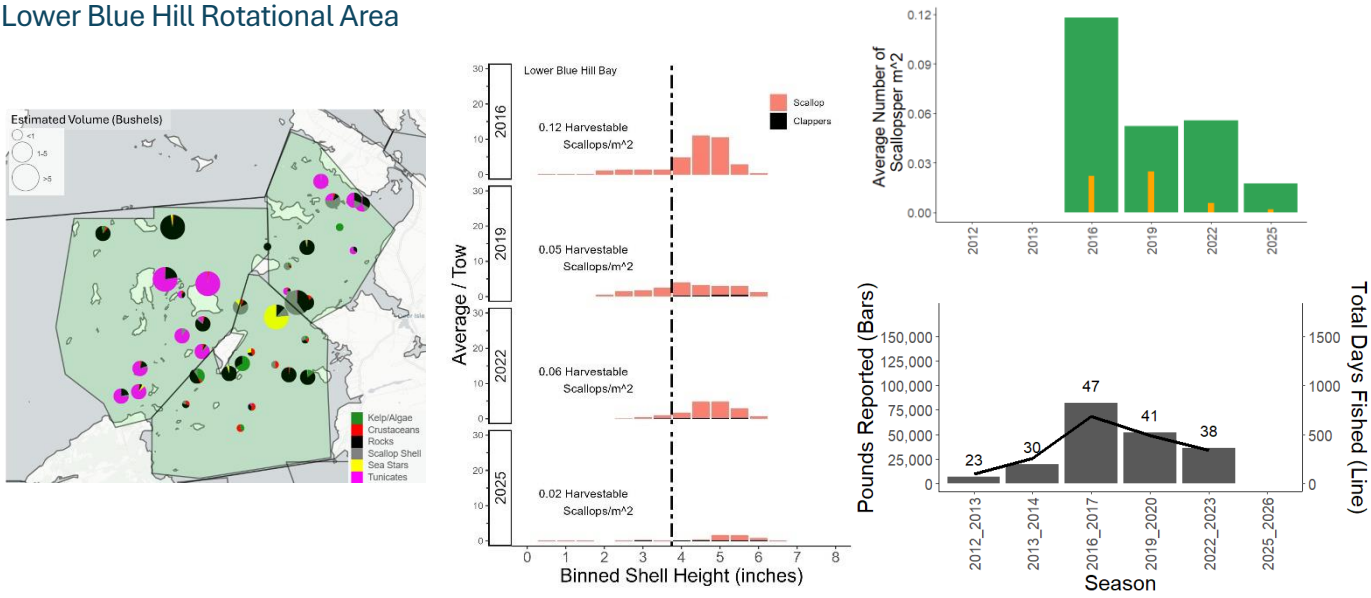


Figure 13. *Map of the primary bycatch type by color for each tow within the survey domain (green areas, left). Annual survey average size frequency of scallops (orange) and clappers (black), labeled with the average density of legal scallops. No Clappers were measured in 2016 (center). Average survey density of legal (green) and sublegal (orange) scallops within this rotation for each year (top right). Harvester reported pounds by season as the solid bars, with the number representing the maximum number of boats reporting in the area and the line as the total days reported fished from all harvesters (bottom right)*

The 2025 survey in Lower Blue Hill Bay caught few scallops. There was a dramatic decline in the abundance of legal scallops compared with the past years. During the previous rotation there were few sublegal scallops observed in the survey. Furthermore, landings have continuously declined since the first open rotation. In 2025, there was one survey tow with high tunicate density and many areas with approximately one bushel of tunicates. Despite this being the only area which poor quality scallops were observed it was also the area with the highest average meat yield. There was a small signal of seed scallops in the area. Low effort in this area would help protect the few small scallops.

In 2023, 500 tagged scallops were released in Lower Blue Hill Bay. The research teams asks that any tagged scallops caught, the shells should be saved with the tag, location and date of capture. Then the shells and data should be returned to the ME DMR to improve our understanding of the current conditions for the scallops.

E. Isle au Haut Bay Rotational Area

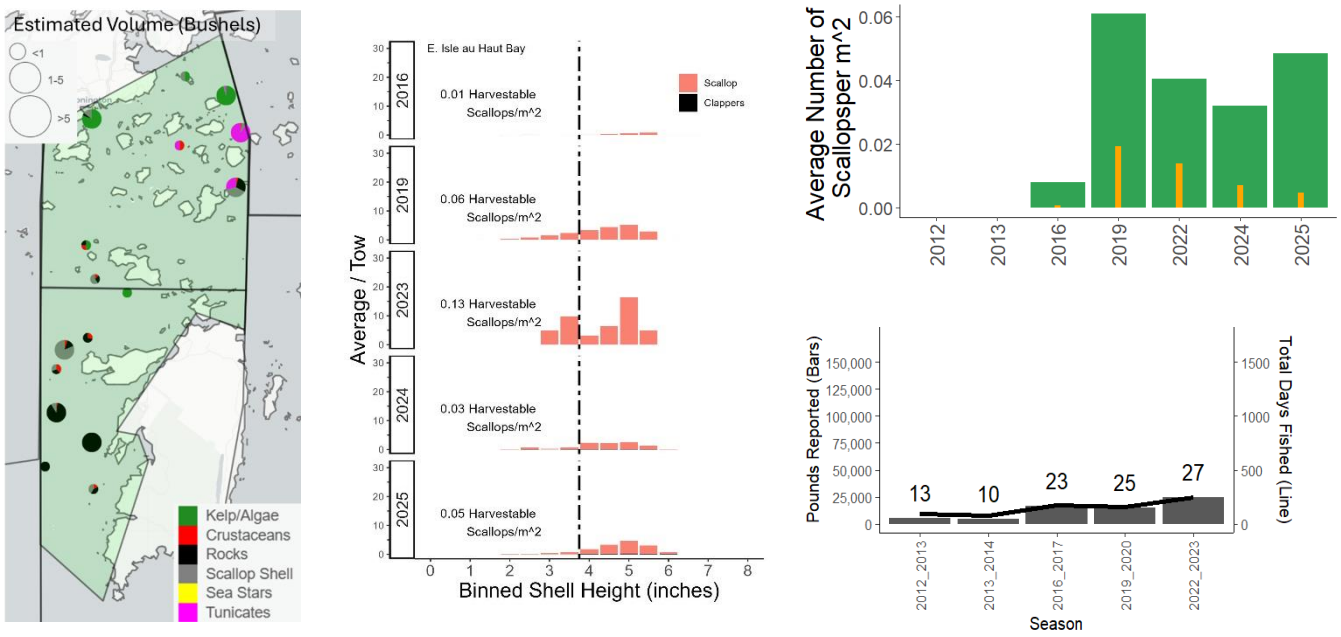


Figure 14. *Map of the primary bycatch type by color for each tow within the survey domain (green areas, left). Annual survey average size frequency of scallops (orange) and clappers (black), labeled with the average density of legal scallops. No Clappers were measured in 2016 (center). Average survey density of legal (green) and sublegal (orange) scallops within this rotation for each year (top right). Harvester reported pounds by season as the solid bars, with the number representing the maximum number of boats reporting in the area and the line as the total days reported fished from all harvesters (bottom right)*

The East Isle au Haut area is another area that has had low survey densities and relatively low, but consistent landings. There were multiple sites near Stonington with tunicates present. This area was also surveyed in 2024 to provide insight on observed growth for a two-year rotation compared to a three-year rotation. With the additional year of no dragging activity there is a clear increase in the density of legal scallops and yield of legal scallops with a notable increase in the number of U-ten and ten-twenty scallops in 2025 (Fig 15). For this area the 2016 survey did not sample near Kimball Head which is one of the higher density scallop areas.

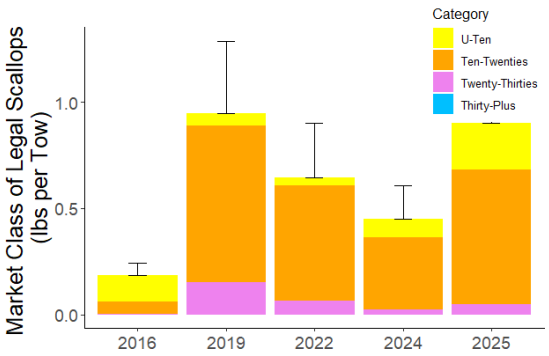


Figure 15. *Average weight of legal scallops per tow with the color representing the market class*

Mid Penobscot Bay Rotational Area

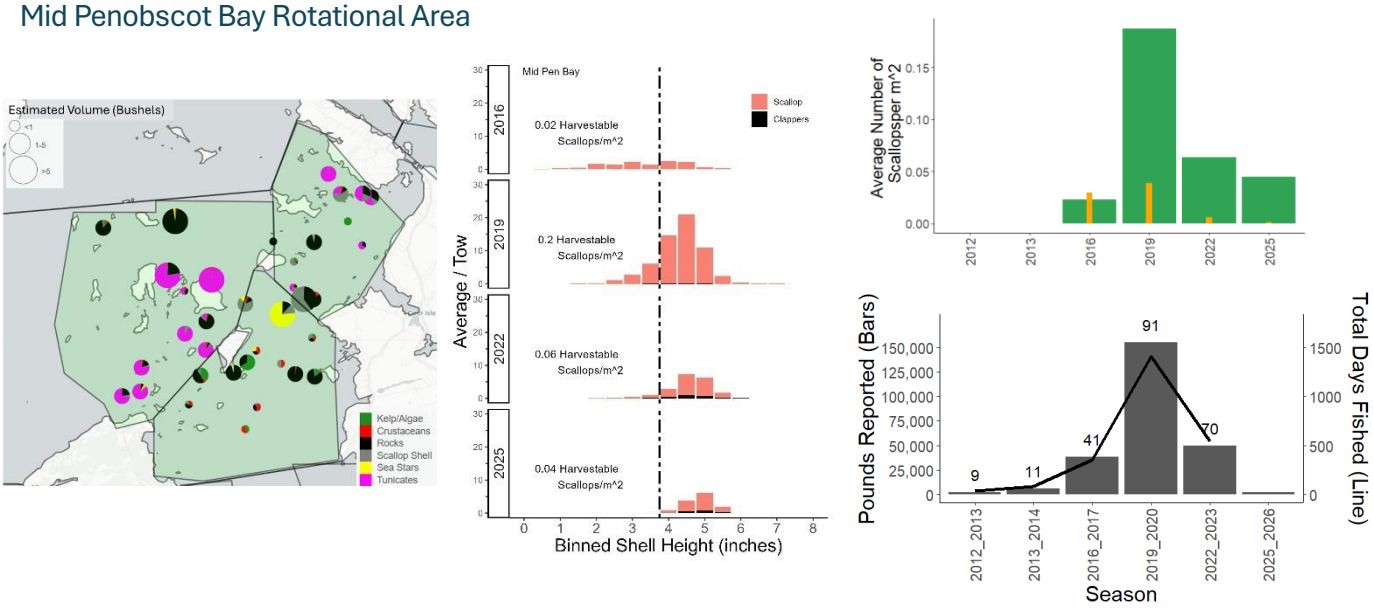


Figure 16. *Map of the primary bycatch type by color for each tow within the survey domain (green areas, left). Annual survey average size frequency of scallops (orange) and clappers (black), labeled with the average density of legal scallops. No Clappers were measured in 2016 (center). Average survey density of legal (green) and sublegal (orange) scallops within this rotation for each year (top right). Harvester reported pounds by season as the solid bars, with the number representing the maximum number of boats reporting in the area and the line as the total days reported fished from all harvesters (bottom right)*

The 2016 mid Pen Bay survey had poor coverage of the scallop areas but did indicate a high number of sublegal scallops. This area peaked in surveys and landings in the 2019-2020 season with high densities of 5-inch scallops. The survey density and landings both declined for the 2022-2023 season with reports of high densities of clappers and many tunicates. The 2025 survey also had many tunicates particularly between North Haven, Great Spruce Head Island and Eagle Island, with high catches of tunicates also near Little Deer Isle. Our survey dredge does not sample well in high densities of tunicates, but we observed almost no sublegal scallops in this rotation. The abundance of clappers was lower in the 2025 survey than the 2022 survey.

Additional Survey Data-Objectives 2 & 3

The second priority in our spring survey is to better monitor historic scallop beds or potential scallop habitats with low fishing pressure. Upper Machias Bay was surveyed in 2025 after remaining closed for the 2024-2025 season due to multiple years of very low densities of legal scallops and a slight signal of sublegal scallops in 2024. The spring 2025 survey detected double the density of legal scallops compared to the 2024 Survey.

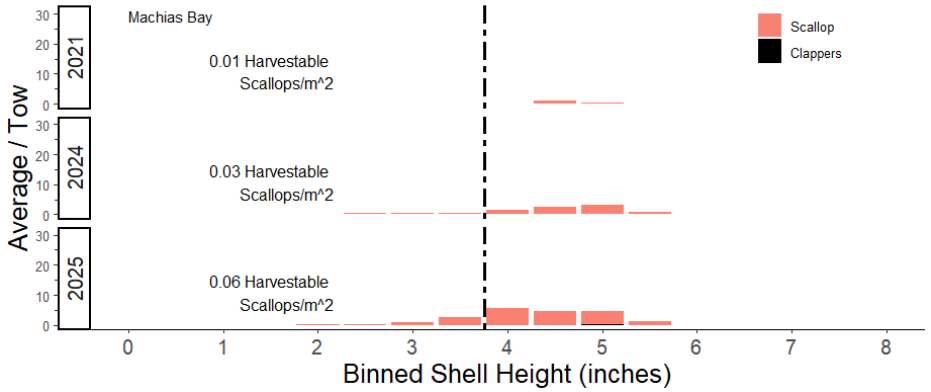


Figure 17. *Size of scallops (orange) and clappers (black) for an average tow shell height frequency binned into 0.5 inch groups for each survey year in Machias Bay with the density of legal scallops reported as text.*

The third priority is to evaluate density and size structures in priority areas to provide data in response to recent management actions. Gouldsboro and Dyers Bays were open as limited access in the 2024-2025 season with patrol reporting between a dozen and two dozen vessels harvesting this area. The 2025 survey returned to evaluate the impact of the season.

In Gouldsboro Bay there was a 60% decline in harvestable scallops compared to the 2024 survey. The density of legal scallops in the 2025 survey was similar to the density in the 2021 survey but there were few sublegal scallops observed in 2025.

In Dyers Bay, there were many tows with few or zero scallops near where the survey had caught scallops in prior years. The 2025 survey had a good signal of sublegal scallops. The overall density has declined since the 2021 survey and was similar between 2024 and 2025.

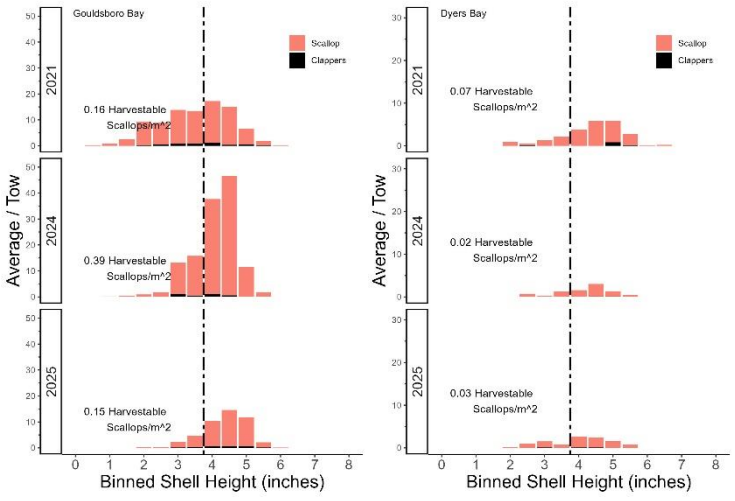


Figure 18. *Size of scallops (orange) and clappers (black) for an average tow shell height frequency binned into 0.5 inch groups for each survey year in Gouldsboro and Dyers Bay with the density of legal scallops reported as text.*