
Lobster Quality 2025-2026

Preseason & In-season Sampling Program

Southwest Nova Scotia LFA33 & LFA34

Final Report

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Submitted by:

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Lobster Quality Report 2025-2026

Preseason and In-season Sampling Program

Southwest Nova Scotia LFA33 & LFA34

1 Background

The 2025-2026 Lobster Quality Preseason Sampling Program continues the long-standing Atlantic Lobster Moulting and Quality (ALMQ) project, a collaboration between lobster harvesters, buyers, dealers, and researchers. The ALMQ database originated in 2006 as an initiative of the Fishermen & Scientists Research Society (FSRS 2022). For 2025-26, the sampling program is the latest in the largest continuous database of lobster sampling globally with 21 years of uninterrupted sampling. It is a credit to all collaborators to have the opportunity to produce this final report for the 2025-2026 commercial season. As in the past, this report summarizes all the results of the preseason and in-season sampling program data collection and provides information meant to be of direct use to the lobster sector in Nova Scotia. The lobster industry in Nova Scotia faces many challenges. The quality of lobsters captured throughout the lobster fishing season in southwest Nova Scotia (LFAs 33 & 34), the area of the world's largest *Homarus americanus* annual commercial harvests, remains a significant issue for improved product valuation especially in the live product market.



Figure 1: Banded lobsters in a dry tote.

Since the early 2000s, there have been noted fluctuations in the quality of lobster landed in southwest Nova Scotia with elevated proportions of soft-shell and lower-meated lobsters landed. These lobsters are not preferred for storage and transportation, resulting in lower quality live lobster product shipped to clients around the world. This continues to represent a serious economic challenge for the lobster industry, especially in international markets where, in 2023, over 80% of Canadian lobsters (by weight) were shipped live to markets in the United States of America (52% by value), China (40% by value), and the European Union (8% by value) (Fisheries and Oceans Canada 2024). Results of past ALMQ sampling in southwest Nova have shown that lobster quality at harvest is directly related to the timing of lobsters' moulting processes. These processes are affected by factors including water temperature, lobster diet, and other ecosystem factors. Understanding the incidences of those factors that control the proportion of soft-shelled lobsters and the annual variation in lobster quality at the beginning of the commercial season is vital to the sustainability, health, and viability of the live lobster industry in Nova Scotia.

In 2017, the Province of Nova Scotia announced the creation of Université Sainte-Anne's Lobster Quality Research and Innovation Centre (LQRIC, Nova Scotia 2020). The LQRIC, renamed the [Lobster Quality Centre \(LQC\)](#) in 2023, has been established to aid in the research and development of live lobster product quality through ongoing sampling and modelling and analysis of the live lobster supply chain. The Lobster Quality Centre acknowledges the financing for this project as part of scientific partnership grants from the Atlantic Fisheries Fund (AFF) awards for 2020-2024 (NS-1113) and 2025-2026 (NS-2616). The ongoing support of Fisheries and Oceans, Canada, and, in particular, for 2024-25, the generous support of the Nova Scotia Department of Fisheries and Aquaculture, and our industry partners have been indispensable to the continuation of the lobster sampling program in southwest Nova Scotia.

The purpose of this annual report is to present and analyse the data observed on lobster quality from extensive preseason and selected in-season lobster sampling, and to report on the status of lobster quality during 2025-2026 in subareas of LFAs 33 & 34. The annual commercial lobster season in these LFAs is scheduled to open on the last Monday of November and close annually at the end of May. This report follows the directives of the 2013 Report of the Maritime Lobster Panel that sought changes to 'improve the quality of lobster being landed in the Maritime Provinces' including the development of 'industry grading standards' (Thériault et al 2013, pp.44-43).

This report also provides detailed observations of the 2025-26 preseason and in-season at-sea sampling conducted by [Coldwater Lobster Association](#) (Coldwater Lobster Association 2025) in 8 locations designated as the 'inside' and 'outside' areas of: Lobster Bay, St. Mary's Bay, and Yarmouth Bar in LFA34, and Port La Tour in LFA33. Preseason sampling commenced September 1, 2025 in Lobster Bay (Outside), and continued until November 14, 2025 in Port La Tour (Inside). This report also presents selected in-season sampling carried out in 3 of 8 LFA33&34 subareas from February 4, 2026 in Port La Tour (Outside) through to March 22, 2026 in Lobster Bay (Inside). All on-board sampling was conducted by the Coldwater Lobster Association Data Collection Technician according to the ALMQ protocols established since 2006 (and revised in 2024).

Table 1 below describes the samples information gathered on individual lobsters. Figure 2 illustrates the survey sampling tools. After preseason observations are taken from sampled legal-sized lobsters, all lobsters are released. In-season samples are retained by fishermen as part of the commercial fishery.

The data collected by the Data Collection Technician are designed to proxy lobster quality – live lobster meat content and suitability for storage and shipping. Data analyses of the samples and collected data were carried out by the Centre de recherche marine/Marine Research Centre of the Université Sainte-Anne, Petit de Grat Campus and the LQC team. Results of the preseason component of the sampling program were provided in the 2025 Preseason Summary Report (Thomas, Mulock, and Lane 2025) and posted to the Coldwater Lobster Association (public) website at:

https://www.coldwaterlobster.ca/wp-content/uploads/2025/11/LQ_2025-Preseason-Summary-Report.pdf

The 2025 Preseason Summary Report was intended to provide an indicator to the Nova Scotia lobster industry about the early season status of the post-moult lobster harvest in the 8 designated sampling areas of LFAs 33 & 34.

The results presented in this 2025-26 Final Report focus on the preseason and in-season samples and include observations on:

- (i) sampling catch counts over the preseason and the in-season samples by subarea; and
- (ii) the distribution of the recorded BRIX levels for the 2025 preseason (September to November 2025) and the 2026 in-season sampling (February to March 2026).

Comparison to past years' samples from similar preseason and in-season times and sampling locations over the period 2012-2025 are also provided. This information enables the industry to compare the 2025-2026 sample results to known past years of observed preseason and subsequent in-season lobster quality and status for comparative and time-trend purposes.

Table 1. 2025-26 Lobster Sampling Data Description

No.	Individual Lobster Sampling Data Item
1	Depth of string (F, fathoms); typically 4 strings are used for sampling with 10 pots per string, for a total of 40 pots per sample
2	Counts of legal (82.5mm and greater) and sub-legal (<82.5mm) lobster captured (only legal lobsters are used in subsequent sampling)
By the 2024 revised protocol, 100 legal-sized lobsters are sampled from the captured counts and the following items recorded for each lobster during preseason sampling:	
3	Lobster Carapace Length (CL, millimetres)
4	Lobster Sex (M-male '1'; F-female '2'; BF-berried female '3')
5	Lobster Shell hardness (Manual squeeze method) (Soft '2'; Medium '4'; Hard '5')
6	Lobster Blood protein level – measured via refractometer as the BRIX Index (units/ml, Figure 2)
7	Lobster Moulting stage ('0' – no activity; '1' to '5') – from selected lobsters' (40 per sample) pleopod removal and post-at-sea sample examination under a microscope (Factor 1995, see also Figure 3 below)
8	Damage (coded descriptions for visual impacts, e.g., culls, as well as “blackened” shell lobsters)
9	Lobster vitality status through leg and tail reflex observed: “weak” status indicated; “not weak” status assumed.

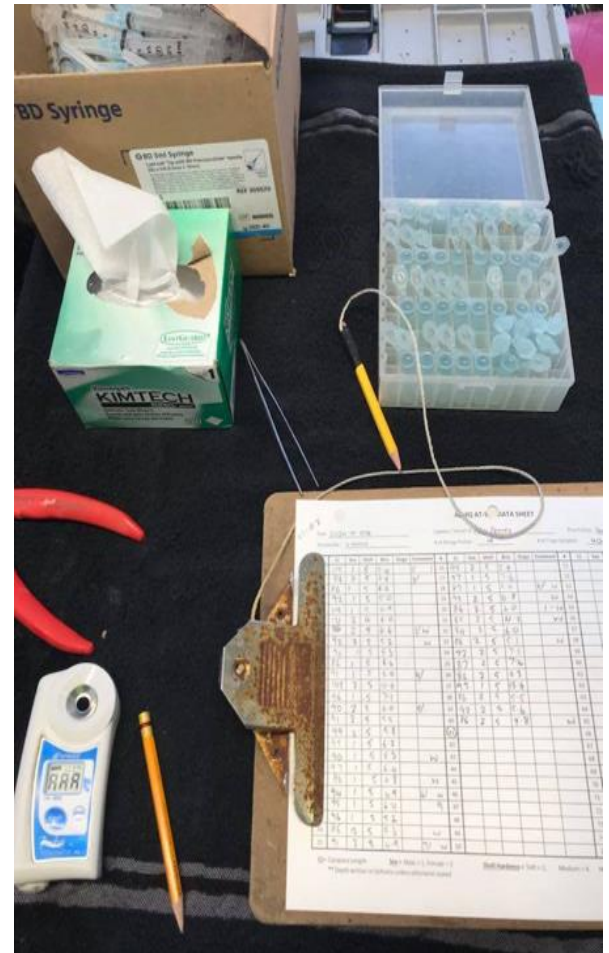


Figure 2: Survey sampling tools including syringes, refractometer, datasheet.

1.1 Lobster Quality Categories

For the first time in 2021, consolidated data from each sample date by location are classified into lobster quality categories derived from the full ALMQ database (2006-2026). Lobster quality categories for each consolidated location sample and date are based on lobster sample characteristics of the sampled lobsters for each sampling date. The historical consolidated sample data were categorized into 5 'lobster quality' categories. The results of this analysis enable the numerical description of each category, and subsequently, the assignment of each of the 2025-26 sample dates into their most probable lobster quality category. (See also Figure 6 and Tables 4 and 5 below.)

1.2 Blood Protein, BRIX Levels

In 2025-26, as per the protocol in the past, blood protein levels, represented by the BRIX index, are a key indicator of individual lobster quality. BRIX index values below 6.0 units/ml in the samples provide a probable indication of poor quality and less than fully-meated lobster that are less suitable for storage and shipping to international markets. These lobsters often appear weak, potentially soft shell, and would not be ideal for holding or shipping.

BRIX index values between 6.0–7.99 units/ml indicate that lobsters may still be recovering from their prior moult and may still be of some concern with respect to their suitability for storage and holding. BRIX levels at 8 or above are indicative of good quality, are more fully-meated, hard shell lobsters, and are likely more suitable for storage and shipping. It is noted that BRIX levels are not a perfect determinant of lobster quality and meat content (see also Theriault, David, Frame, Samson, Mdaini, and Lane 2025). High BRIX (e.g., above 10-15) may be indicative of oncoming moult and unfavorable lobster for storage and shipping. Table 2 below summarizes the BRIX index categories by lobster quality categories as interpreted in the full ALMQ database.

Table 2. BRIX Levels Lobster Quality Categories

BRIX Quality Category:	“Poor”	“Medium”	“Good”
Meat Content:	Most likely low	Not likely fully-meated	Likely fully-meated
Storage/Shipping:	Not ideal	Concerns	Likely suitable
Observed Lobster Quality Indicators:			
Blood Protein Level, BRIX index (units/ml)	Less than 6.0	6.0 to 7.99	8.0 or greater
Shell Hardness	Potentially “Soft” (2)	Potentially “Medium” (4), recovering from previous moult	Likely “Hard” (5)
Appearance	Pale colour, evidence of carapace abnormalities, and/or shell disease	Acceptable colour, little evidence of carapace abnormalities or shell disease	Spring black-bodied, few carapace abnormalities
Shape/size	Culls, misshapen claws, damage to carapace	Small size, misshapen claws, limited damage to carapace	Commercial size, good body shape

1.3 Lobster Shell Hardness

The manual assessment of shell hardness is a subjective indicator of lobster quality that is carried out by the Data Collection Technician using a “squeeze test”. Guidelines are in place for manual estimates of each sampled lobster’s shell hardness using a subjective non-numeric scale of 2 (“Soft”), 4 (“Medium”), and 5 (“Hard”).

1.4 Lobster Appearance

Similarly, lobster appearance including lobster carapace shape and size are qualitative quality indicators based on simple accept-reject categories, i.e., if a lobster has carapace abnormalities such as evidence of culls, misshapen claws, missing swimmerets, or poor colour, then such lobsters may be rejected for storage or shipping. As for shell hardness measures, lobster appearance, shape and size cannot be singular determining factors in assessing lobster quality. Rather, the information is used as supplemental to determining lobster quality along with other measures, e.g., BRIX.

1.5 Lobster Moulting Stage

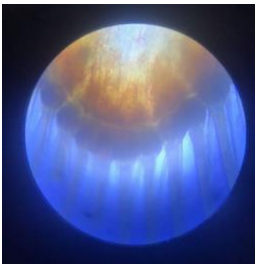


Figure 3. Lobster pleopod under microscope.

Moult stage analyses are carried out on selected lobsters. According to the 2024 revised ALMQ protocol, 40 lobsters from each sample of 100 lobsters per sampling location-date have their pleopods (swimmerets) removed. Each lobster’s moult status is determined by microscopic analysis of the lobster pleopod as per the descriptions provided by Factor (1995) (Figure 3). Moult stage levels of zero indicate no moult activity is pending. Advanced moult stages (Stages 3+) indicate the moult is approaching. Pleopod analysis in female lobsters may also indicate the onset of the egg-bearing cycle (Factor 1995). Lobsters with advanced moult stage are not considered for storage and shipping.

2 2025-2026 Sampling Survey Information

The objective of this sampling program is to develop a lobster monitoring program, based on biological indicators of moult-timing, lobster quality measures, and environmental conditions, in order to predict the quality of lobsters at the start of the lobster commercial fishing season (end November annually) in LFAs 33&34. This program requires a combination of continuous at-sea quality monitoring (preseason and in-season confirmation of results) as well as the development of a prediction model incorporating historical data records for in-season quality. The following paragraphs describe the general information obtained from the 2025 preseason sampling and the 2026 in-season sampling surveys.



Figure 4. Drawing blood for BRIX using refractometer.

In 2025, a total of 3,900 preseason lobster samples were taken over the 11-week period from September 1 to November 14, 2025. For the in-season surveys of February and March 2026, a total of 372 lobster samples were taken in 4 in-season trips over 4 dates in 3 of the 8 sample location subareas including Lobster Bay (Inside), and Port La Tour and Yarmouth Bar Outside areas (Table 3). St. Mary's Bay had no in-season sampling in 2025-2026.

In past years, early preseason average BRIX per sample tended to fall into September and then rise from mid-October to the end of preseason sampling in early to mid-November. In 2025 however, average BRIX levels observed over the preseason samples (September to mid-November) tended to fall for both Inside and Outside areas across most locations. Average BRIX levels declined in both the Inside and Outside areas over the preseason resulting in an overall low average BRIX level of 7.98 mg/ml—the lowest average overall BRIX value in the time series since 2020.

Average lobster total counts (legals plus sublegals) per trap in Inside locations samples typically decrease (as for 2020, 2024) or are stable (2021, 2022) over the preseason period, and rise over the preseason period for Outside location samples (2020-2024). This is consistent with the expected Inside-to-Outside movement of lobsters to deeper waters in LFAs 33&34 as the commercial season begins and winter nears. In 2025, this pattern was repeated in the Inside areas. In the Outside areas, average total lobster counts increased with amounts rising by the end of the preseason period to higher levels of near 10 average total lobster counts (legals plus sublegals) per trap over all Outside location. As expected, average lobster counts per trap were substantially lower in the in-season survey months of February and March 2026. Fishermen often attribute catch declines to lower bottom water temperatures, claiming the lobsters either retreat offshore or just don't crawl to traps in response to lower bottom temperatures (especially for the inside locations).

In 2025-26, sampling was conducted from depths ranging from 8.4 Fathoms (Port La Tour Inside) to 54 Fathoms (St. Mary's Bay Outside). Inside areas over all 4 inside locations averaged 20.4 Fathoms in depth; outside areas locations averaged 39.6 Fathoms in depth. These average depths are comparable to those of past years' surveys.

Preseason sampling in 2025 resulted in total catches of 22,850 sublegal and legal lobsters for an average of 13.1 lobsters per trap over the 44 preseason sampling dates (an increase of +16% over the 2024 preseason average catch of 11.3 lobsters per trap). The average BRIX index for individual lobsters was 7.98 units/ml for the 44 preseason sample location-dates in 2025 (a slight decrease of -1.5% vs 2024

overall average preseason BRIX of 8.1 units/ml). As noted, the overall average BRIX of 7.98 units/ml is the lowest overall average in the 2020 to 2026 time series.

In-season sampling in 2026 resulted in total catches of 456 lobster sublegal and legal lobsters for an average of 2.83 lobsters per trap over the 4 preseason sampling dates (an increase of +11% over the 2024-25 in-season average catches of only 2.54 lobsters per trap over 6 location-dates samples). The BRIX index for the 4 in-season sample location-dates (February and March 2026) was 10.74 units/ml or +35% higher on average than the preseason 2025 average of 7.98 units/ml, and +7% higher than the 10.06 units/ml average over the 6 in-season sampling dates in 2024-25.

Overall, for the 2025-26 preseason and in-season samples combined, there were only 1.94% of sampled lobsters estimated as “Soft”. This represents a large annual decrease of nearly 17 times fewer percent Soft lobster compared to 2024-25 (32.53% Soft) – a decrease of 94%. Similarly, the average percentage of estimated “Weak” lobsters in 2025-26 samples was negligible at 0.63% observed per sample. This represents a -87% decrease in overall “Weaks” versus 4.73% in the 2024-2025 report. These data are provided for each of the 8 subareas’ by sample dates in Table 3 – “2025 Preseason and 2026 In-season Sampling Survey Information Summary”.

2.1 Sampling Protocols

During the 2025-2026 lobster sampling program, the following project outcomes were achieved:

- At-sea quality monitoring – successful observations over 8 locations within LFA33 and LFA34 over a total of 48 sampling dates from September 1, 2025 to March 22, 2026;
- Development of preseason prediction report for industry – as reported in Thomas, Mulock, and Lane (2025) summary report released on November 22, 2025; see also: <https://www.coldwaterlobster.ca/wp-content/uploads/2025/11/2025-26-DRAFT-ALMQ-Pre-Season-Sampling-Report-November-2025.pdf>
- In-season quality sampling – successful completion of 4 sampling location-dates from February 4 through March 22, 2026 in 3 of 8 subareas of LFAs33 & 34;
- Temperature data collection for preseason sampling only– incomplete (limited area sampling): no temperature data were collected in the 2026 in-season samples;
- Lobster tagging program – not initiated in the 2025-2026 sampling program;
- Base line data on berried females – successful data collection across 48 preseason and in-season sampling location-dates; and
- Base line data on catch, including counts of sub-legal and legal, male and female lobsters in all 8 subareas of LFAs33&34 – successful observations of harvested lobsters in 8 locations in 44 preseason and 4 in-season sampling location-dates in 2025-2026.

Table 3. 2025 Preseason and 2026 In-season Sampling Survey Information Summary

Sampling Location	Sites Subarea	2025&2026 SampleDay	Harvested Count	Lobsters Sampled	Sample Ave BRIX level	Sample % Soft /%Soft+Med	Sample % Weak	
Yarmouth Bar	Inside	09-Sep	353	100	8.93	1%/30%	0%	
		23-Sep	249	100	9.91	1%/28%	0%	
		07-Oct	396	100	8.91	0%/62%	0%	
		21-Oct	493	100	8.36	1%/71%	0%	
		09-Nov	625	100	8.01	0%/79%	0%	
	LFA34	Outside	08-Sep	33	15	9.48	0%/0%	0%
			22-Sep	47	19	8.81	0%/37%	0%
			06-Oct	407	100	7.94	1%/72%	2%
			20-Oct	342	100	7.96	1%/76%	0%
			07-Nov	783	100	6.74	0%/93%	1%
		20-Mar	135	72	9.23	1.39%/85%	0%	
Lobster Bay	Inside	02-Sep	922	100	9.11	3%/46%	2%	
		16-Sep	1303	100	9.53	1%/22%	4%	
		30-Sep	1328	100	8.98	5%/53%	0%	
		14-Oct	1321	100	8.20	14%/62%	1%	
		28-Oct	947	100	8.38	4%/74%	0%	
		11-Nov	1308	100	8.65	3%/64%	0%	
			20-Feb	114	100	11.20	1.0%/47%	0%
			22-Mar	127	100	11.87	0.0%/34%	0%
	LFA34	Outside	01-Sep	528	100	10.11	7%/65%	4%
			15-Sep	613	100	7.90	2%/32%	2%
29-Sep			727	100	8.29	1%/60%	0%	
15-Oct			920	100	7.83	1%/63%	0%	
27-Oct			738	100	8.16	2%/81%	1%	
12-Nov			719	100	8.91	1%/63%	0%	
Port La Tour	Inside	03-Sep	413	100	7.76	1%/46%	0%	
		17-Sep	495	100	8.57	0%/45%	0%	
		01-Oct	365	100	7.50	5%/77%	0%	
		16-Oct	432	100	8.57	1%/73%	0%	
		29-Oct	337	100	7.81	2%/84%	0%	
			14-Nov	218	100	8.74	1%/72%	0%
	LFA33	Outside	02-Sep	22	6	7.73	0%/67%	0%
			16-Sep	242	100	6.45	5%/66%	2%
			30-Sep	195	100	6.50	4%/87%	1%
			15-Oct	314	100	6.78	0%/87%	0%
28-Oct			667	100	6.48	3%/96%	0%	
		13-Nov	582	100	6.32	1%/97%	0%	
		04-Feb	80	100	10.24	0%/45%	0%	
St. Mary's Bay	Inside	10-Sep	93	63	5.35	3.2%/1%	1.6%	
		22-Sep	306	100	8.24	1%/34%	1%	
		07-Oct	252	100	7.54	0%/88%	1%	
		21-Oct	484	100	7.27	2%/88%	1%	
		09-Nov	697	100	7.21	2%/87%	1%	
	LFA34	Outside	09-Sep	13	2	12.40	0%/50%	0%
			23-Sep	38	17	9.34	0%/59%	0%
			06-Oct	92	78	7.66	2.6%/85%	0%
			20-Oct	703	100	7.28	0%/87%	0%
			07-Nov	788	100	6.73	0%/92%	2%
PRESEASON TOTALS	8 locatio-areas	44 sample location-dates	22,850 lobsters landed	3,900 lobst sampled	Ave BRIX 7.98 mg/ml	%Soft/%Soft+Med 2.08%/66.79%	Presea% Weak 0.69%	
IN-SEASON TOTALS	3 subareas	4 sample dates 2026	456 lobsters landed	372 lobsters sampled	AveBRIX 10.74 mg/ml	%Soft/%Soft+Med 0.54%/50.27%	In-sea % Weak 0.0%	
OVERALL TOTALS	8 locations	48 sample location-dates	23,306 lobsters landed	4,272 lobs sampled	Ave BRIX 8.22 mg/ml	%Soft/%Soft+Med 1.94%/63.93%	Overall%Weak 0.63%	

2.2 Sampling Sites and Schedule

The 2025-2026 sampling schedules, sampling dates, locations, and total numbers of lobsters (legal and sublegal) harvested, numbers of individual lobster samples made, proportion of soft/weak lobster status, and average location-date BRIX index are provided in Table 3 above. The map of Figure 5 below contains a single screen that illustrates the provided mapped tabulated information about the precise location of the sample harvests (latitude and longitude of first string), as well as time of haul statistics for: (i) sea state (in meters); (ii) surface temperature (where available); and (iii) weather description at time of set and haul. Additional data include total lobster harvest counts at site, the number of trap hauls, lobster counts per trap, average lobster BRIX from site samples, and the number of “weaks” in site sample.

This mapped information for 2025-26, including mapped sampling information for all 5 previous years of the sampling program: 2020-21, 2021-22, 2022-23, 2023-24 and 2024-25 are available for public viewing on Google maps. A public link is available at the following site:

<https://www.google.com/maps/d/u/0/edit?mid=14NsroLb5FWdSt9HQEn7h2J4zodkv7iAD&usp=sharing>

(Please send any feedback or questions about the mapped sampling information to D. Lane at Daniel.Lane@usaintanne.ca.)



Figure 5. Google map of 2025-2026 At-sea survey sampling site area and related information.

2.3 2025-2026 Report on Conditions and Collections

Weather conditions during the 2025 preseason sampling period were generally favourable, allowing scheduled trips to proceed as planned through September and October. As sampling progressed into November, weather conditions became increasingly challenging, resulting in some delays to sampling dates. However, with strong cooperation and flexibility from participating captains, all preseason sampling trips were successfully completed prior to the opening of the commercial fishery.

The 2025-2026 commercial lobster fishery in LFAs 33&34 opened, as scheduled, on Monday, November 24, 2025 (Johnson 2025) – unlike the experience of past years¹, see also:

<https://www.saltwire.com/nova-scotia/tri-county-vanguard/commercial-lobster-fishery-underway-in-southwestern-nova-scotia>.

In contrast, in-season sampling proved significantly more difficult to coordinate. Persistent adverse weather conditions reduced the number of viable fishing days, and a notable decline in lobster landings further limited opportunities for sampling. (In one in-season sampling trip, it took 18 strings to capture 100 legal-sized lobsters for the sampling protocol.) In many instances, fishermen elected to remain ashore due to poor catch rates and unfavourable conditions which constrained the availability of vessels for the in-season sampling trips in early 2026.

Feedback from captains and industry participants highlighted ongoing concerns related to environmental and economic pressures. In particular, lower water temperatures were widely believed to be contributing to reduced catch rates and a decline in lobster quality. These factors not only affected landings but also had economic implications, as lower-quality product resulted in decreased market prices. In some cases, buyers were reportedly unwilling to purchase stored catches or offered significantly lesser market price due to large dead-loss and poor quality. Combined with rising operational costs, including fuel and bait, these challenges led many fishermen to modify their fishing practices, including relocating gear to alternate grounds, extending soak times, or temporarily removing traps from the water.

2.4 Lobster Quality Category Classification

For the first time in 2021, consolidated data from each sample date by location were classified into lobster quality categories derived from the extended ALMQ database (2006-2021). Lobster quality categories for each consolidated location sample are based on collective lobster sample characteristics by sample date of – typically – 150 lobster samples for each location-date (100 samples per site since 2024). The consolidated sample date data include: the means, medians, ranges, and moments for the sampled lobster BRIX values, and sampled lobster carapace lengths, as well as sample month and days prior to the season opening. The following graphic (Figure 6) displays the consolidated BRIX (only) data for the Lobster Bay

¹ Weather delayed dumping day for the 2024-2025 commercial lobster fishery in LFAs 33&34 by one day only, and the seasons started on Tuesday, November 26, 2024. In 2023, LFA33 area fishermen took advantage of a two-day flexibility window and started the season early on Sunday, November 26, 2023. However, LFA34 saw a 5-day delay before opening on December 2, 2023. In 2022, the LFA34 fishery opened on December 5, 2022, after a one-week delay to the season start due to weather. The LFA33 fishery opened on Nov. 29, 2022, after a one-day delay. In 2021, there was a two-day delay in dumping day, while in 2020, the delay was 8 days (among the longest in the history of the fishery).

(Inside) area for the 2006-2020 samples (n=158). The annual box-and-whisker plots show the distribution of average BRIX values across all samples in each year for Lobster Bay (Inside). Annual mean BRIX values are denoted by yellow dots; shaded rectangles are interquartile ranges; annual median BRIX are lines separating light and dark range; vertical lines (minimum to maximum BRIX) indicate range of annual consolidated BRIX values outside interquartile range.

Of note in Figure 6 is the separation of the distributions of the consolidated annual average BRIX values into 2 notable groups: (1) 2006-2013; and (2) 2014-2022. The first group represents a relatively higher and consistent overall average BRIX regime (denoted by the green line). The second group illustrates an apparent shift in lobster average BRIX values to a consistently lower overall average BRIX regime (denoted by the red line). This time shift phenomenon occurs in each of the 8 lobster sampling locations and is the probable result of an environmental/ecosystem shift that persists into 2025-26. With this in mind, a subjective assignment of each year's consolidated annual BRIX values were assigned into one of 5 lobster quality categories. Preseason Lobster Quality categories are particular to the history of each of the 8 locations. These categories are described in Table 4 below.

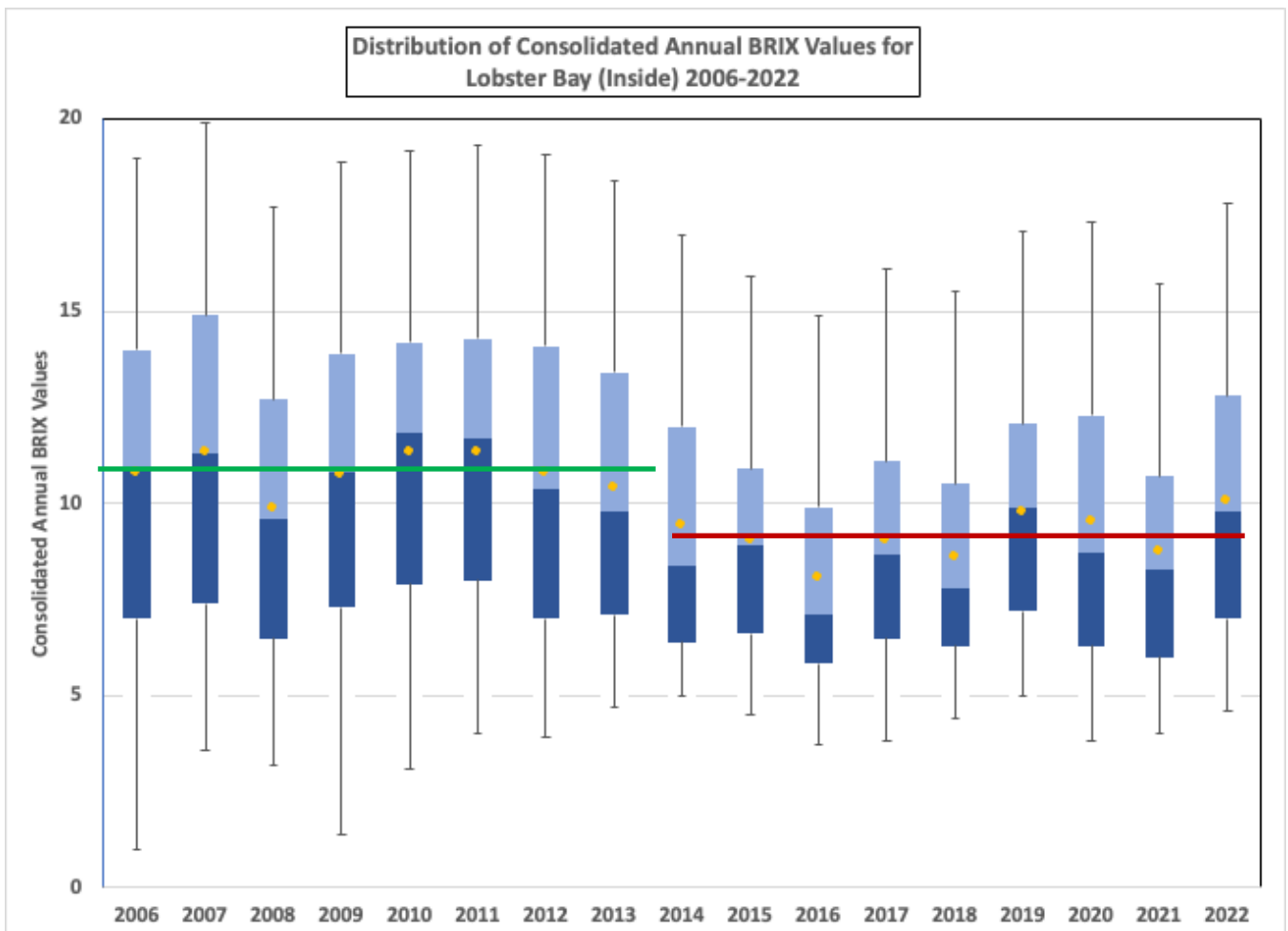


Figure 6. Box-and-Whisker plot of Consolidated Annual BRIX values for Lobster Bay (Inside).

Table 4. Lobster Quality Category Descriptions

Level	Lobster Quality Category	Description of Sample Location-Date Distribution
1	High (H)	This category is indicative of a consolidated sample date of lobsters with elevated average BRIX value specific to the location over the database period, e.g., exceeding 10 for most locations, and other positive distribution characteristics, e.g., high relative BRIX median and range
2	Moderate-High (MH)	This category is indicative of a consolidated sample date of lobsters with slightly above-average BRIX values specific to the location over the database period, e.g., approximately between 9.5 and 10 in most locations
3	Moderate (M)	This category is indicative of a consolidated sample date of lobsters with near average BRIX values specific to the location over the database period, e.g., approximately between 8.5 and 9.5 for most locations
4	Moderate-Low (ML)	This category is indicative of a consolidated sample date of lobsters with slightly below-average BRIX values specific to the location over the database period, e.g., approximately between 7.5 and 8.5 for most locations
5	Low (L)	This category is indicative of a consolidated sample date of lobsters with below average BRIX values specific to the location over the database period, e.g., less than 7.5 for most locations

Using linear discriminant analysis, the historical consolidated sample data were categorized into these 5 'lobster quality categories' for each location (MacLachlan 2004). The results of the analysis enabled the numerical description of each category, and subsequently, the assignment of each of the 2021, through 2025 preseason sample dates into its most probable lobster quality category.

Preseason results for 2025 by location are comparable to past preseason sampling years. For example, if 2025 preseason results for Lobster Bay Inside compare favorably to past preseason survey years of Low (L) or Medium-Low (ML) Lobster Quality Category for Lobster Bay Inside (historically estimated from the data to have occurred in 2016, 2018, 2022 and 2024 (last preseason year) – see also Figure 6 above and Table 5 below), then the 2025 preseason data may predict that the 2025-2026 commercial season is comparable to the known commercial seasons of 2016, 2018, 2022 or 2024 that followed these same “Low” or “Medium-Low” survey results for Lobster Bay Inside.

Table 5 presents the annual time series of assigned Lobster Quality Category for each location from 2006 to 2024. The relative decline over time of lobster quality measured by average BRIX across all locations in LFAs 33&34 over the full period 2006 to 2024 is evident from Table 5 and the example of the annual box plots for Lobster Bay Inside (Figure 6 above).

Lobster quality categories across all subareas from 2006-2013 exhibit the same relatively higher categories (moderate (M) or higher (MH, H)) throughout the period from 2006 to 2013 (Figure 6, green line). Since 2014, however, assigned Lobster Quality Categories across all 8 locations are nearly all designated as moderate (M) levels or below (ML, and L) (Figure 6, red line). Although it is difficult to identify trends in the consolidated data (i.e., combined annual survey samples by location), it generally appeared that since 2018, there may be the beginning of a recovery of lobster quality indicators from L to ML to M going forward to 2023. However, in the 2025 (and 2024) preseason samples (Table 6 below) this trend has been reversed with the results of ML being reported for all subareas attributed to lower BRIX, lower legal catch counts, and higher soft+medium shell hardness lobster from the 44 preseason location-date samples.

Table 5. 2006-2023 Lobster Quality Category Assignments*

Locations Year	Yarmouth Inside	Yarmouth Outside	Lobster Bay Inside	Lobster Bay Outside	Port La Tour Inside	Port La Tour Outside	St.Mary's Bay Inside	St.Mary's Bay Outside	Total Sample Dates
2006	MH	H	H	MH	MH	H	H	MH	68
2007	H	H	H	MH	M	-	H	H	61
2008	H	MH	MH	MH	MH	-	MH	MH	60
2009	MH	H	H	MH	MH	MH	M	M	67
2010	H	MH	H	H	H	MH	MH	H	73
2011	MH	M	H	MH	MH	H	MH	-	65
2012	MH	MH	MH	H	M	M	MH	-	63
2013	M	M	MH	H	M	M	M	-	52
2014	ML	ML	M	M	L	ML	-	-	34
2015	ML	ML	ML	M	L	L	-	-	32
2016	L	L	L	L	L	M	ML	ML	52
2017	ML	ML	ML	L	L	L	ML	ML	52
2018	L	ML	L	ML	MH	L	L	L	46
2019	ML	L	M	ML	ML	ML	-	L	12
2020	ML	L	M	ML	ML	ML	ML	M	56
2021	ML	M	M	M	M	M	M	M	51
2022	ML	ML	ML/M	ML	ML	ML	MH	M	62
2023	M	M	M	M	M	M	M	M	44
2024	ML	ML	ML	ML	ML	ML	ML	ML	30
No.Dates	158	157	187	142	170	72	76	62	1024

*2006-2013 (Green)—Historical period of higher average BRIX; 2014-2023 (Red)—Current period of lower average BRIX.

Table 6 presents the summary lobster quality category classification for the 2025 preseason sample subarea locations. These results average the lobster quality categories over the preseason sampling dates by subarea locations and as reported in the November 2025 preseason summary report (Thomas, Mulock and Lane 2025). Information on average BRIX, average counts of legal-sized lobster per trap, percentage of weak lobsters in samples, and percentage of soft, and soft+medium lobsters in samples, as well as the most comparable historical years compared to 2025 are included in Table 6. A description of the statistical analyses of the consolidated annual data by location is provided in the LQC Working Paper “Statistical Analyses for Lobster Quality Determinants and Predictions” (in progress) (Lane et al 2026) (in progress).

Average BRIX by location over all preseason samples vary between the minimum of 6.52 mg/ml (Port La Tour Outside) and the maximum of 8.82/8.81 (Yarmouth Inside/Lobster Bay Inside). Over all locations, average BRIX values are near 8 or “Good” (Table 2) with average BRIX over all locations of just under 8 or 7.98 mg/ml. Similarly, estimated overall lobster quality category across the board is “Medium-Low” which places 2025 in the ongoing current regime of ‘lower BRIX’ experienced since 2014 and similar to the years of noted “low quality” from 2014 to 2024. In 2024, overall average BRIX was 8.1 units/ml—slightly higher than the 2025 preseason overall average of 7.98—the lowest average overall BRIX value in the time series since 2020.

Table 6. 2025 Preseason Lobster Quality Category Assignments and Summary

Locations:	Yarmouth	Yarmouth	Lobster	Lobster	Port La	Port La	St.Mary's	St.Mary's	Overall
2025 Preseason Samples	Inside	Outside	Bay	Bay	Tour	Tour	Bay	Bay	Locations
	Inside	Outside	Inside	Outside	Inside	Outside	Inside	Outside	
Average BRIX (units/ml)	8.82	7.71	8.81	8.53	8.16	6.52	7.26	7.35	7.98
Ave Legal Counts Per Trap	6.40	5.94	18.52	12.60	5.18	6.15	6.22	6.49	8.44
%Soft	0.60%	0.40%	5.00%	2.33%	1.67%	2.17%	1.63%	0.51%	1.79%
%Soft+Medium	54.00%	55.57%	53.50%	60.67%	66.17%	83.28%	52.75%	74.49%	66.79%
%Weeks	0.00%	0.60%	1.17%	1.17%	0.00%	0.50%	1.15%	0.40%	0.62%
Estimated Overall Lobster Quality Category	ML	ML	ML	ML	ML	ML	ML	ML	ML
No. of Location-dates	5	5	6	6	6	6	5	5	44
Comparable Years	2012, 2021	2014, 2015	2015, 2022	2019, 2024	2014, 2019	2016, 2018	2024	2019, 2024	2014-2024

Average legal counts per preseason trap are an indicator of in-season commercial catch counts. As in the past, Port La Tour (LFA33) has the lowest sample legal catch counts compared to the other locations with average legal-sized counts per Inside sample trap of only 5.18 (a -4% decline in the value of 5.42 lobsters per Outside sampling trap minimum from the 2024 preseason samples). In 2024, St. Mary's Bay (Inside and Outside) sampling trap catch counts exceeded all other areas with the exception of Lobster Bay Outside (at 10.15 and 9.98, respectively). However, in 2025, sampling trap catch counts – Inside and Outside – were below 6.5 in St. Mary's Bay. This represents a marked decline after the 2024 improvement in St. Mary's Bay catch counts and a return to the lower 2023 counts per trap (Inside – 6.71, Outside – 7.06). Lobster Bay catch counts per trap are typically the highest among all subareas and in 2025 they regained that status with higher catch counts of 18.52 (Inside) and 12.6 (Outside) (versus 8.19-Inside, and 10.25-Outside in 2024).

In 2025, the estimation of the hardness of lobster carapaces in samples altered substantially across all areas. The percentages of “Soft” lobsters in the preseason samples decreased overall from 35.33% in 2024 to a mere 1.79% in 2025 preseason sampling. The reporting of Soft% in samples also fell across all 8 subareas and ranged from a high of only 2.33% in Lobster Bay (Outside) samples to a low of only 0.4% in Yarmouth Bar (Outside) samples (Table 6). While we note the marked decline in the Soft% in samples in 2025, it should also be noted that this does not translate directly to an increase in lobster hardness overall. Rather, the shift from high levels of Soft% in 2024 clearly moved into the Medium% category of hardness. As reported in Table 6 above, the percentage of Soft+Medium lobsters in the 2025 preseason samples ranged from 54% to 83% in all subareas with an overall average of 67% or two-thirds of samples. This translates into there being overall only 33% of samples that were therefore considered as “Hard” in 2025. This presents a significant drop in Hard% relative to earlier years – especially 2020 through 2022 – when Hard% reached levels of 90% or greater in preseason sampling in those years (see also Figure 11).

Since 2023, and again in 2024, and now 2025, shell hardness measures have shifted significantly. Although softer shells are correlated with lower BRIX values (as occurred in 2024-25 sampling), overall, shell hardness measures continue to be weakly correlated with continuously measured BRIX levels, and

correlations (between lobster's BRIX and Hardness) are mostly not significantly different from zero for all sample location-dates. Consequently, shell hardness measures are not directly considered to be a lone determining factor in lobster quality prediction and are best used in conjunction with other measures, e.g., BRIX and appearance. Finally, since Hardness, measured by the manual squeeze method, is a subjective measure, it is noted that there have been 3 different Data Collection Technicians sampling on-board vessels over the last 3 years: 2023-24, 2024-25, and 2025-26. We report that technician training has been designed to minimize expected differences in data collection, including hardness measures and weak lobster identification. However, we also confirm that inter-reader variability has not been formally tested.

In 2025 preseason sampling, the percentages of weak lobsters per sample were negligible. This represents a significant change in 2024 sampling when overall "weaks" percentage in samples was over 5%. Highest average weak lobster sample percentages appeared in Lobster Bay (Inside and Outside) among all subareas with averages of only 1.17% followed by St. Mary's Bay (Inside) at 1.15%. All other subareas (Yarmouth Bar and Port La Tour) recorded sample weak lobsters percentages below 1% in 2025 (Table 6).

2.5 2025-2026 By-catch and Shell Disease Observations

As in 2024, Jonah Crab continued to be of concern throughout the 2025 preseason sampling period, particularly in all outside locations (with the exception of Port La Tour Outside). In the September 2025 samples, significant numbers of Jonah Crab were observed. However, their presence declined as the season approached. It is a belief among fishermen that the presence of Jonah crabs generally correlates with lower lobster catch rates. Also in 2025, cod and spiny dogfish were observed occasionally across some sampling locations.

In 2025, as in the past preseason sampling periods, there have been minimal observations of shell disease in captured lobster. In 2024, and for the first time since the 2020 sampling survey, a single observation of shell disease was confirmed by the Marine Research Centre, Petit de Grat. In 2025, during the first preseason survey in Lobster Bay (September 1), 3 lobsters were observed that showed evidence of epizootic shell disease (see also Figure 7). No other shell disease cases were reported in the remainder of the 2025 preseason or the 2026 in-season surveys. Gulf of Maine lobster fisheries typically find shell disease in lobster are more prevalent during the Spring time, e.g., May. Industry members are reminded to report any and all such evidence to the Marine Research Centre, Petit de Grat at their convenience.

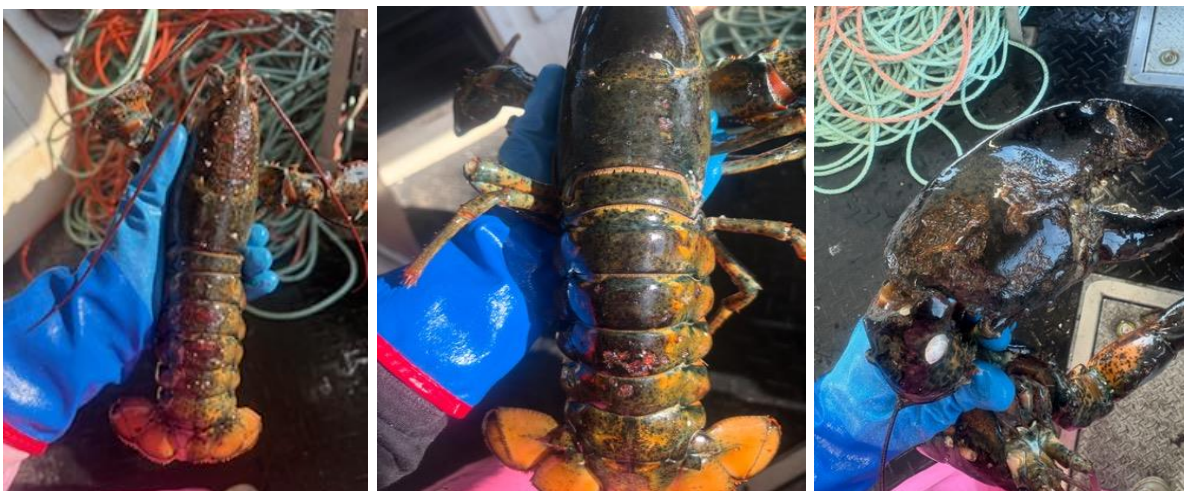


Figure 7. Lobsters captured in Lobster Bay, September 1-2, 2025 with evidence of shell disease. Source: Courtney Thomas.

3 Preseason and In-season Sampling Data Analysis Results

Since 2006, preseason and in-season data have been collected annually on lobsters in selected harvest areas of LFA33 and 34. Previously, these data have been used in each year, independently, to estimate average moult times over all subareas and to predict lobster quality based on overall moult conditions at the start of each season. In hindsight, the estimate of a general moult time was subject to considerable uncertainty and spatial and temporal variation such that a generalized prediction about lobsters' "average" expected moult time was difficult to determine.

The longitudinal database from the 2006 season onward permits direct comparison of pre-season and corresponding in-season samples over multiple years. Knowing the precise history of quality results in the subsequent commercial fishery over past years enables comparison of current results to actual quality of the past. For example, the 2012-13 commercial season was a "high quality" season with below average catches in recent years (23kMt in LFA34), whereas the 2015-16 commercial season was a very poor-quality year with highest observed catches (29kMt in LFA34) (Fisheries and Oceans 2020). Preseason sampling results that compare well with the 2012-13 preseason sampling data could therefore be considered an indicator of good quality and lower catches to follow into the commercial season. Similarly, preseason sampling that compares more closely to the 2015-16 preseason sampling data might suggest a prediction for poor quality with higher catches to follow in the comparable commercial fishery. To this end, we evaluate historical annual quality status and compare recent results to the history. This analysis begins with a view of the distribution of the lobster data collected for 2025-26.

3.1 Lobster Counts Sampling for 2025-2026

The at-sea preseason sampling data were compiled into the '*Preseason Summary Report*' and distributed by Coldwater Lobster Association to the lobster industry and government funders on November 22, 2025 (Thomas, Mulock, and Lane 2025). This report contains summary information on the lobster counts harvested and sampled during the 2025 preseason and the 2026 in-season sampling program with comparison to the 5 previous year's (2020-21, 2021-22, 2022-23, 2023-24 and 2024-25) lobster counts sampling results. Specific information on lobster counts includes: (1) section 3.1.1: lobster count location graphics per trap by sex, average BRIX indicator value, moult stage analysis, and manual hardness measures; and (2) section 3.1.2: comparative location results of catch per trap, and average BRIX indicator value.

3.1.1 Location graphics – Selected lobster counts information (complete graphics for all subareas are presented in Appendix A.1)

Location graphics results of lobster counts from the sampling program are as follows:

- (a) Counts of lobsters harvested per trap by sex for Inside & Outside areas
- (b) Counts of lobsters harvested per trap and BRIX for Inside & Outside areas
- (c) Counts of lobsters sampled by Moult Stage - Outside areas
- (d) Counts of lobsters sampled by Hardness and BRIX for Inside & Outside areas

Appendix A.1 – "Harvested and Sampled Lobster Count Location Graphics" contains the complete graphic record of this information for all locations, Inside and Outside areas by preseason and in-season sampling dates. Selected graphics are presented in this report below.

(a) Counts of lobsters harvested by Location per Trap by Sex for Inside and Outside Areas

The counts per unit trap (CPUT) fishing effort measure provides general information about the propensity of available lobster to enter the trap during preseason and in-season sampling. As noted by the example of Yarmouth (Inside and Outside areas) in Figure 8, CPUT measures (including counts of legal and sublegal males and females) are illustrated for 2025-26 (8a), 2024-25(8b), 2023-24(8c), 2022-23(8d), 2021-22(8e), and 2021-20(8f). In 2025, preseason Yarmouth Bar Outside areas show initially low and increasing counts per trap over the preseason period from early September to mid-November 2025 (Figure 8a). In 2025, Yarmouth Bar Inside samples dip initially then increase over the preseason period at a slower rate than the Outside counts per trap. The gradual rise in Outside CPUT is characteristic of past years and for most areas. The single Yarmouth (Outside) in-season sample (March 20, 2026) reflects the characteristic and expected decline in in-season counts per trap for both male and female lobsters that is observed in all subareas.

CPUT measures in the 2024 preseason period (Figure 8b) declined in the Inside samples (unlike 2025), and increased in the Outside samples (like 2025). The 2025 CPUT are generally above the counts per trap of the 2024 preseason in Yarmouth. CPUT in-season values decline appreciably, as typical, for males and females into the 2025-26 and 2024-25 in-season periods. Higher CPUT for males and females in the Outside area (in comparison with the Inside) during later preseason sample dates over most years (Figure 8abdef) are indicative of expected better catch rates at the start of the commercial season in Yarmouth Bar (Outside) areas.

Comparison of annual CPUT for Yarmouth Inside and Outside areas shows that the 2025, 2024 and 2023 preseason catch rates (Figure 8abc) were comparable but below those of the 3 previous years 2022, 2021, 2020 (8def). These results would suggest that Yarmouth Inside and Outside catch rates at the start of the commercial fishery in 2025 would be comparable to those of the 2024 and 2023 commercial seasons. Overall, these numbers are comparable to the lower actual catch rates actually experienced by the commercial fishery in the Yarmouth Inside and Outside areas over the past 3 years (Figures 8abc) compared to the earlier years 2022-2020 (Figures 8def).

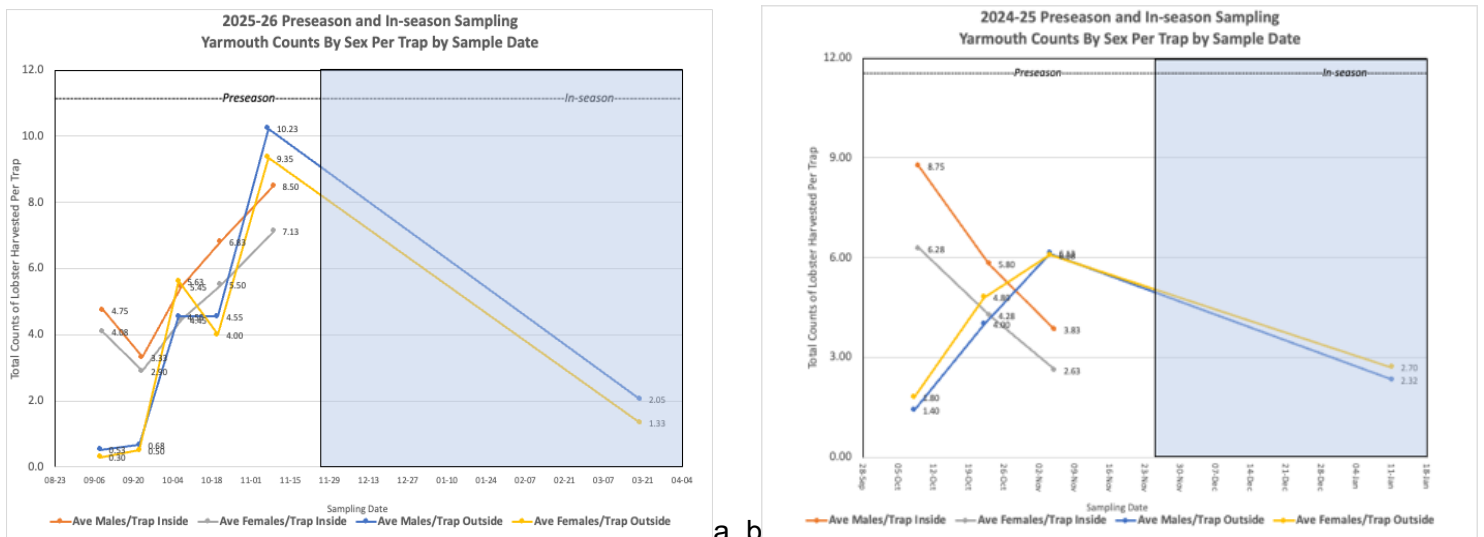
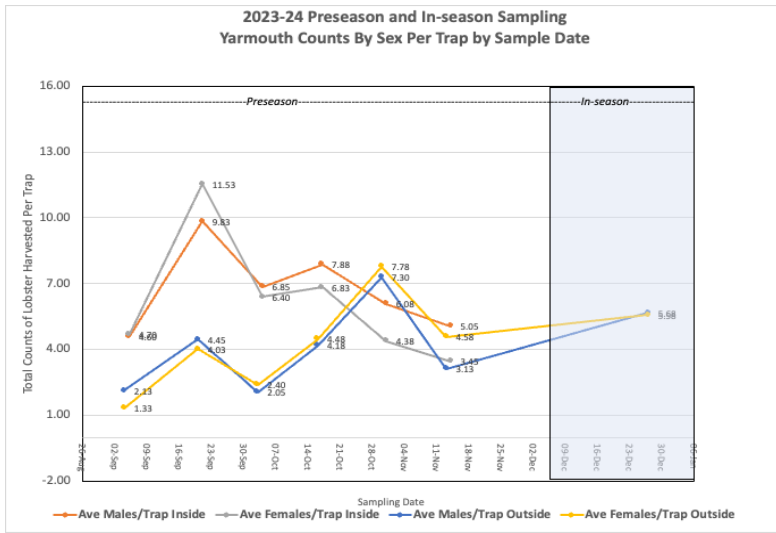
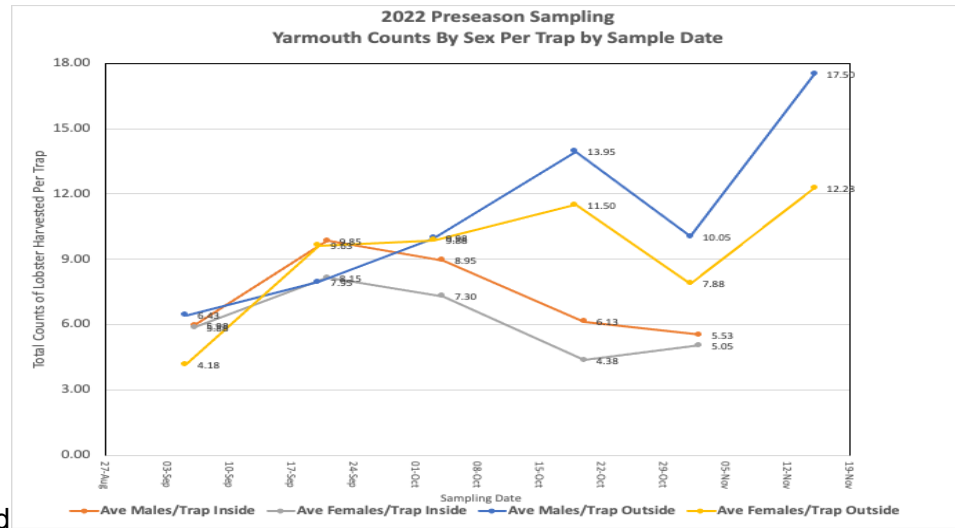


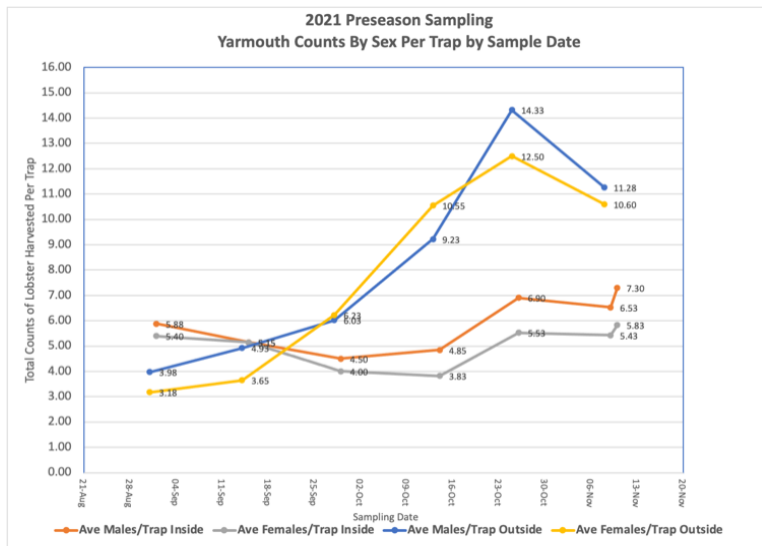
Figure 8. Preseason and In-season Yarmouth Counts by Sex per Trap for Inside/Outside locations: (a) 2025-26 and (b) 2024-25 Sample Dates



c



d



e f

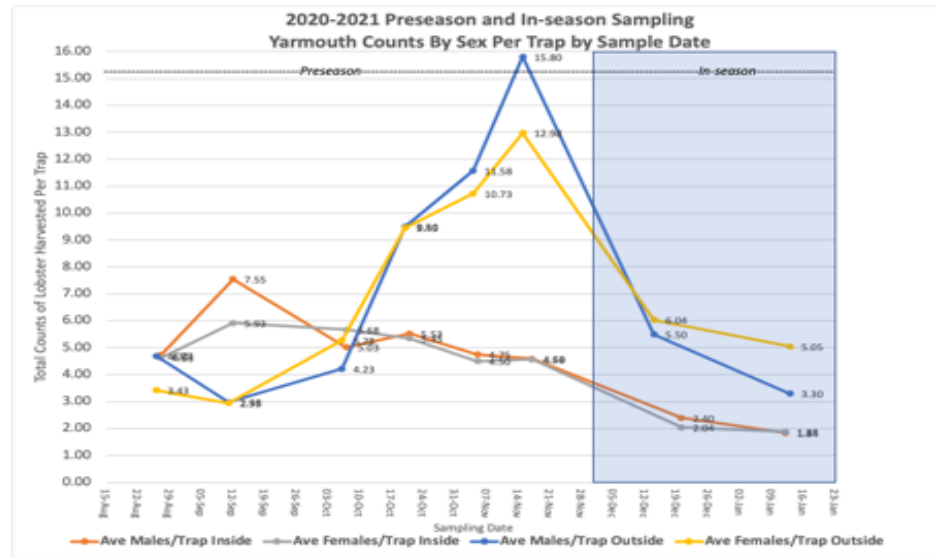


Figure 8 (cont'd). Preseason and In-season Yarmouth Counts by Sex per Trap for Inside/Outside locations: (c) 2023, (d) 2022, (e) 2021, and (f) 2020-21 Sample Dates.

(b) Counts of lobsters harvested per trap for Inside & Outside areas with BRIX averages

Preseason BRIX levels characteristically shift over the course of sampling in all areas. Figure 9 indicates the BRIX category levels for Lobster Bay. BRIX values are generally flat in both Inside and Outside areas over the preseason sampling dates (September to mid-November) and rise into the in-season period (December to February) when lobster move from post-moult into pre-moult status. Inside area BRIX averages tend to be marginally higher than Outside areas early in the sampling period. This trend reverses later in the year when average BRIX values in the Inside areas tend to fall, and Outside areas' BRIX tend to rise. This behaviour of marginal differences within years BRIX was observed in all years 2025-2020 and relatively for all areas.

In Lobster Bay, average BRIX values, both Inside and Outside, have generally risen from 2020 to 2023 as this area begins to move back to the higher BRIX level regime of the pre-2014 period. In 2025, like 2024, however, BRIX levels declined to the lower levels of 2021 and 2022.

Average counts (legal+sublegal, males+females) per trap are higher in Inside samples compared to Outside counts over the early preseason sampling dates (September-October) for all years (Figure 9abcdef). In 2025, however, average counts per trap are higher in Inside samples compared to Outside counts over all preseason sampling dates (September-November) (Figure 9a). (See also Appendix A, pp. A.2 through A.5 for 2025-26 sampling dates and locations.)

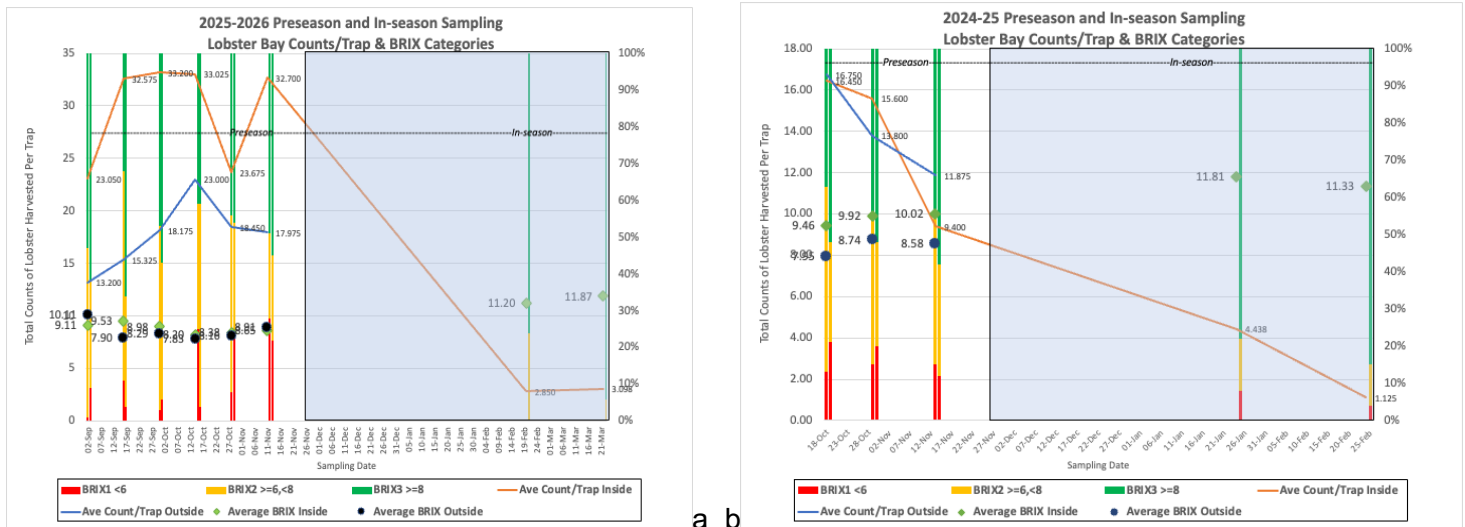
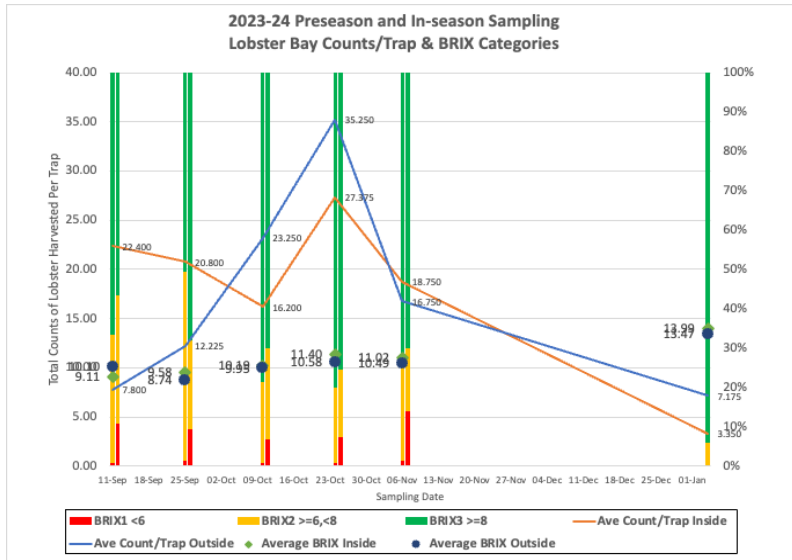
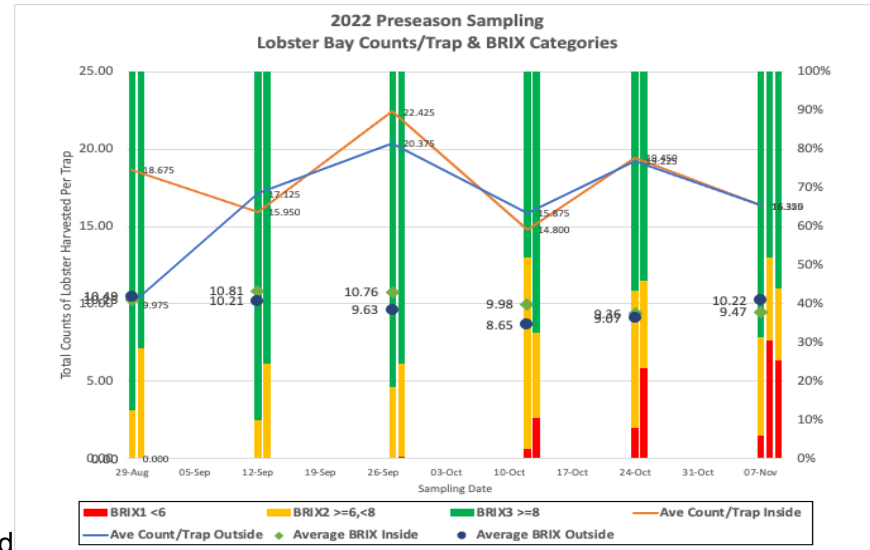


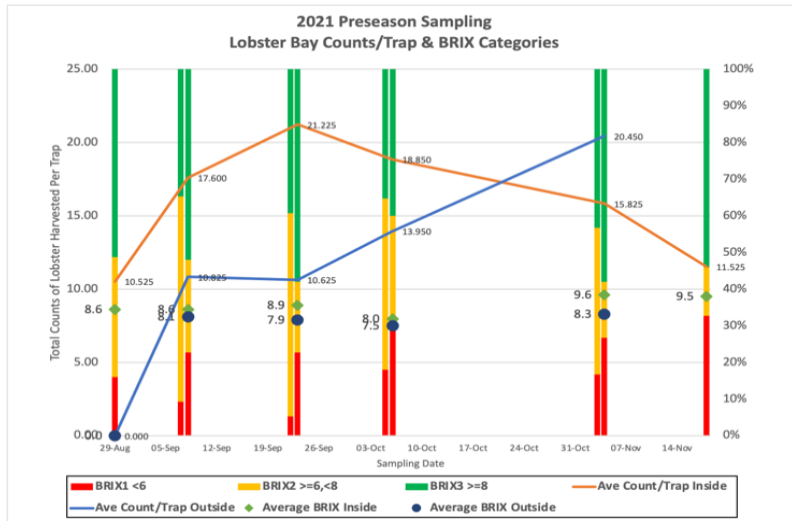
Figure 9. Preseason and In-season Lobster Bay Counts per Trap by Inside and Outside Locations and BRIX Indicators: (a) 2025-26 and (b) 2024-25 Sample Dates



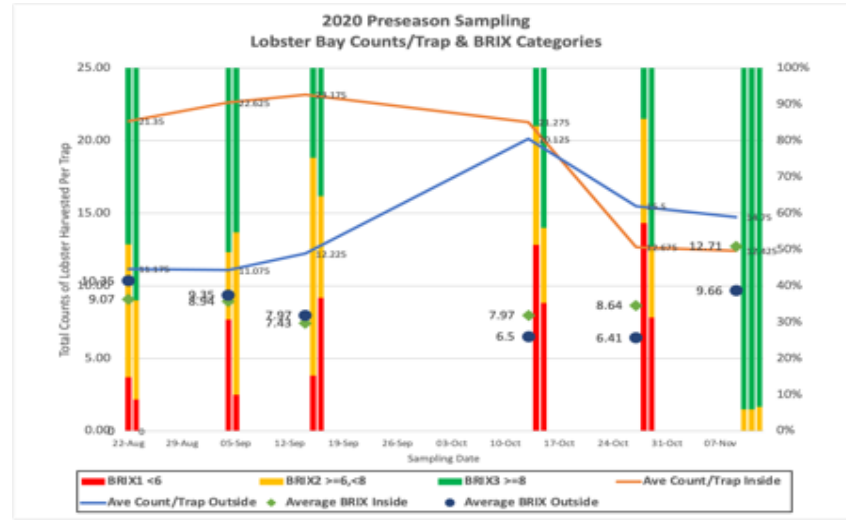
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Figure 9 (cont'd). Preseason and In-season Lobster Bay Counts per Trap by Inside and Outside Locations and BRIX Indicators: (c) 2023, (d) 2022, (e) 2021, and (f) 2020 Sample Dates.

(c) Counts of lobster sampled by Moulting Stage – Pleopod Data

As for 2020 to 2024, the 2025 preseason sampling program examined selected lobster’s moult staging through the analysis of lobster pleopod (swimmeret) data under the microscope (Figure 3). As per Factor (1995, p.223), lobster moult categories are defined as: (1) Stage 0 (C4); (2) Stage 1-2.5 (D0); (3) Stages 3+ (D1). In 2025, moult stage information was increased to 40 vials (from 30 vials, as available) for each of the 8 sampling areas and for each preseason and in-season sampling date.

Figure 10 below shows the moult stage counts data by stage for Port La Tour Outside area preseason sampling. Excluding 2025-26 and 2024-25 (Figure 10ab), Figure 10cdef illustrates that the Port La Tour (Outside) samples in the preseason and into the in-season sampling period for all 5 years result in a clear majority (90% or greater) of Stage 0 (i.e., no moult activity) samples. There are very few (less than 5 samples overall) of Stage 1-2.5 lobsters and very limited Stage 3+ observations (2) across all sample dates over all 4 historical years. In 2025-26 sampling, there were elevated numbers (12-28) Stage 1-2.5 lobsters observed in each of the Port La Tour Outside area samples. There were also several Stage 3+ observations in October 2025 samples comparable to 2024-25 sampling, whereas no Stage 3+ observations had been seen in the pleopod data since the 2021-22 samples (2).

These observations are pointed out as differences in the comparative yearly results. However, we do not speculate on the interpretation of why the observed differences may be occurring. (See also Appendix A, pp.A.2 through A.5 for moult stage information for all sampled locations in 2025-26.)

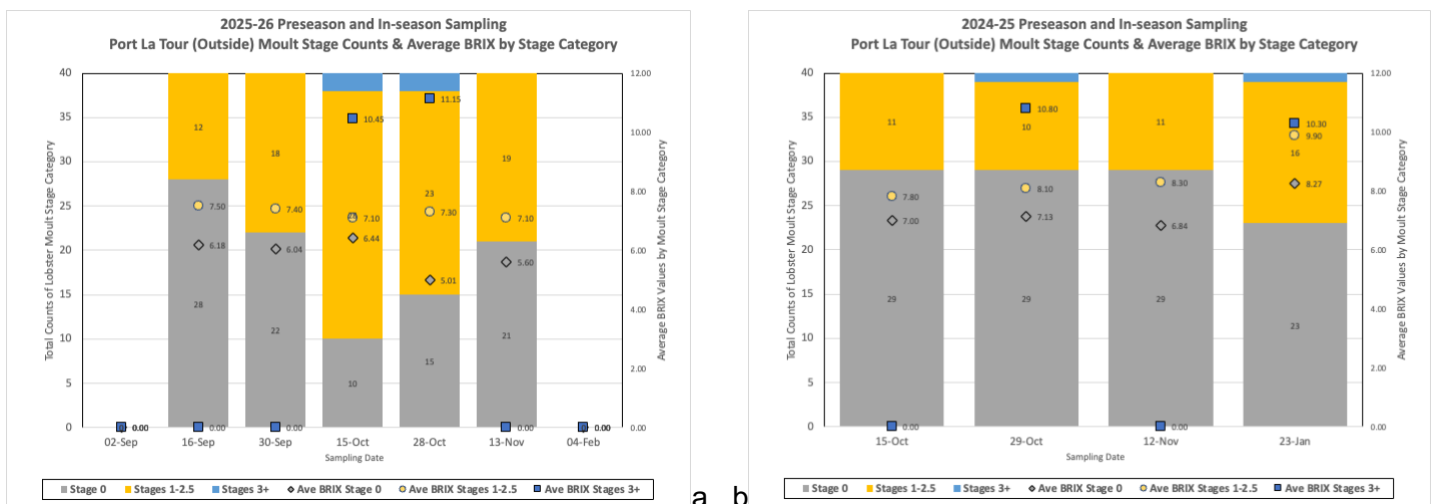


Figure 10. Preseason and In-season Port La Tour (Outside) Moulting Stage Counts & Average BRIZ by Stage Categories: (a) 2025-2026 and (b) 2024-2025 Sample Dates;

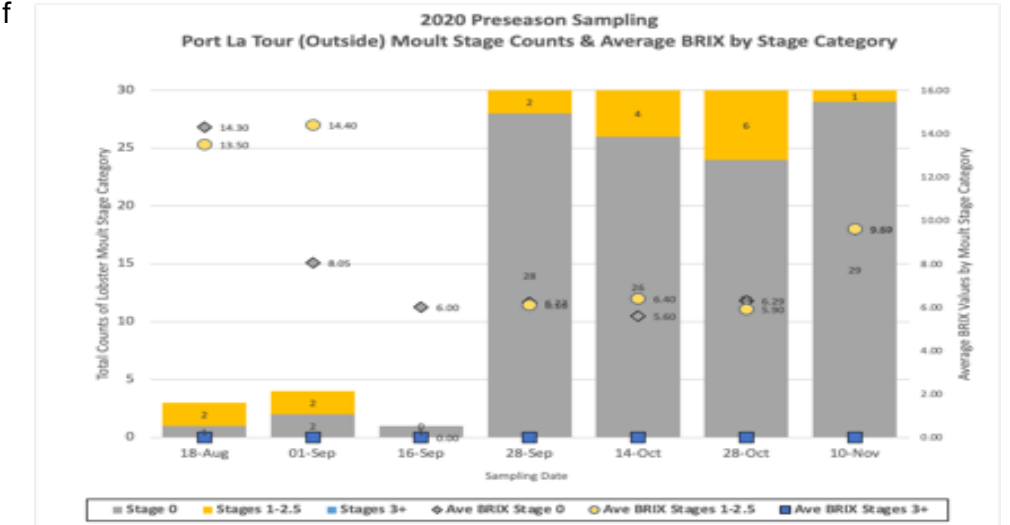
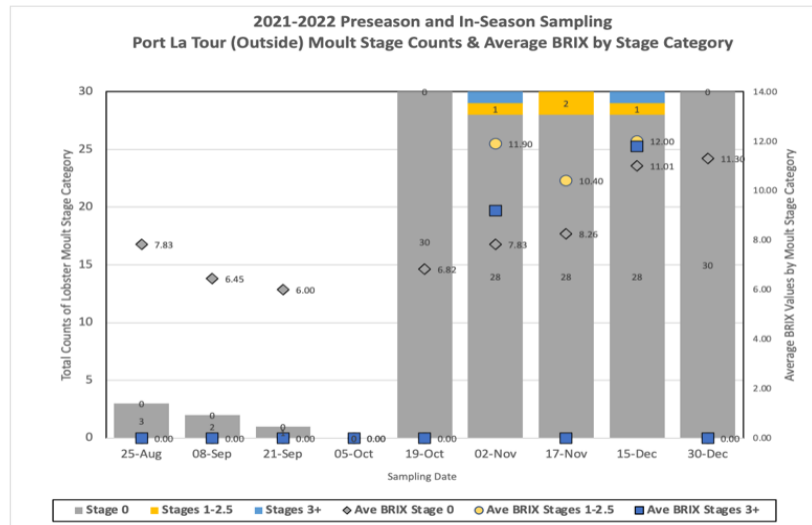
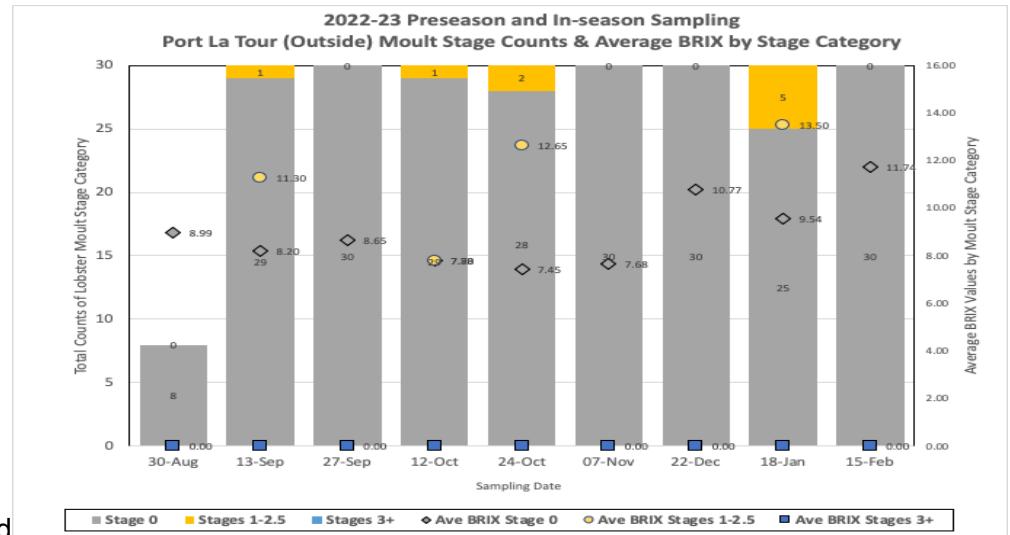
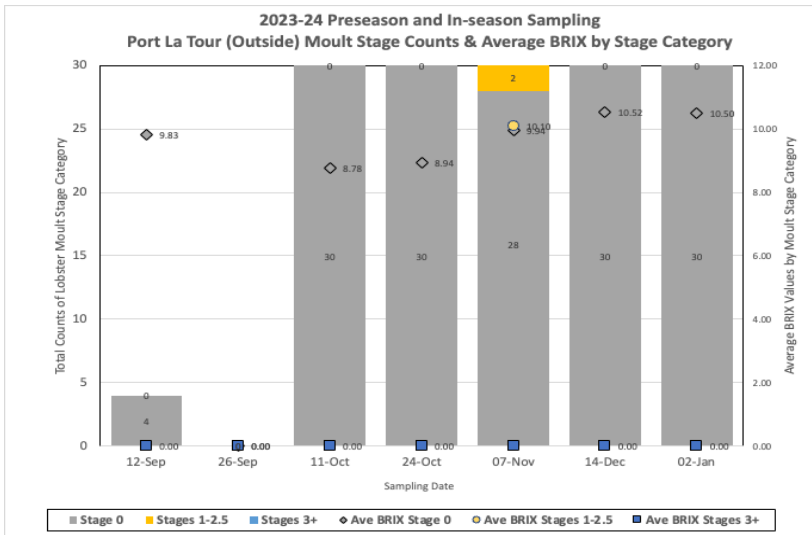


Figure 10 (cont'd). Preseason and In-season Port La Tour (Outside) Moulting Stage Counts & Average BRUX by Stage Categories: (c) 2023-2024, (d) 2022-23, (e) 2021-22, and (f) 2020-21 Sample Dates.

(d) Counts of lobsters sampled by Hardness and BRIX for Inside & Outside areas

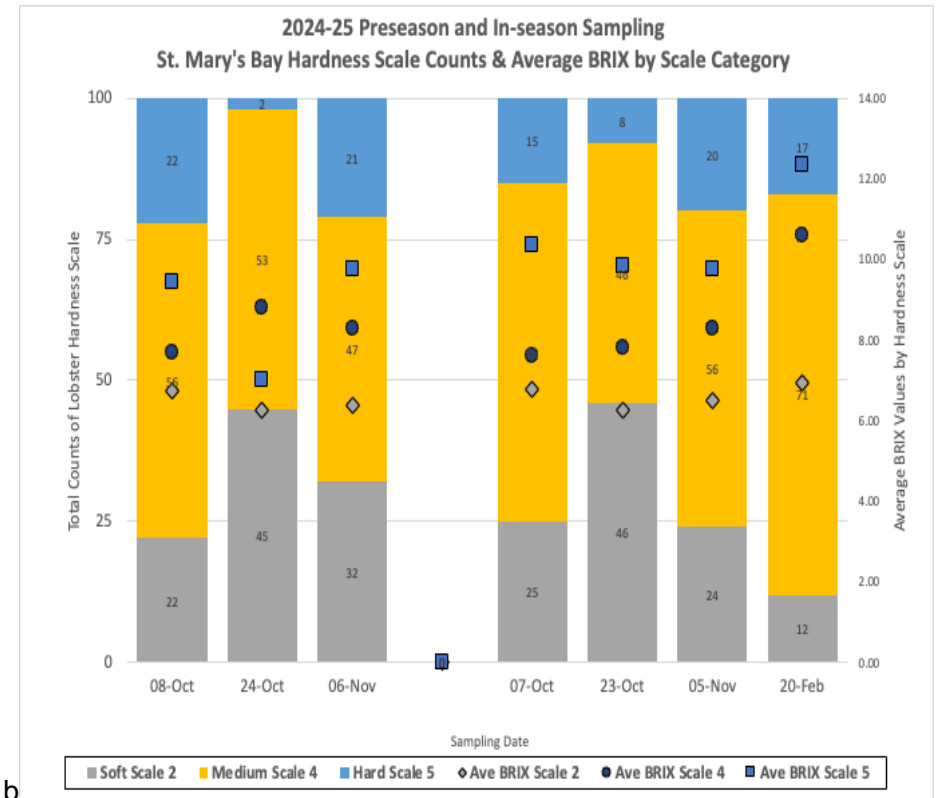
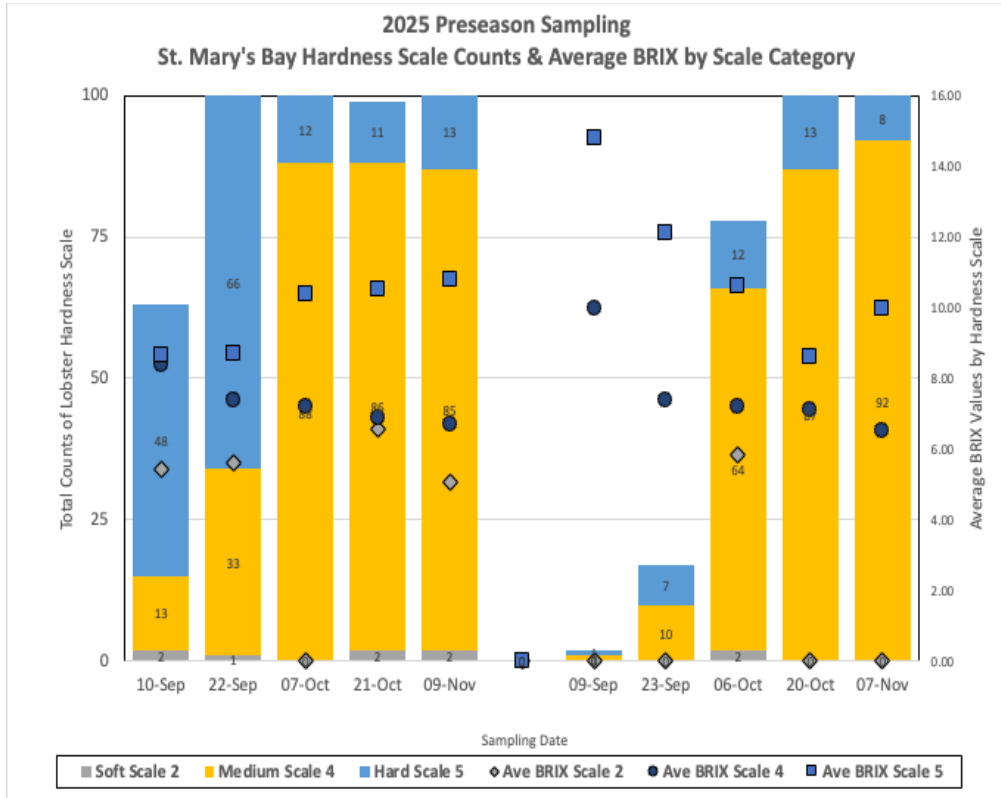
In 2025-26, lobster sampling included recording the manual hardness scale found by gently squeezing the lobster's carapace at harvest. In the 2021-20 to 2022-21 sampling programs, the evidence was that more than 90% of all sampled lobsters in all areas were recorded as "Hard" (Figure 11ef, scale "5"). However, over the more recent sampling period from 2023 to 2025 over all locations, observations reveal the decreasing numbers of lobsters are being recorded with "Hard" status than ever before in the data series.

Figure 11 below provides the hardness measure results for St. Mary's Bay Inside and Outside preseason and in-season sampling dates. In 2020-21 (Figure 11e), less than 1% of all sampled lobsters were assigned a "Soft" or "Medium" hardness level, i.e., almost all (98%+) lobster were assigned a "Hard" level. In 2021-22 sampling (Figure 11d), more "Medium" lobsters were assigned in the St. Mary's Bay samples and approximately 5% of all lobsters (Inside and Outside areas combined) were recorded as "Soft" plus "Medium" hardness (i.e., approximately 95% were Hard). In 2022-23 (Figure 11c), the percentage of "Soft" lobsters remained relatively stable at approximately 1.5%. However, the numbers of "Soft" plus "Medium" lobster in 2022-23 (Figure 11c) increased markedly in this location – and across all other locations in this year – to the highest levels seen in the database since 2006. Total Soft plus Medium lobsters in 2022-23 reached 15-16% for both Inside and Outside subareas of St. Mary's Bay (Figure 11d). This trend continued into the 2023-24 sampling period where the highest level of "Soft" plus "Medium" have been recorded exceeding 20% in both Inside (20%) and Outside (21%) subareas. In 2023-24, "Soft" lobster accounted for less than 2% in St. Mary's Bay and "Hard" were less than 80% (Figure 11c).

The shift to softer lobster is most acute in the latest 2024-25 samples (Figure 11 b). For St. Mary's Bay, "Soft" lobsters make up an average of over 30% of lobsters sampled in Inside and Outside areas, an increase of over 10 times that of the previous year. "Hard" lobsters make up only 20% of lobsters sampled in most Inside and Outside samples in 2024-25. This dramatic shift is evident across all 8 subareas and is indicative of the presence of lower quality lobster in LFAs33&34 in 2024-25.

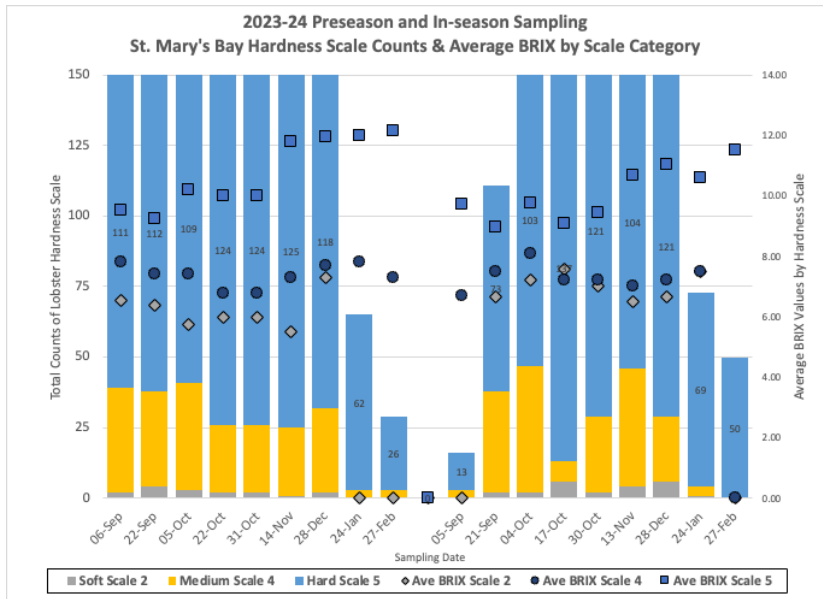
It is noted also that subjectively measured "Soft" lobster tend to have lower average BRIX values. However, the lack of variability in the hardness scale measure makes it difficult to obtain additional information about lobster quality from this subjective measure. "Soft" lobster are likely eliminated as unacceptable quality for storage and shipment – as was often the case in 2024-25.

In 2025-26, a reversal of the trend from 2020 to 2024 of increasing "Soft" lobsters appeared in samples across all locations. In St. Mary's Bay (Figure 11a, Table 6), the percentage of Soft lobster samples averaged only 2% Inside (on 5 samples) and less than 1% Outside (on 5 samples) compared to 33% (Inside) and 32% (Outside) in 2024-25. However, the percentage of Soft and Medium in 2025-26 lobsters remained significant at levels of (Figure 11a, Table 6) 53% (Inside) and 75% (Outside) compared to 85% (Inside) and (Outside) in 2024-25. (See also Appendix A.1, pp.A.2 through A.5, also contains hardness information for all sampled locations in 2025-26 sampling.)

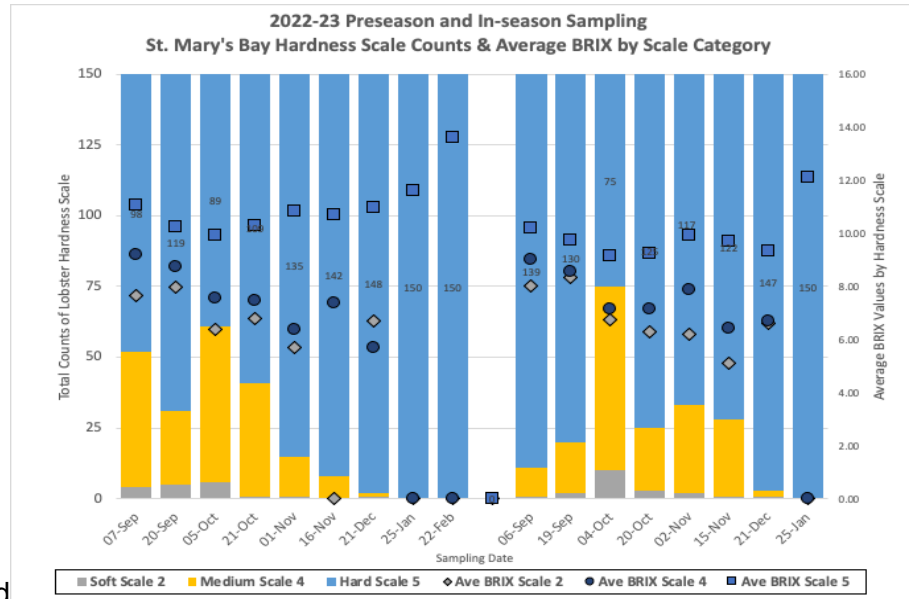


a b

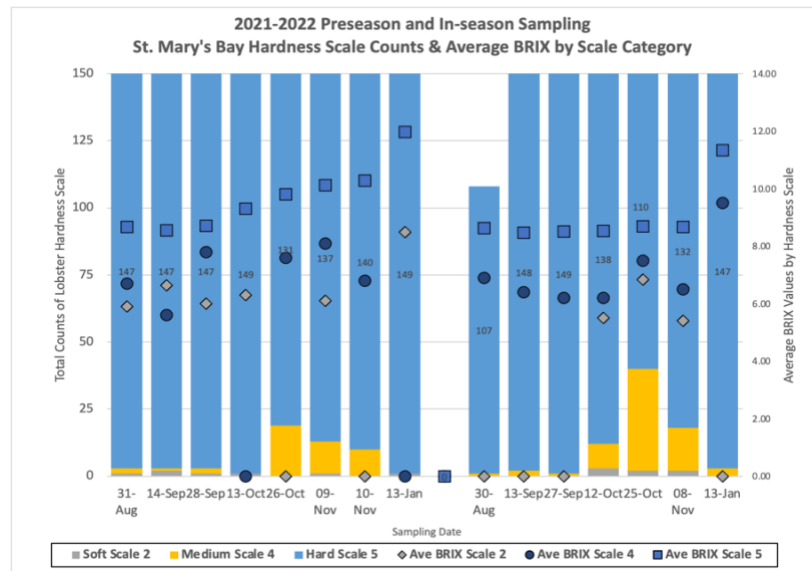
Figure 11. Preseason and In-season St. Mary's Bay (Inside and Outside) Hardness Counts per Trap & Average BRIX by Category: (a) 2025-2026 and (b) 2024-25 Sample Dates



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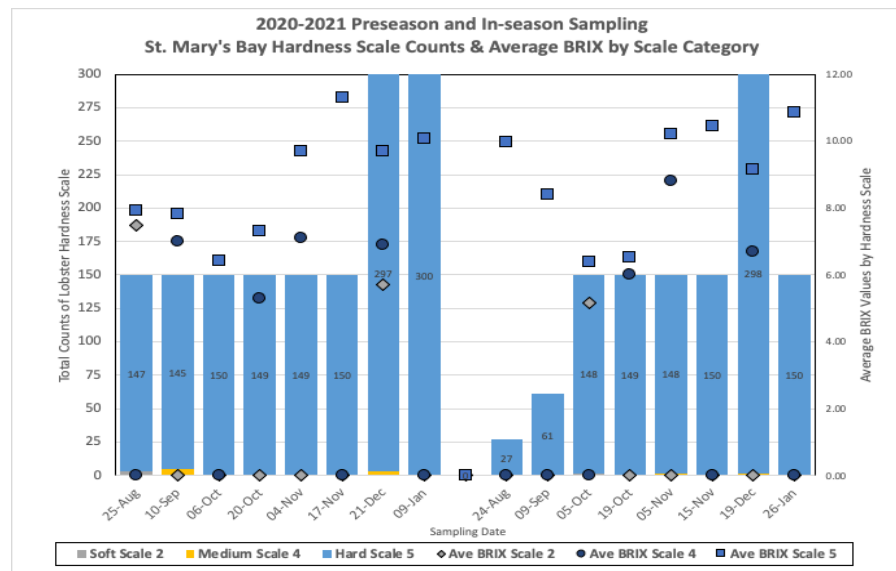


Figure 11 (cont'd). Preseason and In-season St. Mary's Bay (Inside and Outside) Hardness Counts per Trap & Average BRIX by Category: (c) 2023-2024, (d) 2022-2023, (e) 2021-2022, and (f) 2020-2021 Sample Dates.

3.1.2 Comparative Location graphics - lobster counts information

Comparative location graphics from the sampling program are as follows:

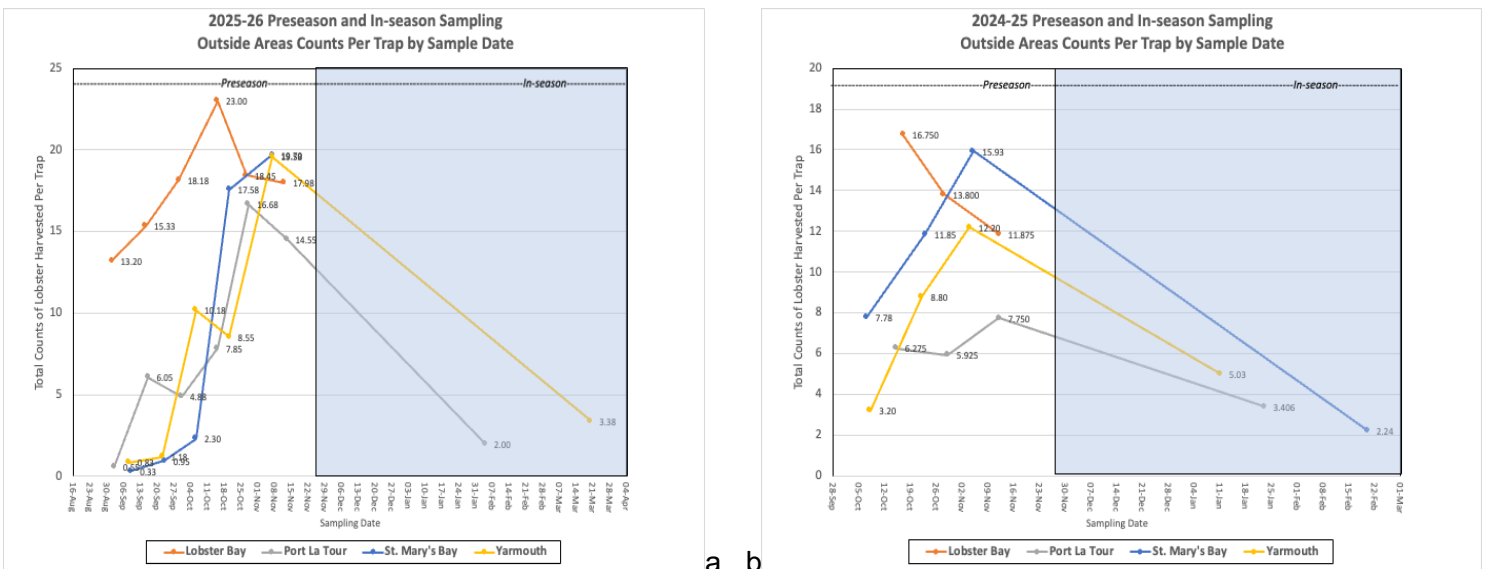
- (a) Counts of lobster harvested per trap by location for Inside areas (legal+sublegal)
- (b) Counts of lobster harvested per trap by location for Outside areas
- (c) Average BRIX per sample by location of Inside areas
- (d) Average BRIX per sample by location of Outside area

Appendix A.2 – “Comparative Location Graphics” contains the complete graphic record of this information. Selected graphics are presented in this report below and in Appendix A.2.

(a) Counts of lobster harvested per trap by location for Inside areas

Total lobster counts per unit trap (CPUT) (legal+sublegal) measure provides general information about the propensity of available lobster to enter the sampling trap. As for all years, the trend across all inside locations is for CPUT to rise in the early months of the preseason (October) and then fall by the end of the preseason sampling period in mid-November. In-season CPUT during the January-February period tends to decline due to reduced lobster catchability and commercial fishing effort to this point. Differences do exist among the different inside locations. Notably, Lobster Bay Inside has nearly twice the CPUT than the other inside locations over the preseason sampling periods although this difference was reduced in 2024 and reconfirmed in 2025.

The trend across all Outside locations is for CPUT to rise as lobster move into the Outside areas over the preseason as expected by the movement of lobster from inside to outside areas over the sampling period September to November. As for the Inside areas, Lobster Bay tends to present higher CPUT in Outside areas, especially early in the preseason, with exceptions for 2022 and 2021 when St. Mary’s Bay and Yarmouth CPUT were at their highs. This is illustrated by the trends seen in all 6 years of the 2020 to 2025 preseason periods in Figure 12abcdef for Lobster Bay Outside. Notably, from 2023 to 2025, Outside areas show a lower catch count per trap over the preseason sampling period. Once the commercial season begins, CPUT falls appreciably in the Outside areas as lobsters are fished down through more extensive commercial fishing effort.



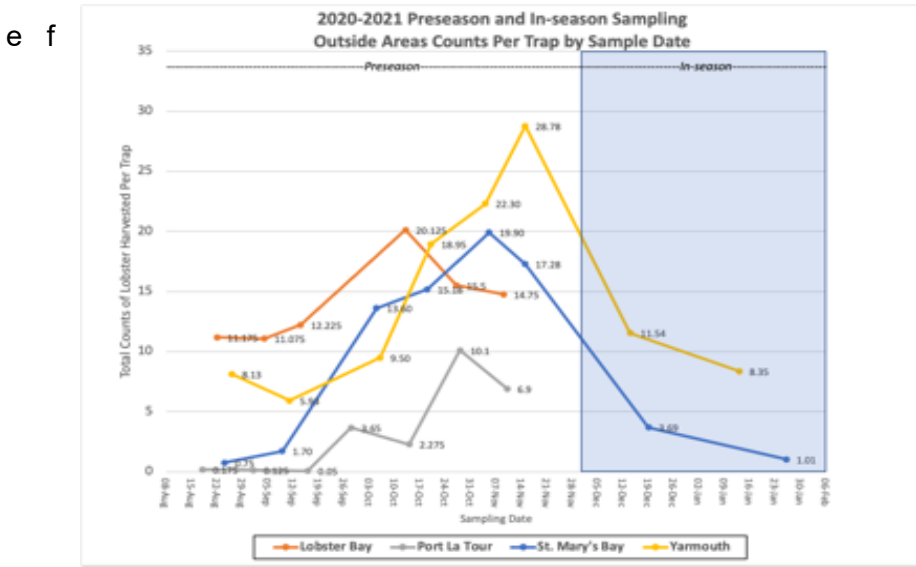
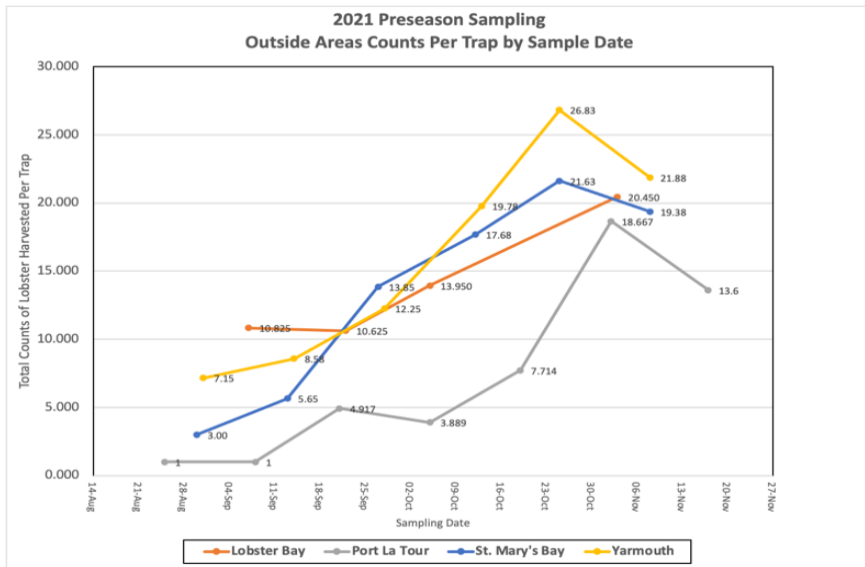
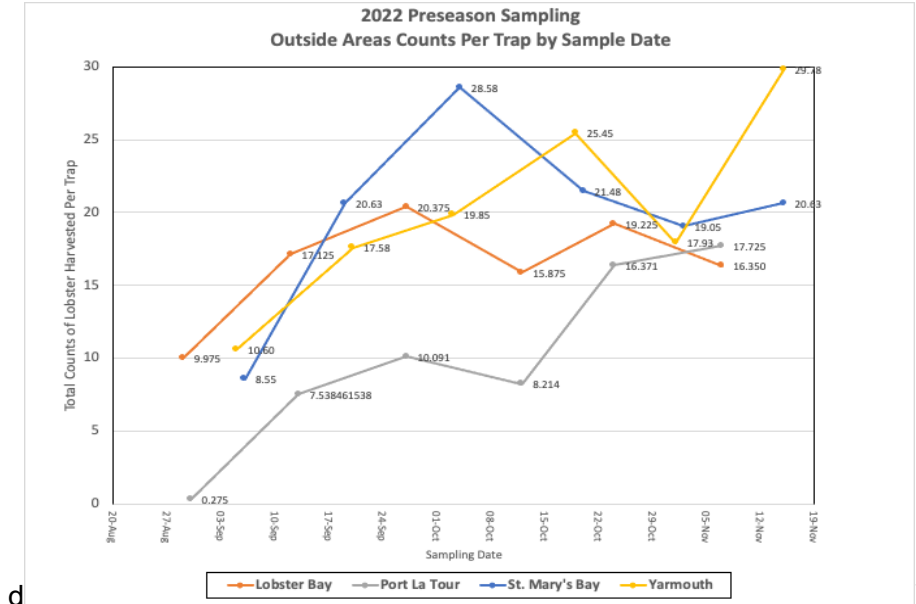
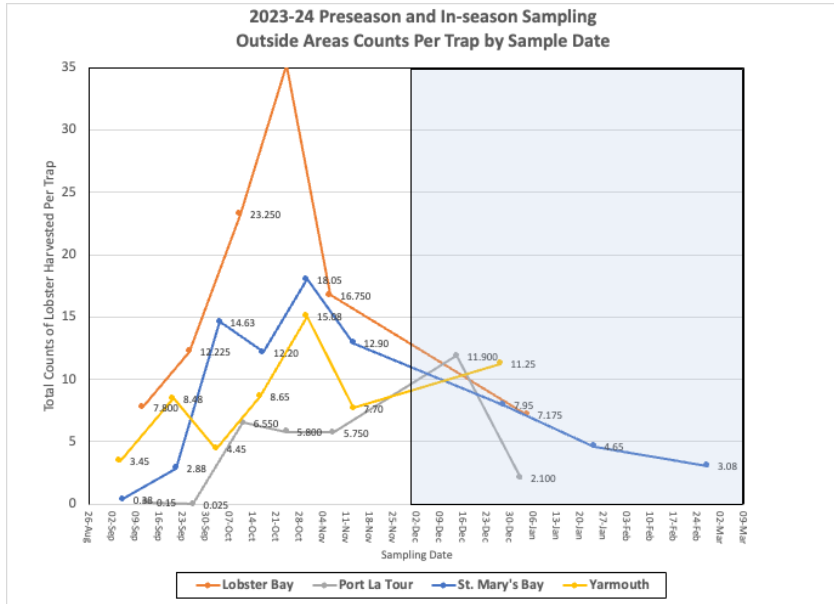


Figure 12 (cont'd). Preseason and In-season Outside Areas Counts per Trap: (c) 2023-24, (d) 2022-23, (e) 2021-22, and (f) 2020-21 Sample Dates.

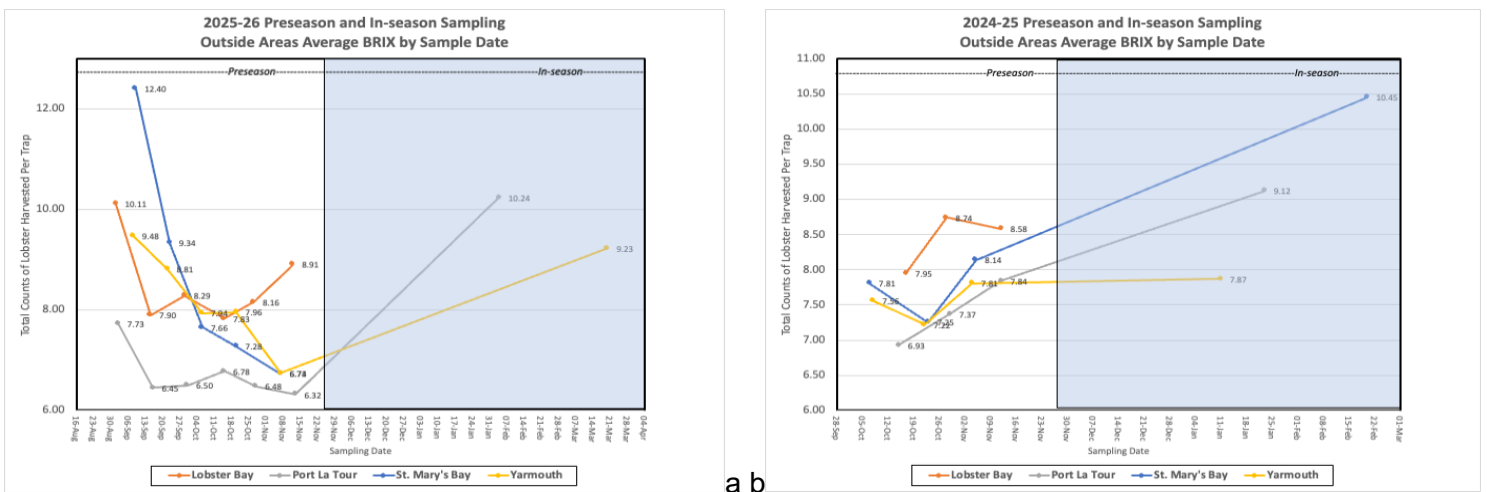
In 2025-26, lobster counts in Port La Tour samples fell in the Inside (as in 2024) and rose (in contrast to 2024 when counts here also fell) in the Outside over preseason sampling. In Lobster Bay, 2025-26 comparable counts were higher in Lobster Bay compared to the low counts of 2024. 2025 counts in St. Mary’s Bay Inside were on par with the lower counts of 2024 and 2023. Counts in Yarmouth Bar in 2025 were comparable to the low counts of 2024 there in both Inside and Outside areas. (See also Appendix A.2, p.A.6 for more details.)

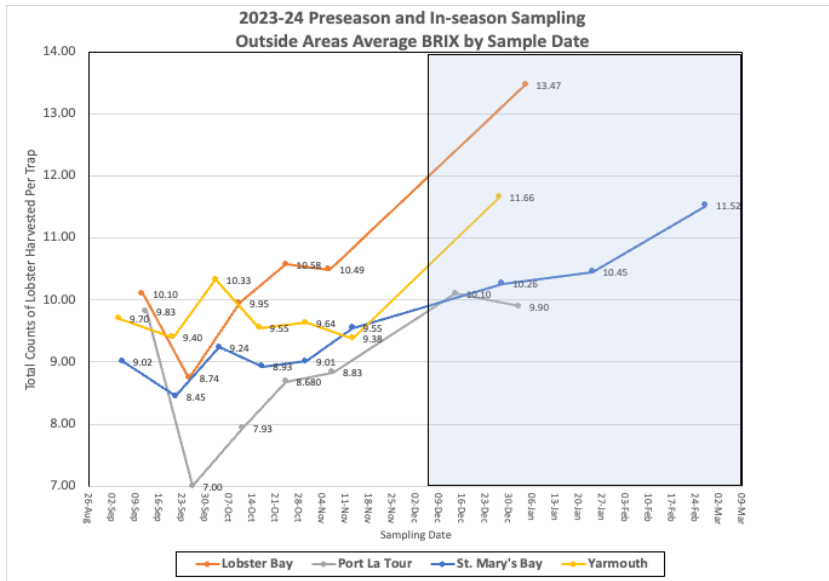
(b) Average BRIX per sample by location of Inside areas

Generally, in 2025-2026, as in the past years, Inside BRIX values are flat and/or in decline in the preseason sampling period (September and October) as lobster may be recovering from the spring-summer moult. This is expected to be followed by a significant rise thereafter to the start of the commercial season at end November and into the commercial in-season sampling periods. (Average BRIX levels in the Inside location samples are provided in Appendix A.2, p.A.6(c).)

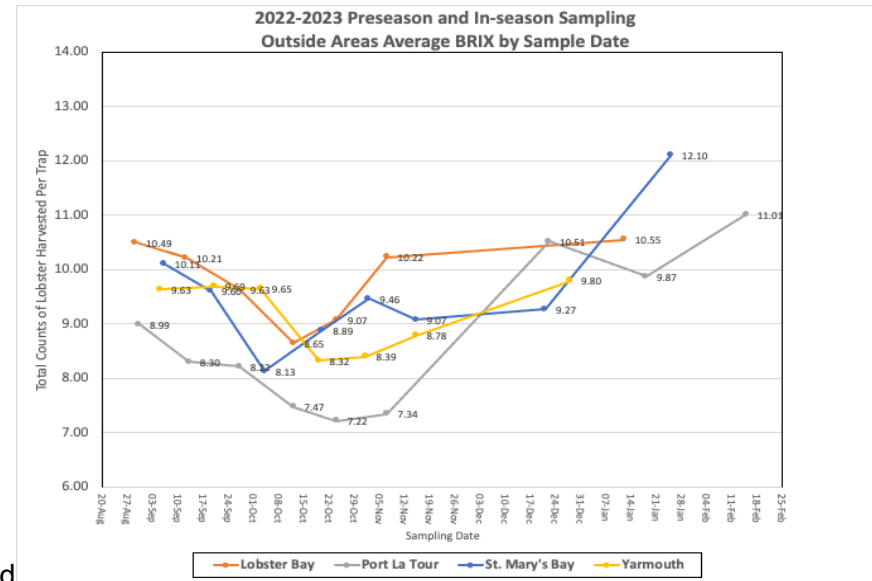
(c) Average BRIX per sample by location of Outside areas

Outside areas average BRIX values per sample tend to fall initially (September through October) as lobsters may be recovering from spring-summer moults. Thereafter, average BRIX levels remain flat through October (at levels of 7-8 units/ml) before rising by as much as 50% (to levels of 11-13 units/ml) into November across all areas and continuing into the In-season sampling periods. This dynamic behavior over all 6 years 2020 to 2025 with respect to BRIX is illustrated in Figure 13abcde below for all locations. Average BRIX levels increased from 2020-21 (Figure 13f) through 2023-24 (Figure 13c) going into the commercial fishery season at higher levels relative to past years. However, average sample BRIX have since decreased significantly in 2024-25 (Figure 13b), and remained at the lower levels in 2025-26 (Figure 13a) comparable to 2021-22 (Figure 13e) levels. (See also Appendix A.2, p.A.6(d).)

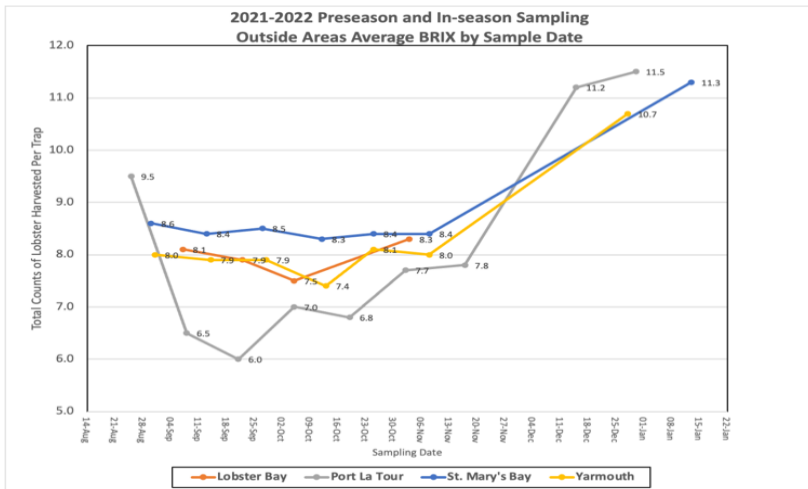




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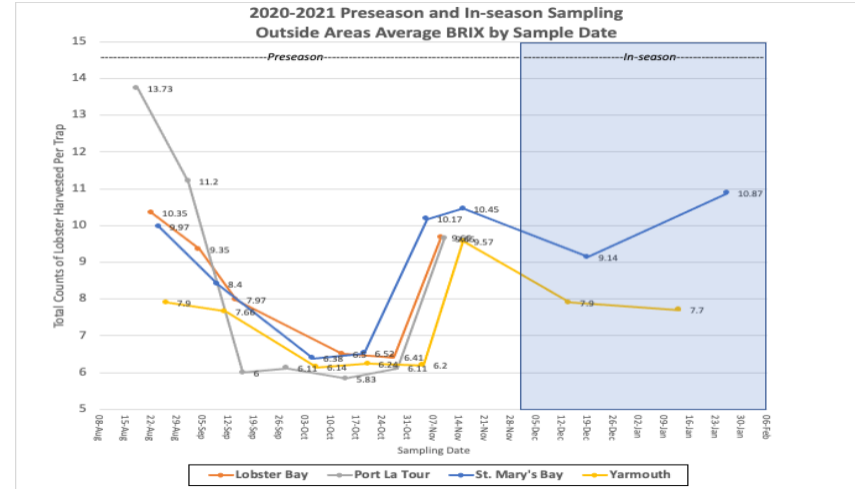


Figure13. Preseason and In-season Outside Areas Average BRIX; (c) 2023-24, (d) 2022-23, (e) 2021-22, and (f) 2020-21 Sample Dates

3.2 Berried Females Sampling for 2025-2026

Berried (egg-bearing) females were examined again in the 2025-26 preseason and in-season surveys. Each of the 48 preseason and in-season location-dates captured an average of 5.1 berried females in all moult stages or 2.5% (246) of all female lobsters captured (9,764) during the preseason and in-season sampling dates. This represents a -68% decrease in the percentage of berried females observed (7.9%) in 2024-25. In total, Outside areas accounted for 22% of total berried females collected. Lobster Bay Inside saw 208 berried females or 85% of the total in 2025-26 sampling. Only between 10-18 berried females samples were found in each of the other areas (Port La Tour, St. Mary's Bay, and Yarmouth Bar) Inside and Outside areas combined during 2025-26 sampling. Berried female analyses recorded carapace size, clutch fullness, egg stage and condition for each berried female lobster.

Data on berried females were compiled as part of the preseason and in-season sampling program in 2025-2026. This report contains summaries of the berried females information on selected harvested lobster counts. This information below includes: (1) Section 3.2.1 – berried females sampled counts information; and (2) Section 3.2.2 – berried females sampled stage counts information.

Appendix B.1 – “Location graphics – berried females sampled counts information Graphics” contains the complete graphic record of this information for all locations, Inside and Outside areas by preseason sampling dates (only 4 berried female counts were collected for the 2025-2026 in-season sampling dates). Selected graphics are presented in the report below.

3.2.1 Berried females sampled counts information (Appendix B.1)

1) Berried females sampled in 2025 and percent of harvest for Yarmouth Inside & Outside areas

The sample of berried females in Yarmouth – as for most areas – is variable with respect to counts of lobsters in stages. Most observations are Stage 1 (15 of 18 total berried females observations or 7.3% of all 246 berried females over the sampling dates) with observations between 0 and 10 berried female lobsters in a single sample. In 2025, there were zero Stage 2 and Stage 3 observations and 3 Stage 4 observations. In 2025, the percentage of Yarmouth berried females observations (18) to total females (sublegal and legal – 1806 lobsters) was 1%. These proportions are comparable to past years' overall berried female results for Yarmouth.

2) Berried females sampled in 2025 and percent of harvest for Lobster Bay Inside & Outside areas

Berried females counts in Lobster Bay accounted for 85% (208 on 246 observations) of all berried females observations across all locations (Figure 14). In 2024, Lobster Bay recorded 312 berried females over a total of 408 observations or 76%. In 2023, 198 berried females (51%) were observed, and in 2022, 94 (32%) berried females on 295 total observations. Thus, observations of berried females in Lobster Bay has been steadily increasing in the year-over-year observations.

Stage 1 counts in Lobster Bay (Inside) were at a maximum of 34 berried females in the September 16, 2025 samples and then remained near 30 berried females through mid-November (28 berried females in the November 11, 2025 samples). Inside area berried females declined considerably in in-season samples of February 20, 2025 (1 observation) and March 22, 2025 (2 observations). Figure 14 illustrates

the berried females report for Lobster Bay for 2025-26. Lobster Bay berried females in all Inside and Outside samples counts were dominated by Stage 1 observations accounting for 88% (182 on 208 total observations). There were two Stage 2 observations (one Inside and one Outside), and three Stage 3 observations (Outside). Finally, there were 21 observations of Stage 4 berried females in Lobster Bay sampling (9-Inside and 12-Outside).

3) Berried females sampled and percent of harvest for Port La Tour Inside & Outside areas

Berried female counts in Port La Tour were lowest of all areas with total counts of 10 (4% of 246 total berried females observations) with an average of less than 1 berried female in any one of the 13 samples in Port La Tour Inside (6) and Outside (7). There were zero observations of Port La Tour berried female observations in Stages 2 or 3 and only two observations in Stage 4 in 2025-26.

4) Berried females sampled and percent of harvest for St. Mary’s Bay Inside & Outside areas

The counts of berried females in St. Mary’s Bay Inside and Outside locations in 2025 were 10 berried females or 4% on 246 total observations (versus 110 observations or 28% of all observations in 2023-24). 9 of berried females observations were observed in Inside sampling with only 1 Outside observation (November 7, 2025 sample). There were no Stages 2,3 or 4 observations in St. Mary’s Bay in 2025 samples there.

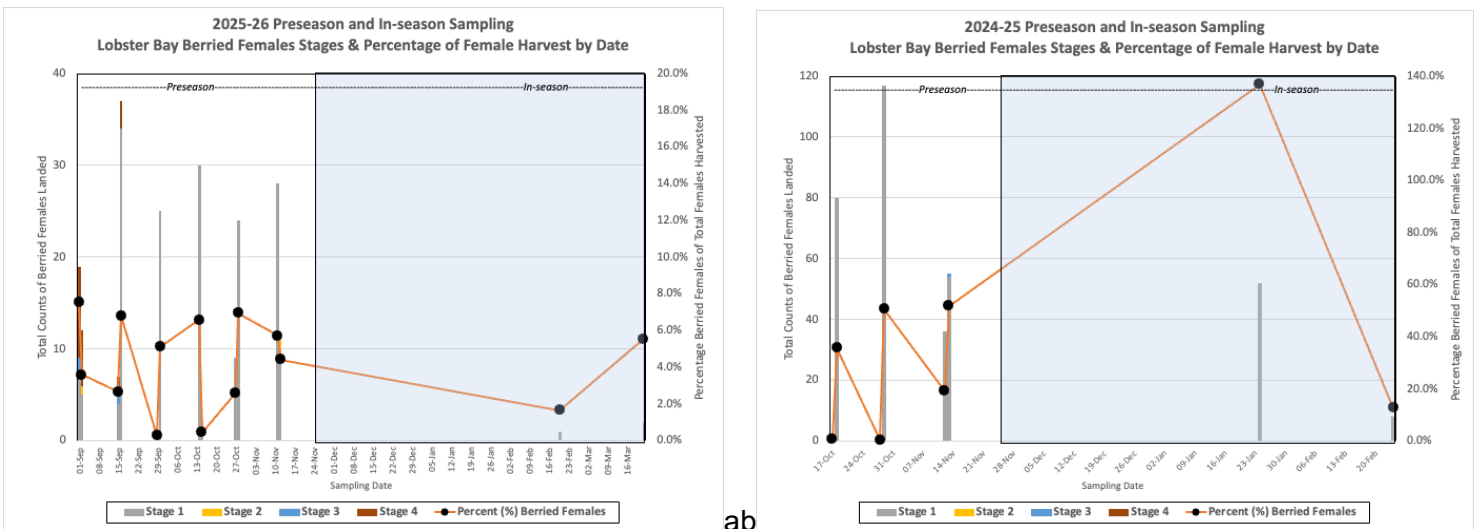


Figure 14. Preseason and In-season Lobster Bay Berried Females Stages and Percent of Female Harvest: (a) 2025-26 and (b) 2024-25 Sample Dates

3.2.2 Comparative Location Graphics – Berried female sampled stage counts information (Appendix B.2)

a) Berried females Stage 1 counts for Inside areas

Stage 1 berried females represent the largest counts of all stages for the Inside areas (78% or 191 on 246 totals). In 2025, Stage 1 inside area counts fluctuate by location with Lobster Bay (Inside) having the dominant highest counts of Stage 1 berried females by far (totals of 208 or 85% of all observations) and Port La Tour (Inside) having the lowest counts (7 or 3%). It is not possible to determine a trend over the 5 past years of data in Stage 1 counts for any location. Inside counts for past years vary from a low of 163 (2021-22) to a high of 408 (2024-25).

b) Berried females Stage 1 counts for Outside areas

Outside areas record approximately 22% of berried females observations compared to Inside areas across the 4 locations (55 on 246 total). There is no evident trend in Outside counts for any or all areas over the 2025 pre-season and in-season sampling periods. In 2025, Lobster Bay Outside has largest counts for the Outside areas (49), while Port La Tour once again had only 1 berried female count in the Outside area. Lobster Bay Outside also dominated berried females counts in 2024-25, 2023-24, 2021-22, and 2020-21 sampling.

In general, the counts of berried females over all locations and areas are expected to be low for the higher Stages 3 and 4 during the pre-season and the in-season sampling period. Appreciable counts of higher moult stages climb significantly and are expected to be seen before the sampling period (in the Spring of the year, March-May) and after the end of the commercial season in LFAs33 and 34 when lobster eggs are released during the months of June and July and before the September-October sampling dates. Low counts of Stage 3 and 4 berried females are more of a concern after the end of the commercial season (i.e., in June and July). They are not a concern for the start of the commercial season (November-December). These data are recorded here for potential use with in-season observations aligned with the lobster moulting cycle during Spring and Summer months.

Table 7 provides the record of berried females observations over all 8 subareas of the 2025-26, 2024-25 and the 2023-24 sampling programs. The table includes total counts of sampled females (legal and sublegals) as well as the count of berried females.

The percentage of berried females per sample was 7% berried female lobsters in 2023-24; 14% in 2024-25; and 5% in 2025-26. As a percentage of overall total female lobster counts (sublegals+legals), there were 2.5% berried females observed in 2025-26 versus 7.9% berried females in 2024-25, and 3.4% berried females in 2023-24 (Table 7).

Table 7. Berried Females in 2025-26, 2024-25 and 2023-24 by Subarea

Sampling Subarea of LFA	Site#	Locations	2025-26			2024-25			2023-24		
			Sampling Dates	Total Counts*	Berried Females	Sampling Dates	Total Counts*	Berried Females	Sampling Dates	Total Counts*	Berried Females
Lobster Bay LFA 34	1	Inside	02-Sep	333	12	18-Oct	223	80	12-Sep	336	12
			16-Sep	544	37	29-Oct	231	117	26-Sep	294	14
			30-Sep	488	25	13-Nov	106	55	11-Oct	243	44
			14-Oct	455	30	24-Jan	38	52	25-Oct	356	54
			28-Oct	345	24	24-Feb	62	8	07-Nov	226	43
			11-Nov	490	28				04-Jan	51	3
			20-Feb	60	1						
		22-Mar	36	2							
			2751	159		660	312		1506	170	
	2	Outside	01-Sep	251	19	17-Oct	319	2	11-Sep	154	8
			15-Sep	262	7	28-Oct	221	1	25-Sep	272	4
			29-Sep	356	1	12-Nov	187	36	10-Oct	532	10
			15-Oct	433	2				24-Oct	742	0
			27-Oct	345	9				06-Nov	331	5
12-Nov			248	11				04-Jan	154	1	
				1895	49		727	39		2185	28
Port La Tour LFA 33	3	Inside	03-Sep	158	1	16-Oct	163	0	13-Sep	79	1
			17-Sep	212	1	30-Oct	137	10	27-Sep	187	0
			01-Oct	118	0	13-Nov	149	3	12-Oct	126	1
			16-Oct	132	2	23-Jan	130	1	25-Oct	125	1
			29-Oct	107	4				08-Nov	79	3
			14-Nov	65	0				14-Dec	218	2
					792	8		579	14		868
	4	Outside	02-Sep	11	0	15-Oct	124	0	12-Sep	3	0
			16-Sep	95	1	29-Oct	113	0	26-Sep	1	0
			30-Sep	89	0	12-Nov	135	0	11-Oct	128	1
			15-Oct	140	0	23-Jan	90	1	24-Oct	109	0
			28-Oct	315	0				07-Nov	120	0
			13-Nov	289	1				14-Dec	298	5
			04-Feb	28	0				02-Jan	61	0
		967	2		462	1		720	6		
St. Mary's Bay LFA 34	5	Inside	10-Sep	42	0	08-Oct	334	0	06-Sep	142	3
			22-Sep	151	3	24-Oct	266	2	22-Sep	249	7
			07-Oct	96	0	06-Nov	219	10	05-Oct	255	7
			21-Oct	208	1				22-Oct	299	17
			09-Nov	317	5				31-Oct	209	18
									14-Nov	109	39
									28-Dec	201	7
			814	9		819	12		1576	98	
	6	Outside	09-Sep	4	0	07-Oct	181	0	05-Sep	8	1
			23-Sep	20	0	23-Oct	219	0	21-Sep	79	1
			06-Oct	52	0	05-Nov	288	5	04-Oct	390	2
			20-Oct	334	0	20-Feb	97	3	17-Oct	303	0
			07-Nov	329	1				30-Oct	390	1
									13-Nov	209	6
								28-Dec	159	1	
						24-Jan	84	0			
						27-Feb	66	0			
		739	1		785	8		1688	12		
Yarmouth LFA 34	7	Inside	09-Sep	163	1	09-Oct	251	4	05-Sep	188	1
			23-Sep	116	10	23-Oct	171	5	21-Sep	461	3
			07-Oct	178	1	05-Nov	105	4	04-Oct	256	4
			21-Oct	220	0				17-Oct	273	7
			09-Nov	285	3				31-Oct	175	10
									14-Nov	138	6
					962	15		527	13		1491
	8	Outside	08-Sep	12	0	08-Oct	72	0	04-Sep	53	0
			22-Sep	20	0	22-Oct	192	1	20-Sep	161	5
			06-Oct	225	1	04-Nov	243	3	03-Oct	96	2
			20-Oct	160	1	11-Jan	100	5	16-Oct	179	6
			07-Nov	374	0				30-Oct	311	1
			20-Mar	53	1				13-Nov	183	1
					844	3		607	9		223
								1206	33		
			2025-26			2024-25			2023-24		
	#Sites	Sampling Dates	Total Counts*	BerFemale Counts	Sampling Dates	Total Counts*	BerFemale Counts	Sampling Dates	Total Counts*	BerFemale Count	
TOTALS	8	48	9764	246	30	5166	408	57	11240	387	

*Total Counts are all legal and sublegal female lobsters captured in sampling traps.

3.3 Temperature Data

It is recognized that collecting continuous data on bottom temperatures on the lobster fishing areas would provide valuable information and assist in making prediction models for the lobster moult cycle as a key determinant of lobster behaviour. Bottom temperatures are known triggers for moulting, lobster movement (Inside to Outside areas). Bottom temperature data have long been considered to be important triggers to understanding lobster dynamics, including signalling the beginning of the moult process, lobster catchability, i.e., the likelihood of lobster coming out to traps, as well as conducive conditions for epizootic shell disease in lobster.

For the first time in the 2024 preseason surveys, feedback was provided on available temperature information at sampling site locations. This information includes set and haul water surface temperatures compiled by captains and the Data Collection Technician on-board vessels, as well as (and where available) detailed soak times and soak time bottom temperature data downloaded from attached HOBO temperature loggers on sampling traps. Bottom temperature data recorded at regular intervals (1 to 3 hours) are downloaded and summarized as average, maximum, and minimum temperatures during sampling soak time periods as reported in Table 8 below.

In 2024-25 and 2025-26, not all sample locations-dates bottom temperature data were retrievable due to issues related to the HOBO temperature logger attached to sampling traps, and the capacity of captains to record temperature data. Bottom temperature data are presented where available for observational input and reader feedback. Compilation of these data marks a key starting point for future lobster analyses and research on temperature impacts on the lobster resource.

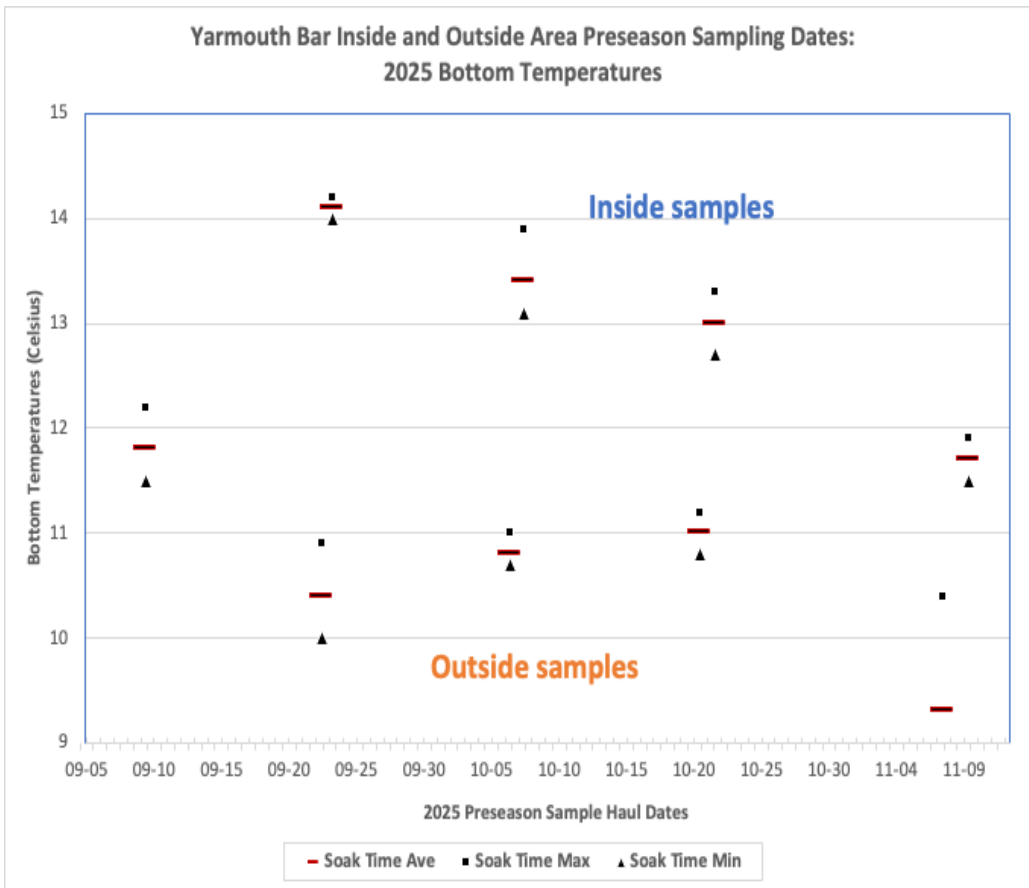
Table 8 presents the available surface and bottom temperature information for the 2025 and 2024 preseason sampling programs. The observational data provide a snapshot of the status of the bottom ecosystem that impact lobster status and catchability. It is recognized that the date and location of sampling, and the depth of sample traps impact the observations of temperature data. For example, it is noted in Table 8 that for all sampling locations, average bottom temperatures for Inside areas generally exceed those for Outside areas (see also Figure 15 for Yarmouth Bar). This is attributable to shallower Inside and deeper Outside bottom depths for similar dates.

Further, average temperatures are impacted by sample trap string depth. It is noted that the column "String Depth (F)" in Table 8 refers to the recorded depths of String #1 of the sample traps locations from the dataset. (See also Figure 5 above, Preseason and In-season Sampling Map and precise sample longitude and latitude locations.)

Table 8. 2025-26 and 2024-25 Preseason and In-season Sampling Temperature Data Summary

LFA Subarea 2025 vs 2024	Site Location	2025-26					2024-25					Year-over-Year Differences				
		Set Date/ Time*	Set Surface Temp (°C)	String Depth (F)	Soak Time (Hrs:Mins)	Soak Time Ave Bottom Temp (°C)	Set Date/ Time*	Set Surface Temp (°C)	String Depth (F)	Soak Time (Hrs:Mins)	Soak Time Ave Bottom Temp (°C)	Set Surface Temp (°C)	String Depth (F)	Soak Time (Hrs:Mins)	Soak Time Ave Bottom Temp (°C)	
Lobster Bay LFA 34	Inside	09-01 12:40	15.8	18.38	19:11	15.1										
		09-15 12:38	16.0	19.05	20:37	16.3										
		09-29 12:25	16.7	18.38	20:30	18.7										
		10-12 16:25	15.3	18.73	31:35	14.6	10-17 12:35	14.4	19.38	19:05	13.5	0.8	(0.6)	12:30	1.1	
		10-27 12:35	14.5	19.28	11:25	13.7	10-28 12:45	12.1	17.25	18:55	11.2	2.4	2.0	7:30	2.5	
		11-09 8:00	12.7	17.41	40:00	12.0	11-12 9:10	10.4	19.50	21:25	9.7	2.2	(2.1)	18:35	2.3	
		02-17 5:00	-	20.35	72:45	-	01-12 7:00	-	10.67	293:00	N/A	-	9.7	220:15	-	
	03-18 4:15	-	16.44	95:45	-	01-24 7:00	2.0	9.68	749:00	N/A	-	6.8	653:15	-		
	Outside	08-31 9:50	14.9	28.33	21:51	15.7										
		09-14 9:29	12.9	31.53	25:31	13.0										
		09-28 9:10	14.2	32.28	24:15	11.5										
		10-14 11:10	12.6	34.15	28:00	12.0	10-15 9:00	13.2	31.35	48:10	11.8	(0.7)	2.8	20:10	0.2	
		10-26 9:20	14.5	33.15	24:00	14.0	10-27 1:50	11.2	30.38	31:25	10.6	3.3	2.8	7:25	3.4	
		11-11 10:40	11.0	25.73	13:20	10.5	11-10 8:55	9.9	30.20	45:10	9.2	1.1	(4.5)	31:50	1.3	
Port La Tour LFA 33	Inside	09-02 0:00	-	8.37	24:00	-										
		09-16 16:00	19.0	10.60	15:30	26.8										
		09-30 15:00	17.4	10.60	16:26	12.8										
		10-15 10:00	14.6	10.60	14:00	14.0	10-15 10:00	12.8	10.23	20:50	N/A	1.8	0.4	6:50	-	
		10-28 15:30	11.7	10.30	16:10	14.1	10-29 15:10	9.2	10.65	15:20	8.4	2.5	(0.4)	0:50	5.7	
		11-13 8:30	8.4	10.30	23:30	8.5	11-12 15:00	9.6	12.63	19:30	N/A	(1.2)	(2.3)	4:00	-	
	Outside	09-01 8:00	18.5	34.90	16:00	N/A										
		09-15 8:30	17.9	34.58	29:45	23.4										
		09-29 10:00	19.1	34.53	27:00	13.6										
		10-14 14:39	15.8	34.43	17:31	6.3	10-14 8:30	13.6	35.65	25:00	N/A	2.2	(1.2)	7:29	-	
		10-27 8:00	14.0	34.43	16:00	5.7	10-28 20:20	11.3	36.13	16:33	4.5	2.7	(1.7)	0:33	1.2	
		11-09 6:15	8.9	34.43	99:45	5.6	11-11 8:15	10.1	35.50	29:00	4.3	(1.2)	(1.1)	70:45	1.3	
01-29 7:45	2.2	34.25	143:00	-	01-18 7:00	-	34.94	125:00	N/A	-	(0.7)	18:00	-			
St. Mary's Bay LFA 34	Inside	09-09 15:30	-	31.95	17:45	11.1										
		09-21 8:30	-	36.75	31:15	13.2										
		10-06 16:21	-	33.00	21:54	11.9	10-07 11:30	-	31.95	19:18	N/A	-	1.1	2:36	-	
		10-20 16:40	-	32.75	17:50	11.9	10-23 16:40	-	36.75	17:11	11.0	-	(4.0)	0:39	0.9	
		11-07 18:55	-	32.25	40:25	10.7	11-05 15:30	-	38.00	17:51	10.1	-	(5.8)	22:34	0.6	
	Outside	09-08 10:30	-	49.75	13:30	N/A										
		09-22 16:08	-	50.75	21:37	10.8										
		10-05 8:45	-	51.88	30:30	10.7	10-06 9:29	-	49.75	23:31	N/A	-	2.1	6:59	-	
		10-19 8:38	-	52.00	31:22	10.7	10-22 8:15	-	50.75	30:55	N/A	-	1.3	0:27	-	
		11-02 10:20	-	54.00	128:50	10.8	11-04 8:55	-	49.25	27:21	9.8	-	4.8	101:29	1.0	
01-29 7:00	-	61.53	533:00	N/A												
Yarmouth LFA 34	Inside	09-08 10:25	-	22.75	21:55	12.2										
		09-22 10:50	-	23.75	19:50	14.2										
		10-06 10:00	-	20.75	23:15	13.9	10-08 16:00	-	22.75	18:08	15.2	-	(2.0)	5:07	(1.3)	
		10-20 10:30	-	23.25	26:45	13.3	10-22 11:00	-	23.75	21:11	12.1	-	(0.5)	5:34	1.2	
		11-07 12:00	-	23.00	43:10	11.9	11-04 13:10	10.0	23.75	18:50	10.6	-	(0.8)	24:20	1.3	
	Outside	09-07 8:00	-	49.75	16:00	N/A										
		09-21 8:40	-	40.25	24:35	10.9										
		10-05 8:00	-	40.00	25:15	11.0	10-07 8:45	-	49.75	28:15	N/A	-	(9.8)	3:00	-	
		10-19 8:25	-	38.50	24:55	11.2	10-21 7:30	-	40.25	24:00	10.4	-	(1.8)	0:55	0.8	
		11-02 8:45	-	48.00	121:51	10.4	11-03 9:45	-	52.75	23:30	9.7	-	(4.8)	98:21	0.7	
03-15 6:30	-	49.30	124:06	-	12-30 7:00	-	52.25	287:45	N/A	-	(3.0)	-	-			

N/A - Temperature logger data not available/not recorded.
 *Times, as available, for set, soak time and string depth refer to String 1.
 **NB: Minimum Bottom Temperature for this location were at actual depths of greater than 50F in 2024 samples.



In all areas – with the exception of the Yarmouth Bar (Figure 15) sample of October 6, 2025 versus October 8, 2024 – 2025 average bottom temperatures are warmer over all Inside and Outside sites for comparable dates in 2024 (Table 8, “Differences- Soak Tuime Average Bottom Temperatures”).

On average, Lobster Bay and Port La Tour areas are over +2 degrees Celsius warmer on average whereas St. Mary’s Bay and Yarmouth Bar are only marginally warmer (less than 1 degree Celsius on average).

Figure 15. Yarmouth Bar Samples Bottom Temperature Information

In Yarmouth Bar, 2025 bottom average temperatures (Figure 15) on comparable dates vary between + and -1.3 degrees Celsius different from the 2024 bottom temperature averages. Overall, Yarmouth Bar bottom temperature averages are +0.5 degrees warmer in 2025 compared to 2024. It is notable that Yarmouth Bar temperatures in 2024, especially in the Outside sites, were considered by industry sources to be colder than normal. It appears from these data that bottom temperatures for Yarmouth Bar (Outside) may have warmed slightly in 2025 compared to 2024.

4 Preseason Comparative Years Analysis and Predictors

In the summary report presented prior to the start of the 2025-26 commercial season (Thomas, Mulock and Lane 2025), the 2025 Preseason Summary highlights were summarized for: (1) BRIX level values; (2) lobster counts per trap; (3) lobster carapace hardness ‘soft’ and ‘medium’ values; and (4) percent weak lobsters in the samples. This section compares the 2025 preseason lobster quality indicators with those of the five previous annual reports, 2020 to 2024.

Table 9 (Section 4.5) below presents the predictor values for the summary lobster quality indicators for the start of the 2025-2026 commercial season as presented in the November 2025 preseason report (Thomas, Mulock, and Lane 2025). In the current report, the Table 9 predictions are corroborated with the historical preseason indicators and the 2025 in-season sampling observations presented in Section 6 below.

4.1 BRIX Level Values

In 2025, Inside area average BRIX levels per sample tended to fall over the preseason sampling dates from September through to the end of sampling period in mid-November. Average levels vary by location from a low of 5.35 mg/ml (St. Mary’s Bay in 1 September samples) to a high of 11.87 mg/ml (Lobster Bay in 22 March, 2026 samples). Average BRIX are indicative of marginally “Good” BRIX (≥ 8 mg/ml) across all Inside locations and sampling dates in 2025-26 with the exception of Port La Tour (Inside) at average BRIX of 7.2. Similarly, Outside average BRIX levels across all areas also fall over the preseason period to mid-November before rising substantially into February and March 2026 in-season samples. In Outside areas, average BRIX vary between low levels of 6.32 mg/ml (Port La Tour in 13 November, 2025 samples) to a high of 12.4 mg/ml (St. Mary’s Bay in 9 September, 2025 samples).

In Figure 16, BRIX values are shown for St. Mary’s Bay and Yarmouth and include samples for both Inside and Outside areas and for each of the indicated years 2020 to 2025. In the case of St. Mary’s Bay (Figure 16a), overall BRIX values generally rise from 2020 to 2022. However, in 2023 and 2024, St. Mary’s Bay BRIX values decline. Overall average BRIX fall from a high of 10-12 in 2022-23, to 9.5 in 2023-24 to below 9 in 2024-25. For St. Mary’s Bay, the average BRIX values observed in 2025-26 (6.2-Inside, 6.5-Outside, Table 6) are among the lowest averages in the time series (Table 6) and comparable to the low BRIX year of 2024-25 for St. Mary’s Bay.

For Yarmouth (Figure 16b), overall average BRIX values rise annually from 2020 through to 2023. However, in 2024, Yarmouth overall average BRIX values are near 8 (Inside and Outside). The fall in average BRIX in 2024-25 in Yarmouth is pronounced (from overall mean of 10 in 2023 and 2022, to approximately 8 for 2025 at or below 2021 and 2020 levels, Figure 16b) and reverses the increasing trend in average BRIX per sample in Yarmouth Bar from 2020 to 2023. In 2025-26, BRIX values remain at low levels, especially in Yarmouth Bar (Outside) (7.71, Table 6).

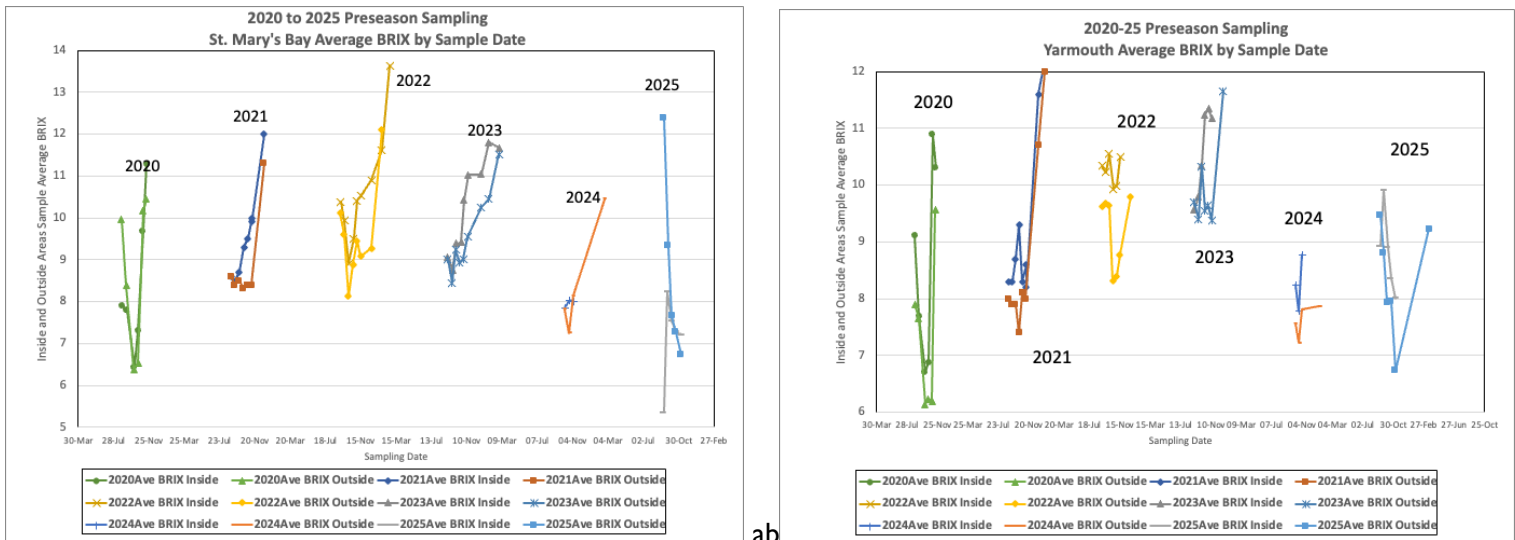


Figure 16. Preseason and In-season Sampling Average BRIX values by Sample Dates 2020-2025 for: (a) St.Mary's Bay inside and Outside Areas; and (b) Yarmouth Inside and Outside Areas

4.2 Lobster Counts Per Trap

In 2025, total preseason and in-season landings (legal and sublegal, and male and female lobsters) over 48 sample dates were 23,306 lobsters or 485 counts per sample – the highest in the time series. This represents an increase of 21% in counts per sample versus last year's 2024-25 samples landings of 12,034 lobsters over 30 sample dates or 401 counts per sample (second lowest in the time series). The 2023-24 survey caught 24,038 lobsters over 57 sample dates or 422 counts per sample; the 2022-23 survey caught 29,446 lobsters over 62 sample dates or 475 counts per sample; the 2021-22 preseason and in-season survey landings totaled 23,715 lobsters for 63 sample dates or 376 counts per sample; and the 2020-21 preseason and in-season survey landings were 28,276 lobsters for 60 sample dates or 471 counts per sample. (Survey samples, 2020 to present, use 40 traps in 4 strings with 10 pots/string.) Previous surveys carried out different numbers of preseason sampling locations-dates. In 2025, there were only 44 location-dates sampled compared to 24(2024), 44 (2023), 50 (2022), 51 (2021), and 52 (2020). Differences in the preseason sampling location-dates explain, in part, differences in total annual preseason survey lobster landings. To examine comparable differences in sampling counts of lobster, the measure of total (legal and sublegal) lobsters landed per trap (CPUT) are determined for each year 2020 to 2025. The results are summarized for selected locations in the figures below. Table 6 also presents the average legal-sized landings of lobster counts per preseason trap in the 2025 samples for each location. Legal landings of lobster counts per trap are also shown for each location and compared to historical years 2020-2025 for each of the preseason locations below (Section 5 - Analysis of Preseason Sampling Data in 2025).

In the Figure 17, Inside and Outside total (legal and sublegal) counts per trap are illustrated for (17a) Lobster Bay and Yarmouth Bar (17b) annually for each preseason sample (only) over the years 2020 to 2025. Lobster Bay is unique in that there is annually a clear separation of males and females in the preseason samples' landings in the Inside area that continues into 2025. With respect to legal-sized lobster counts per trap, Lobster Bay counts per trap for 2025 are comparable in the Inside area (18.52 lobsters/trap) and the Outside area (12.6 lobsters/trap) (Table 6 maximums by Inside and Outside

CPUTs over all locations). Counts per trap statistics for Lobster Bay have been higher than the other locations in each year since 2020 with the exception of 2024 when they were exceeded by St. Mary’s Bay CPUT. In 2025, legal-sized counts per trap in Lobster Bay Inside were 126% higher than in 2024 (8.19 lobsters/trap) and in Lobster Bay Outside were 23% higher than in 2024 (10.25 lobsters/trap).

Based on the significant higher catch counts per trap in Lobster Bay in 2025 samples, it was expected that catches in the commercial fishery at the beginning of 2025 (December 2025 to January 2026) in Lobster Bay would be significantly higher (on the order of +50% increase) than the 2024 commercial catches in Lobster Bay, both in Inside and Outside areas based on total (Figure 17a) and legal counts per trap (Table 6) over time.

In Yarmouth Bar (Figure 17b), Inside and Outside total (legal and sublegal) counts per trap remain at depressed levels comparable to the total counts of 2024 and 2023. In particular, Yarmouth Outside legal-sized counts per trap are depressed at levels of 5.94 – second lowest reported CPUT in 2025 preseason sampling (Table 6).

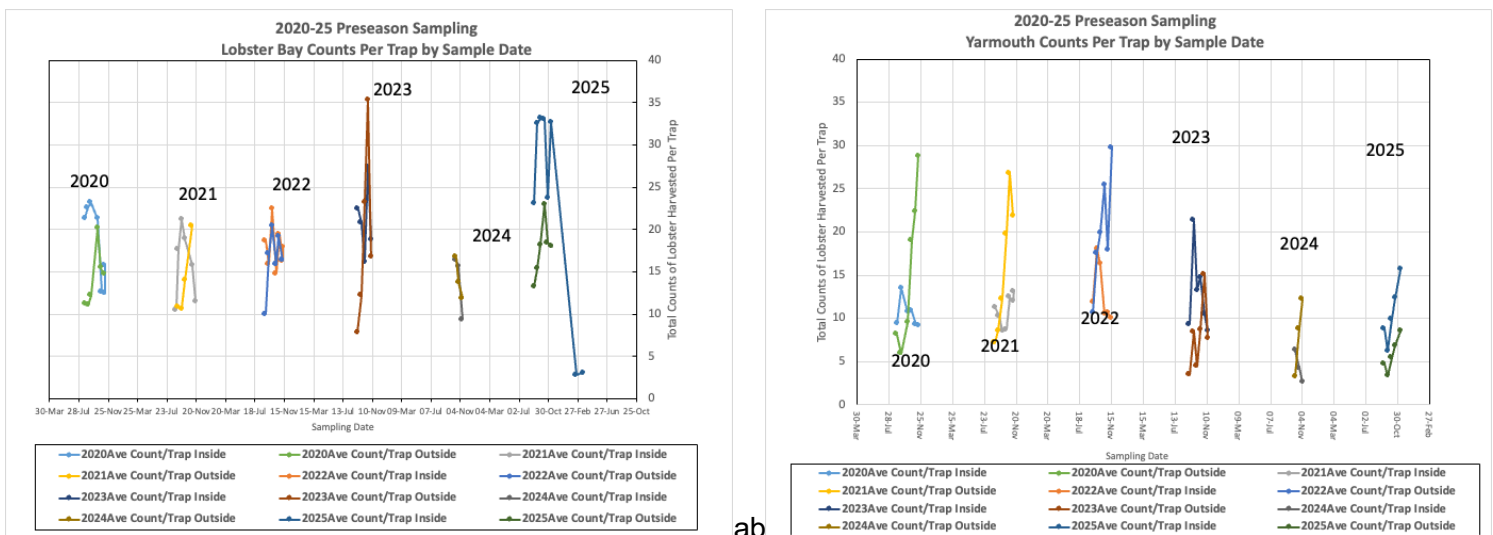


Figure 17. Total Lobster Catch Counts per Trap 2020-2025 for Inside and Outside Sample Dates: (a) Lobster Bay, and (b) Yarmouth Bar

Figure 17cd provides total counts per trap by sample for the Inside and Outside areas of St. Mary’s Bay (17c) and Port La Tour (17d) for 2020 to 2025. Notably, both St. Mary’s Bay and Port La Tour counts per trap show slight increases over the period 2020 to 2022. However, 2022 is followed by a significant decline in the 2023 and the 2024 total counts per trap of approximately 5-10 counts per trap as illustrated below in Figures 17cd. The 2025 preseason samples are more comparable to the 2023-2024 CPUT for both areas and continue the trend of lower CPUT compared to the period of 2020 to 2022 CPUT. As was the case for 2023 and 2024, these year-over-year declines in average landings per trap, lead to the expectation that catches in the commercial fishery in 2025-26 will be lower in St. Mary’s Bay and Yarmouth based on the total counts (Figure 17cd) compared to the past years 2020-2022.

Over all 8 sampling locations, average legal-sized counts per trap in 2025 (Table 6) is 8.63 legal-sized counts per trap, up slightly from the 2024 overall average counts of 8.44. These CPUT are down considerably compared to the preseason 2022 overall average value of 15 legal-sized counts per trap.

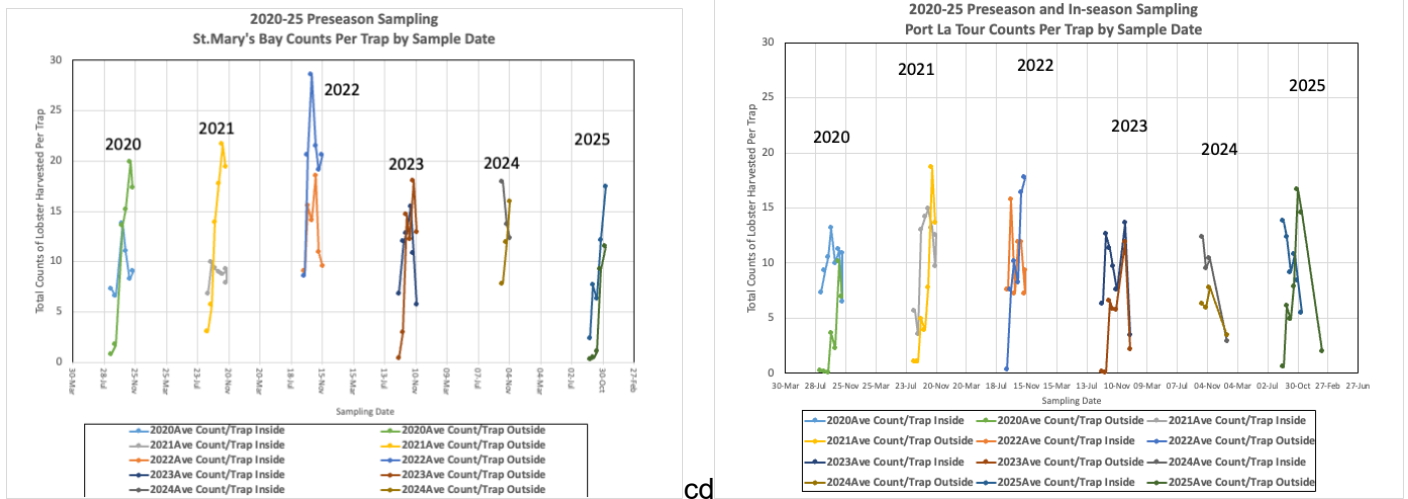


Figure 17 (cont'd). Total Lobster Catch Counts Per Trap 2020-2025 for Inside and Outside Sample Dates: (c) St. Mary's Bay; (d) Yarmouth Inside and Outside

4.3 Lobster Carapace Hardness in Samples

Lobster hardness measurements shifted significantly in the 2025-26 preseason and in-season samples in comparison to the 2024 results. Figures 18ab below show lobster counts for “Soft” (Hardness scale=2) for the preseason and in-season survey dates over the 6-year reporting period, 2020-21 to 2025-26 for Lobster Bay (Figure 18a) and St. Mary's Bay (Figure 18b) for both Inside and Outside areas. Counts of soft lobster increased from negligible amounts (0.8%) in 2020 to over 32% in 2024-25 – a more than 40-fold average increase in Soft lobster percent of samples since 2020. In 2025-26, the percentage of Soft lobster returned to low and negligible levels across all areas. (See also Tables 3 and 6.)

The 2024-25 observations of “Soft” lobsters jumped by 4 to 5 times to percentages in samples of 40%-50% in many samples during this period. These results were consistent with anecdotal information from sector members that the 2024-25 commercial lobster fishery had been yielding poor grade (“soft”) lobsters in catches. There were also notable impacts on the ability to store and ship live lobsters to international markets during the 2024-25 season due to elevated mortalities in holding facilities across the province of Nova Scotia that has been attributed to degraded lobster status at harvest.

It is noted that the 2025-26 return to historically low levels of Soft lobster (Hardness scale=2) does not relieve the problem of elevated mortalities in holding facilities or degraded lobster status at harvest. Reports of poor grade lobsters continued to plaque the commercial fishery from the opening of the commercial fishery in November 2025 and into the Winter of 2026 (January through March). Analysis of the hardness data including Soft+Medium lobster counts and percentages provides evidence of this ongoing situation.

Figures 18cd below for Inside and Outside areas of Lobster Bay (Figure 18c) and St. Mary's Bay (Figure 18d), show lobster counts for “Soft+Medium” (Hardness scale=2 and 4 combined) for the preseason and in-season survey dates over the 6-year reporting period, 2020-21 to 2025-26.

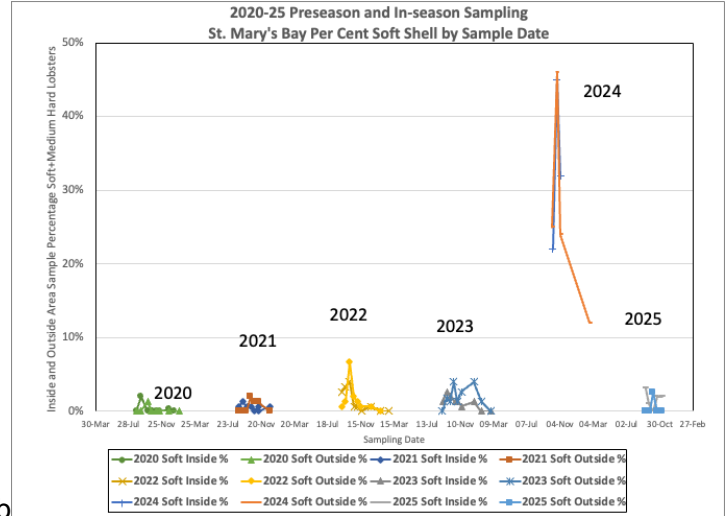
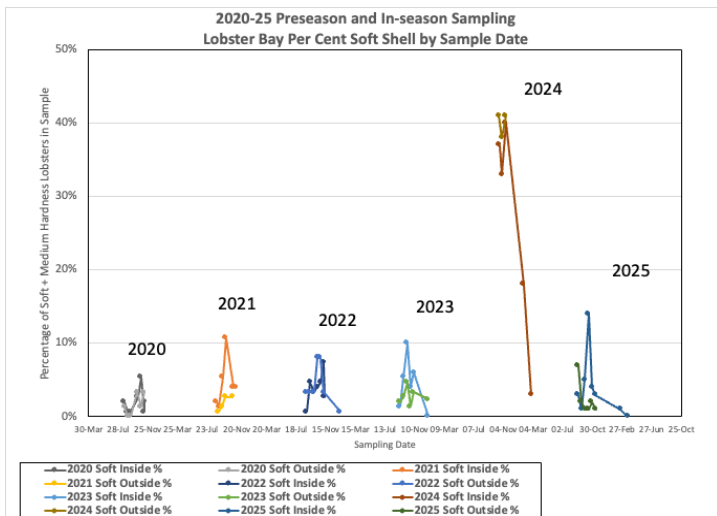


Figure 18. 2020-25 Inside and Outside Per Cent Soft Lobsters: (a) Lobster Bay; and (b) St. Mary's Bay by Sample Dates

As for the case of Figures 18ab, the 2024-25 preseason and in-season samples for Figures 18cd are elevated for the 2024-25 samples. In 2024-25, Soft+Medium lobsters accounted for over 70% in most samples in Lobster Bay and St. Mary's Bay whereas prior to 2024, Soft+Medium lobster percentages were generally below 30% in all samples. Thus, between 2020 and 2024, "Hard" lobsters (Hardness scale=5) were estimated at levels of over 70% in samples.

However, in 2025-26 sampling, the Soft+Medium proportion remained at higher than historical levels (2024-25 excepted). Soft+Medium lobsters averaged about 50% of all 2025-26 samples in Lobster Bay and St. Mary's Bay. Accordingly, the proportion of "Hard" (preferred) lobsters was reduced to near 50%.

The hardness index has thus become an important indicator for determining the status of live lobster with respect to transshipment among facilities, long-term storage, and shipment to international markets. As well, the annual comparison measures (Figure 18) may be important indicators on relative status with respect to storage and shipment decisions.

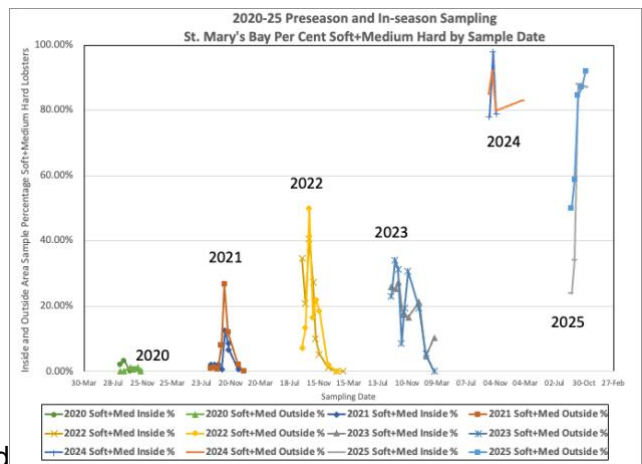
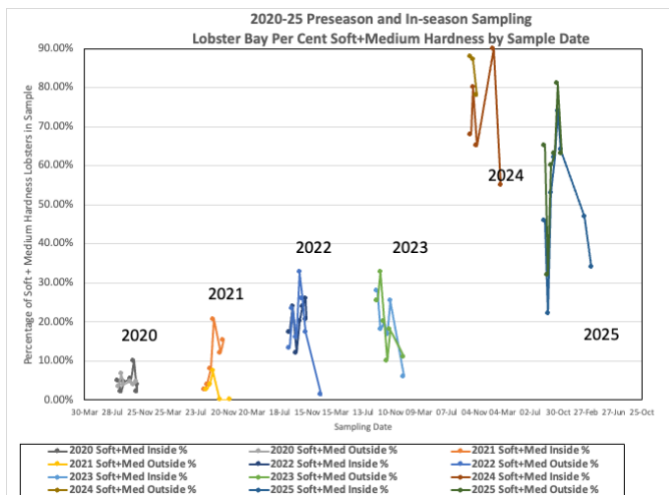


Figure 18 (cont'd). 2020-25 Inside and Outside Per Cent Soft+Medium Lobsters: (c) Lobster Bay; and (d) St. Mary's Bay by Sample Dates

4.4 Percent Weak Lobsters in Samples

The percentage “weak” lobsters observed in 2025-26 preseason and in-season sampling was negligible with percentages across all areas of 1% weaks or less over all samples (Tables 3, 6) – the lowest overall weak percentage in the dataset. These observations are a marked improvement in the weaks statistics relative to the earlier 2020 to 2024 results that saw levels of average weaks as a percentage of samples from 5-10%. Lobster Bay and St. Mary’s Bay (Figure 19ab below) incurred weaks in 2025-26 of 1% in Inside and Outside. Yarmouth and Port La Tour weaks in 2025-26 were less than 1%.

The illustration for Lobster Bay and St. Mary’s Bay (Inside and Outside) in Figure 19ab below depicts the dynamics of weaks from 2020 to 2025 for these areas. It is typical of all areas that average weaks percentages of samples tend to become more varied, i.e., wider, over time with gradual increases from lower 2020 values trending to higher percentage values by 2023 with a significant dip in weak percentage in 2024-25 and again in 2025-26 as noted.

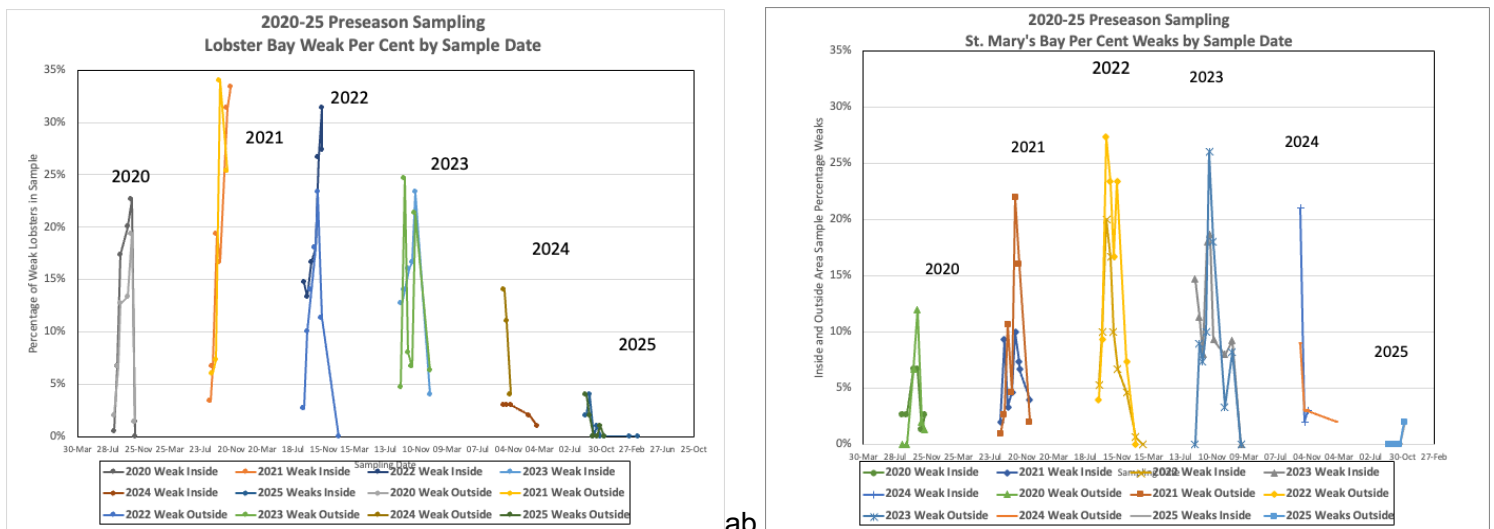


Figure 19. 2020-2025 Per Cent Designated Weak Lobsters: (a) Lobster Bay; and (b) St. Mary’s Bay by Sample Dates.

The assignment of lower weak percentages in 2025-26 may not be consistent with the increase in Soft+Medium carapace lobsters discussed in Section 4.3 above. However, it must be noted that “weak” lobsters are not the same as “soft” lobsters – a key characteristic described by harvesters of catches in 2025-26. Review of the interpretation of what constitutes a “weak” versus a “soft” lobster may be at issue.

4.5 Summary of 2025-26 Predictors

For the start of the commercial season (end-November to mid-December 2025) predictors were provided based on preseason samples for each of the 8 locations and provided in the Preseason Summary Report released on November 22, 2025 (Thomas, Mulock, Lane 2025). Predictions by subarea for the start of the 2025-2026 commercial season (end November 2025 to January 2026) were provided for the indicators of interest as follows:

- (1) average BRIX level values;
- (2) average lobster counts (legal sized) per trap; and
- (3) average percent weak lobsters.

The logic for establishing the list of predictors is based on the extension of the observed 2025 preseason samples' results into the start of the commercial season for 2025-2026. From the start of the commercial season, lobsters prepare to move from the post-moult stage to the pre-moult stage over the winter of 2025-2026. The pre-moult stage is characterized by hardening of lobster shells and lower incidence of lobsters with soft and medium carapaces, and lower incidences of otherwise weak lobsters into the Spring months (March, April and May) of the commercial season in LFAs33 and 34. Estimates of the predictors into January 2026 anticipate the rate of improvement of lobster quality status overall. The estimate of counts per trap takes into account the change in catchability of lobsters as well as the draw down in catchable lobster abundance in each location following the initial start of season fishing effort intensity. These predictions are calculated so that industry members may make direct comparison of these predictions with actual observations in the commercial fishery.

As evidenced from the data, the participation of the commercial fleet immediately after the season opens results in fishing effort that leads to a precipitous decline in catch counts of lobster per trap in all locations into the New Year (January 2026) period. Table 9 below presents the estimated predictor values through to early January 2026 based on the above assumptions as were presented in the November 22, 2025 preseason report to industry (Thomas, Mulock, and Lane 2025).

Table 9. 2025-26 Start of Commercial Season Predictors by Location

Locations: Predictors	Yarmouth Inside	Yarmouth Outside	Lobster Bay Inside	Lobster Bay Outside	Port La Tour Inside	Port La Tour Outside	St. Mary's Bay Inside	St. Mary's Bay Outside
Average BRIX (mg/mL)	9	8	9	10	9	8	8	8
Ave Legal Counts Per Trap	10	16	17	15	4	13	10	16
Ave % Weaks	1%	1%	<1%	<1%	1%	<1%	<1%	<1%

The predictor values in Table 9 were presented here to test the ability of the 2025 preseason summary report to estimate the results at the start of the commercial fishery. It is anticipated that feedback from industry about the viability of these predictors will assist in improving these predictor results based on the preseason sampling program.

Overall in 2025, average BRIX levels across all locations are expected to improve slightly and remain in the "Good" range (≥ 8 mg/ml of blood protein) as lobster proceed from post-moult to premoult status with highest BRIX predictions in Lobster Bay Inside and Outside areas.

Average legal counts per trap improved in 2025 compared to 2024 and 2023 and lead to increased predictions for early season catches in the 2025-26 commercial season (Table 9). It is noted that in 2023-24, and again in 2024-25, there were significant declines (30+%) in commercial catch rates in the Outside areas of Yarmouth, St. Mary's Bay and Port La Tour at the start of the commercial fishery in the past 2 seasons. In March 2024, catches rebounded in a compensatory manner to the earlier decline after warming waters led to livelier Spring lobster in LFAs33&34. Throughout March 2025 however, waters remained cold and the anticipated Spring rebound had not yet occurred by end-April.

As of the writing of this report (end April 2026), waters remained cold into March and April 2026 during the hard winter season of 2025-26 throughout Nova Scotia. Fishermen delayed effort to avoid cold water and expected reduced catches. At the end of April when other LFAs have started to open, catches in LFA33&34 have also begun to improve, lobsters are reported to be hard carapace 'Spring lobsters' in good condition, inventories are increasing, and shore prices have declined. Thus, the improved counts per trap over the preseason sampling period in all locations and the apparent Spring recovery from cold water predicts an overall improvement in catches in 2025-26 with a Spring rebound late in the season (May) relative to the previous 2 low catch seasons of 2023-24 and 2024-25.

It should be noted that the observation of a significant shift in Soft carapace lobsters were not predicted for the start of the 2025 season in the preseason summary report (Thomas, Mulock, and Lane 2025). However, the extent of the decline in Hard carapace lobsters (and the continuation of high proportions of Soft+Medium lobsters in samples) observed in the preseason surveys were nevertheless an area of particular concern going into the commercial season of 2025-26. Soft shell lobsters, as experienced in 2024-25, are consistent with lower BRIX – as experienced in 2025 preseason sampling (Tables 3 and 6, Figure 13). Together, these lower quality lobster indicators are not preferred lobsters to carry in storage facilities (to hold during periods of lower export prices) as the risk of longer-term (weeks) of storage may be detrimental to lobster survival. In the Spring, lobster quality is anticipated to improve moving to harder shells and rising BRIX as lobster move into premoult Spring status. Further analysis of the Table 9 early season predictors is provided below in this report in Section 6 – In-season Sampling Data in 2025-2026, subsection 6.2.5 – Preseason Predictions versus In-season Results.

5 Analysis of Preseason Sampling Data in 2025

The at-sea preseason sampling summary report for 2025 was compiled as the 'Lobster Quality Preseason Sampling Program–Southwest Nova Scotia LFA33 & LFA34, Preseason Summary Report' (Thomas, Mulock, and Lane 2025) and distributed by Coldwater Lobster Association to the lobster industry and government funders on November 22, 2025. That initial report released at the start of the 2025-26 commercial season contains information on the proportion of soft shell as well as the proportion of low blood protein lobsters for each of the identified sampling areas in the survey.

The 2025 preseason sampling results in LFAs 33 and 34 indicated that lobsters landed at the start of the 2025-2026 season in southwest Nova Scotia, were of overall of Moderate-Low (ML) quality (see also Table 6, Section 2.4–Lobster Quality Category Classification above). 2025 preseason samples overall average per sample BRIX of 7.98 units/ml is the lowest recorded value in the 6-year time series (versus 8.1 (2024), 10.07 (2023), 9.46 (2022), 8.4 (2021) and 8.37 (2020)). Preseason results vary by location.

Sample results by BRIX category for each of the 8 sampling locations are presented for preseason and in-season sampling in Section 5.2 below. The results for each location are defined in section 5.1 and include:

- (A) Blood protein (BRIX) category series trend for the 2025 preseason and 2025-26 in-season samples;
- (B) comparable BRIX category preseason sampling 3-4 weeks before the start of the commercial season for years 2012 to 2025; and
- (C) lobster (legal-sized) counts per trap for each preseason and in-season samples in 2025-26 compared to comparable results in 2020 to 2024.

5.1 Blood Protein (BRIX) Categories

The BRIX analyses compare sample annual data of past years with the preseason and in-season sample data of the current year and reports on the best match of a past year with the current year’s sampling observations. The most closely matched historical year then becomes the basis for predicting the status and quality of lobster at the start of the current commercial fishery. For example, consider Figure 20 for Yarmouth Outside 2012-2018, from sampled data 3-4 weeks before the start of the respective season. The indication from these results is that 2016 is a low-quality year in a series of declining quality beginning in the higher quality year 2012.

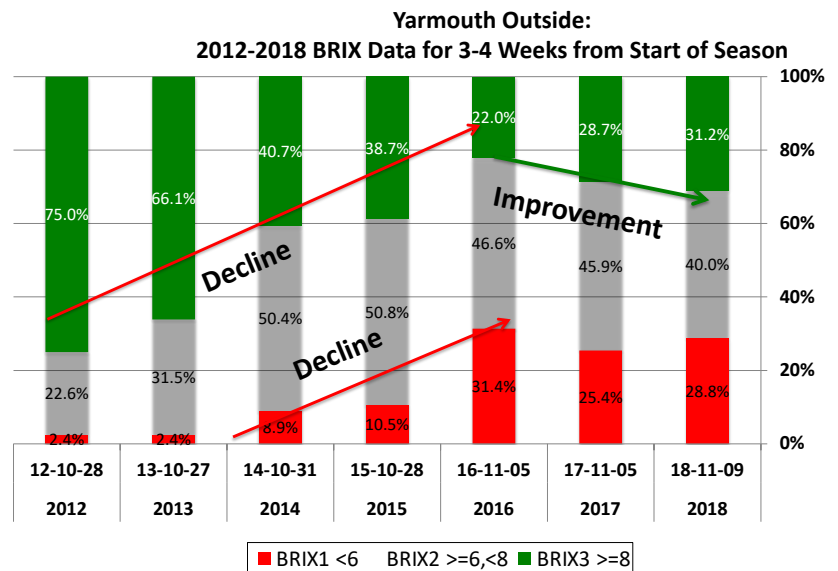


Figure 20. Yarmouth Outside 2012-18 BRIX Distribution 3-4 Weeks before start of season

Since 2012, the poor BRIX values (Red category) are seen to be increasing from a low of 2.4% (2012) to a high of 31.4% (2016). Similarly, the extent of the high-quality BRIX values (Green category) decreases from a high of 75% (2012) to a low of 22% (2016).

From Figure 20 and since 2016, preseason quality indicators show improvement. The 2016 low of BRIX values in the high category (Green) of 22% rises again from 28.7% (2017) to 31.2% (2018). Similarly, but less dramatically, the poor BRIX category (Red) falls from 31.4% in 2016 to 25.4% in 2017 with a similar value in 2018 of 28.8%. Based on this graphic, there may be expectation – assuming the annual trend since 2016 continues for Yarmouth Outside – that the upcoming 2019-2020 preseason season will mark improved quality over the lows of 2016 with marginal improvement over 2017 and 2018. (In fact, the 2019 preseason samples yielded high BRIX values (Green) of only 18%, and low BRIX values (Red) of 7.3% for an overall average BRIX of 7.2—a decline of -11% versus the 2018-2019 average BRIX of 8.1. This result may indicate that in Yarmouth in 2019, the quality improvement had stalled.

Legal-sized lobster counts per sampling trap provide a precursor to commercial catch counts per trap at the beginning of the season. Comparative results for samples by each of the 8 sampling locations in different years 2020 to 2025 provide the basis for developing area by area predictions for the start of the commercial season.

5.2 2025-26 Site Results

Start of season lobster quality BRIX predictions are based on the definition described in Section 5.1 above and presented by location in this section. Appendix C - Preseason Sampling Summaries presents the summary (recommendations text) for each of the 8 location-areas as previously provided in the 'Lobster Quality 2025 Preseason Sampling Program, Southwest Nova Scotia LFA33 & LFA34: Preseason Summary Report' (Thomas, Mulock, and Lane 2025).

The following pages present the breakdown of the 2025-26 preseason sampling results by location and include the additional results from the in-season sampling surveys. The preseason results (only) were provided to industry collaborators in the 2025 Preseason Summary Report on November 22, 2025 just prior to the start of the 2025-2026 commercial season.

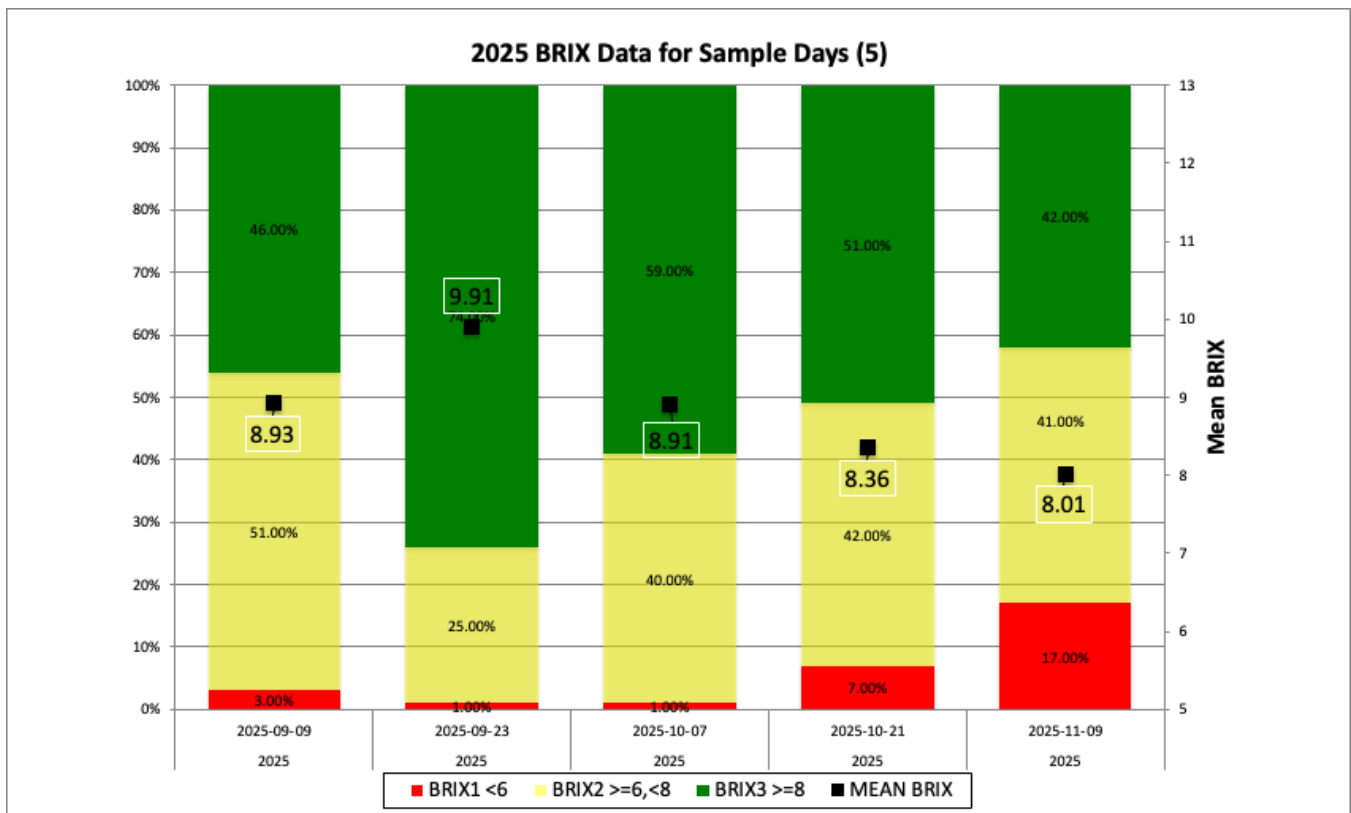
5.2.1 YARMOUTH INSIDE

2025 SUMMARY OF RESULTS

(A) BLOOD PROTEIN (BRIX) CATEGORIES–2025 SAMPLES

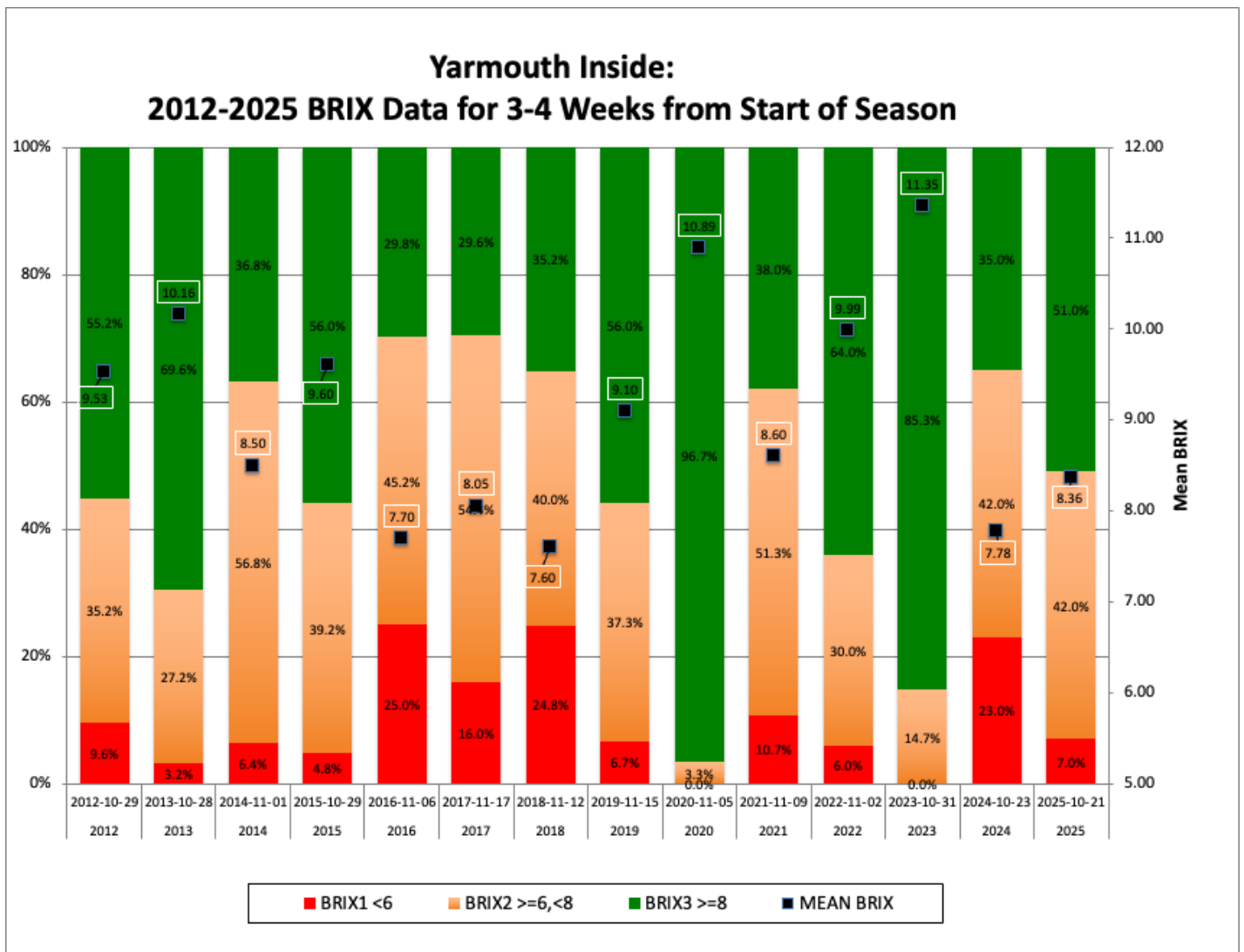
The 2025 preseason results for 5 sample sites in Yarmouth Inside show relatively steady average BRIX from early-September to mid-November samples. More than 40% of each sample attained “Good” levels of BRIX (≥ 8 mg/ml). The proportion of “Poor” lobsters (BRIX < 6 mg/ml) sampled in Yarmouth Inside remains below 17% of all 5 samples in 2025.

Average BRIX level values for samples in 2025 varied slightly from a low of 8.01 mg/ml in November to a high of 9.91 mg/ml at end September. Overall average BRIX values for 2025 (7.98 mg/ml) are 10% below average BRIX in 2025 samples for Yarmouth Inside (8.82 mg/ml). The trend since end September sampling is a declining average BRIX into the start of the commercial season.



(B) Blood Protein (BRIX) Categories – Annual Samples 3-4 weeks before season start

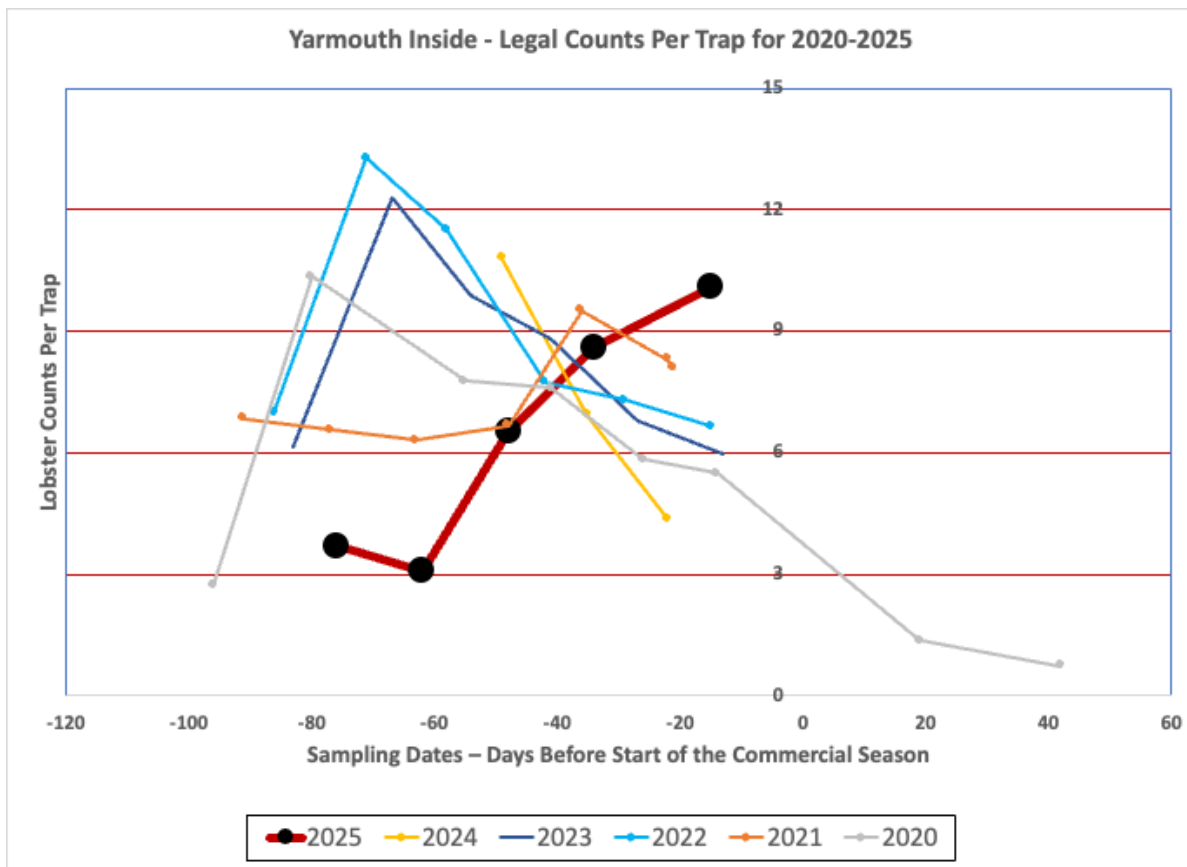
Annual samples 3-4 weeks from the start of each commercial harvest season opening are variable across the series from 2012 to 2025 for Yarmouth Inside. The 2025 sample (October 21) has an intermediate BRIX average (8.36 mg/ml) in the series. The October 21, 2025 sample is comparable to the November 9, 2021 sample, with comparable BRIX category value.



(C) Counts (legal-sized) per trap for 2025 samples

The counts per trap of lobsters (male and female) of legal-sized (82.5 mm or greater) lobsters that occurred in the preseason samples dates in 2025 (thick red line) are compared to past years' samples (2020-2024). The counts per trap for Yarmouth Inside are initially below past years' counts/trap for the early samples in September and October dates. However, by mid-October 2025, counts/trap rise above past years' counts and continue increasing into the November sample date when legal counts per trap exceed all past years sampling in this area at this time.

This trend is positive heading into the commercial season and expectation is for good catches (approximating 10 legal counts per trap) in Yarmouth Inside through December 2025 and into January 2026. As evidenced by the 2020 in-season sampling samples, commercial catch rates in 2025 are expected to fall precipitously after the beginning of the commercial season through to January and February 2026 as legal-sized lobster abundance is extracted from Yarmouth Inside. In 2026, cold water has reduced fishing effort and catches in this area.



Counts of weak lobsters in the 2025 Yarmouth Inside samples were negligible.

The average percentage of Soft lobsters per sample in 2025-26 reached a minimum for the time series with less than 1% Soft lobster in Yarmouth Inside samples on average. At the same time, average Soft+Medium proportions were high at 54% of samples (Table 6).

5.2.2 YARMOUTH OUTSIDE

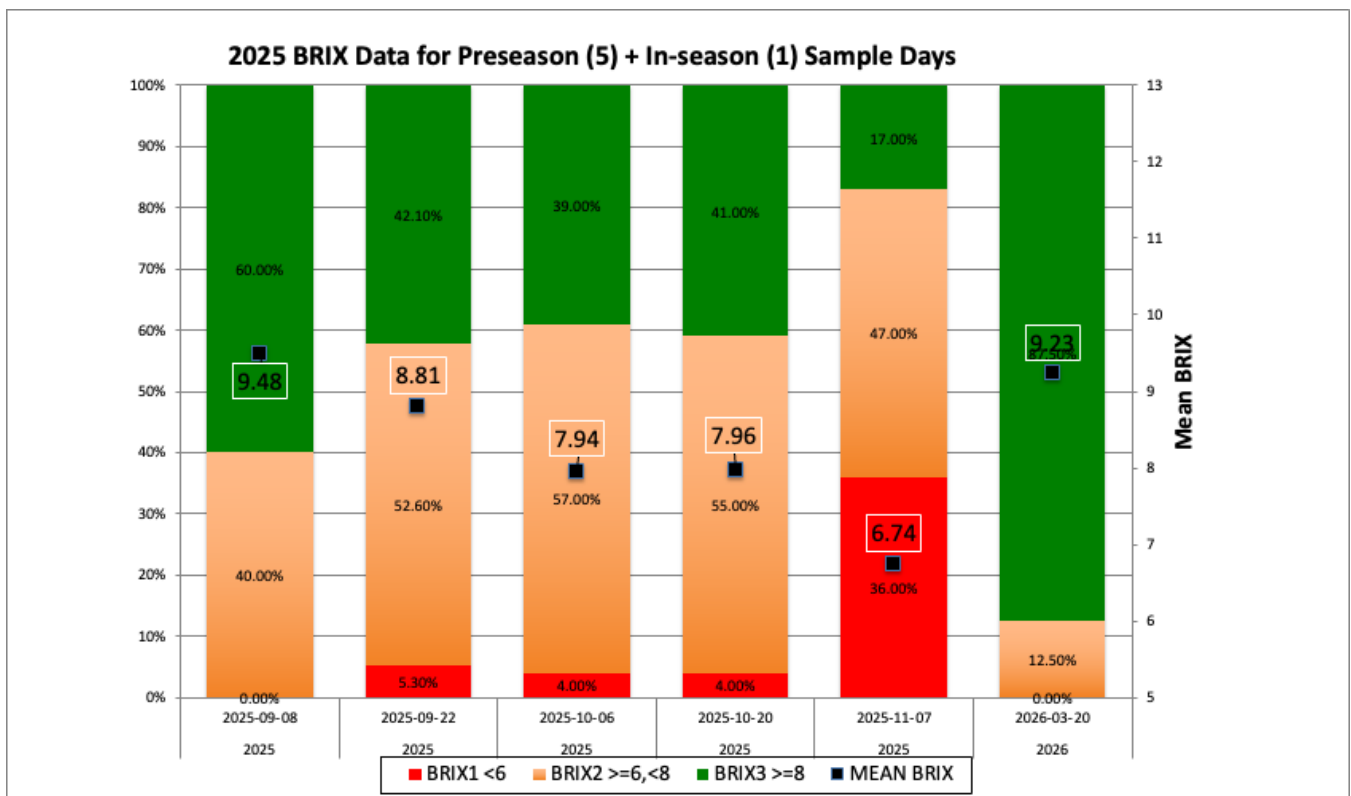
2025 SUMMARY OF RESULTS

(A) Blood Protein (BRIX) Categories–2025 Samples

2025 results for 5 preseason samples plus 1-in-season sample in Yarmouth Outside show a declining average BRIX from early-September to early-November samples. Similarly, the proportion of “Good” levels of BRIX (≥ 8 mg/ml) decline from 60% in September sampling to 17% at the end of sampling in early November. The proportion of “Poor” lobsters (BRIX <6 mg/ml) sampled in Yarmouth Outside remains low ($<6\%$) until the November sample when “Poor” lobsters represent 36% of the sample.

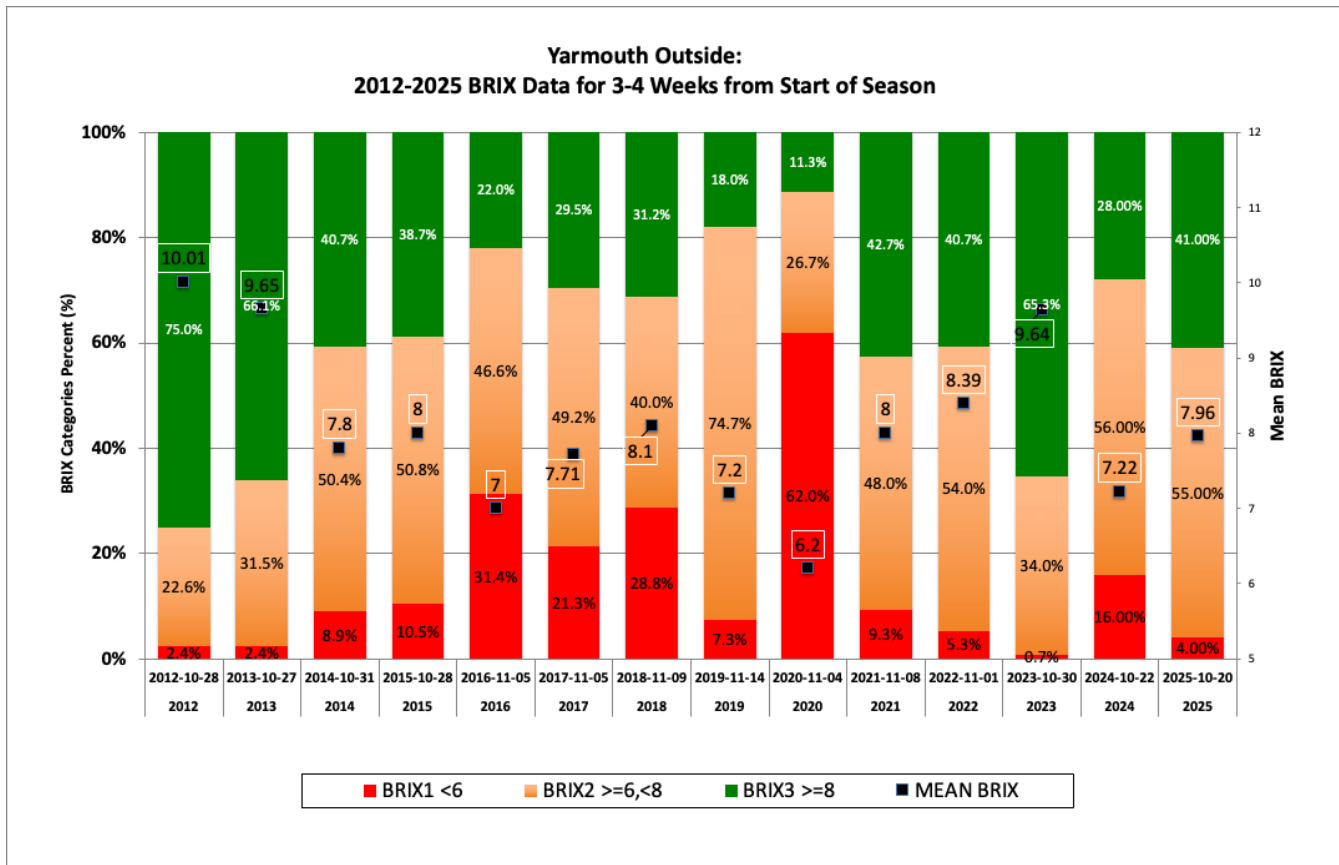
Overall average BRIX values for 2025 (7.98 mg/ml) are slightly above the average BRIX in 2025 samples for Yarmouth Outside of 7.71 mg/ml). The trend since September is observed to be a declining average BRIX into the start of the commercial season.

The single in-season sample shows higher BRIX (>9 mg/ml), as expected, with 85+% lobsters having BRIX >8 mg/ml, and zero lobsters having BRIX below 6 mg/ml.



(B) Blood Protein (BRIX) Categories – Annual Samples 3-4 weeks before season start

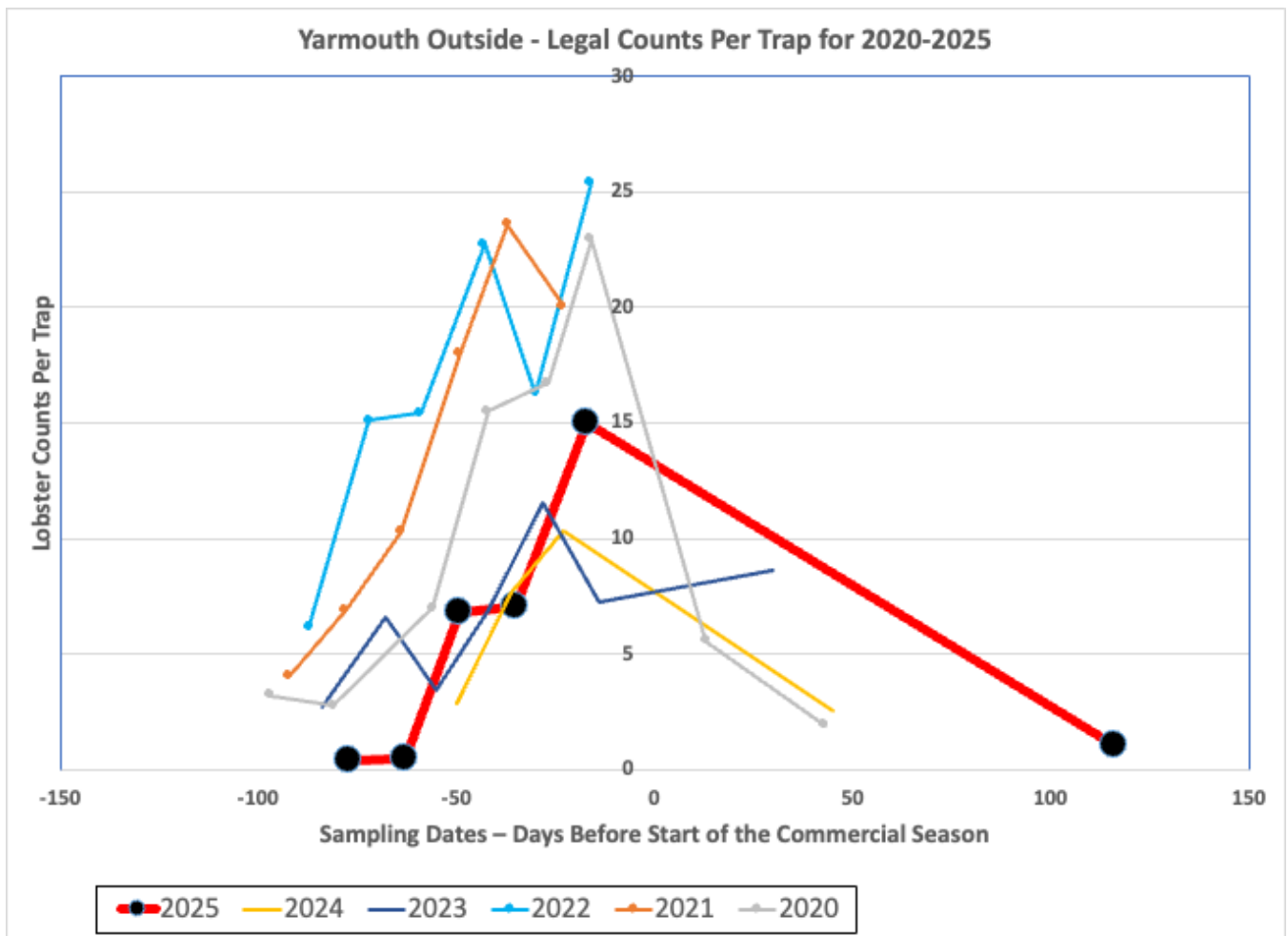
Annual samples 3-4 weeks from the start of each commercial season opening are variable across the series from 2012 to 2025 for Yarmouth Outside. The average BRIX for the 2025 sample of October 20 (7.96 mg/ml) is an intermediate value among average BRIX values in the series. BRIX categories are directly comparable to years 2014 and 2022 – years of known overall lower quality in the lower BRIX regime.



(C) Counts (legal-sized) per trap for 2025 samples

Counts per trap of lobsters (male and female) of legal-sized (82.5 mm or greater) that occurred in the survey samples dates in 2025 are compared to past years' samples (2020-2024). The 2025 legal counts per trap for Yarmouth Outside (thick red line) are initially below the past years' counts during annual September and October samples. However, and as typical of past years, the time series of counts per trap over the preseason in Yarmouth Outside exhibit a rise from the October samples through November.

Initial commercial catches are predicted to follow the rising legal counts per trap trend (slightly above 15 counts/trap) at the start of the season after which counts per trap begin the characteristic decline at the start of the commercial fishery, as was observed in the 2020, 2023, and 2024 in-season samples. The single in-season observation at March 20, 2026 shows a decline to 1 lobster per trap in Yarmouth Outside.



Counts of weak lobsters in the 2025-26 Yarmouth Outside samples were negligible at less than 1% weak lobsters per sample.

In 2025-26, Yarmouth Outside average percentage of Soft lobsters per sample were also negligible at less than 1% per sample. However, Soft+Medium lobsters were higher at 56% (Table 6).

5.2.3 LOBSTER BAY INSIDE

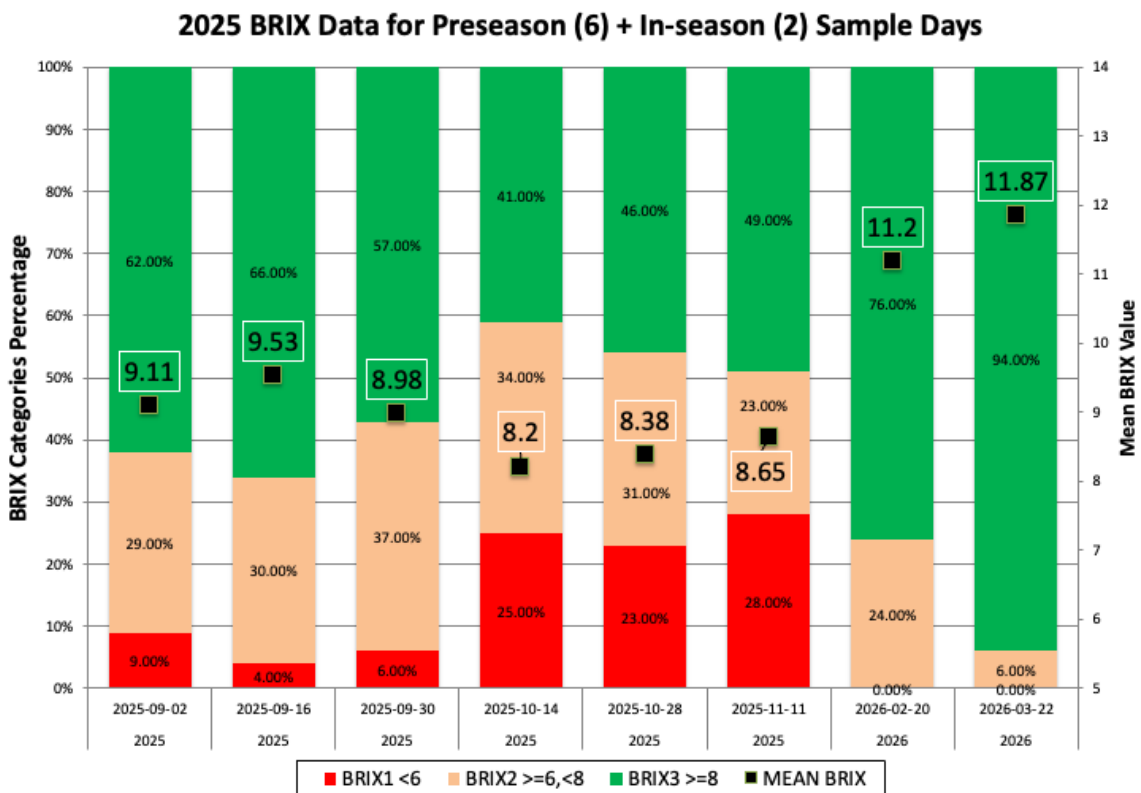
2025 SUMMARY OF RESULTS

(A) BLOOD PROTEIN (BRIX) CATEGORIES—2025 SAMPLES

2025-26 survey results for 6 preseason samples and 2-in-season samples in Lobster Bay Inside show a slight decline in average BRIX from a high of 9.53 mg/ml in mid-October to 8.65 mg/ml by mid-November. Samples in 2025 attained “Good” levels of BRIX (≥ 8 mg/ml) of over 50% in early sampling, dropping below 50% in late preseason samples. Similarly, “Poor” levels of BRIX (< 6 mg/ml) were below 10% in early sampling, rising above 25% in late preseason samples.

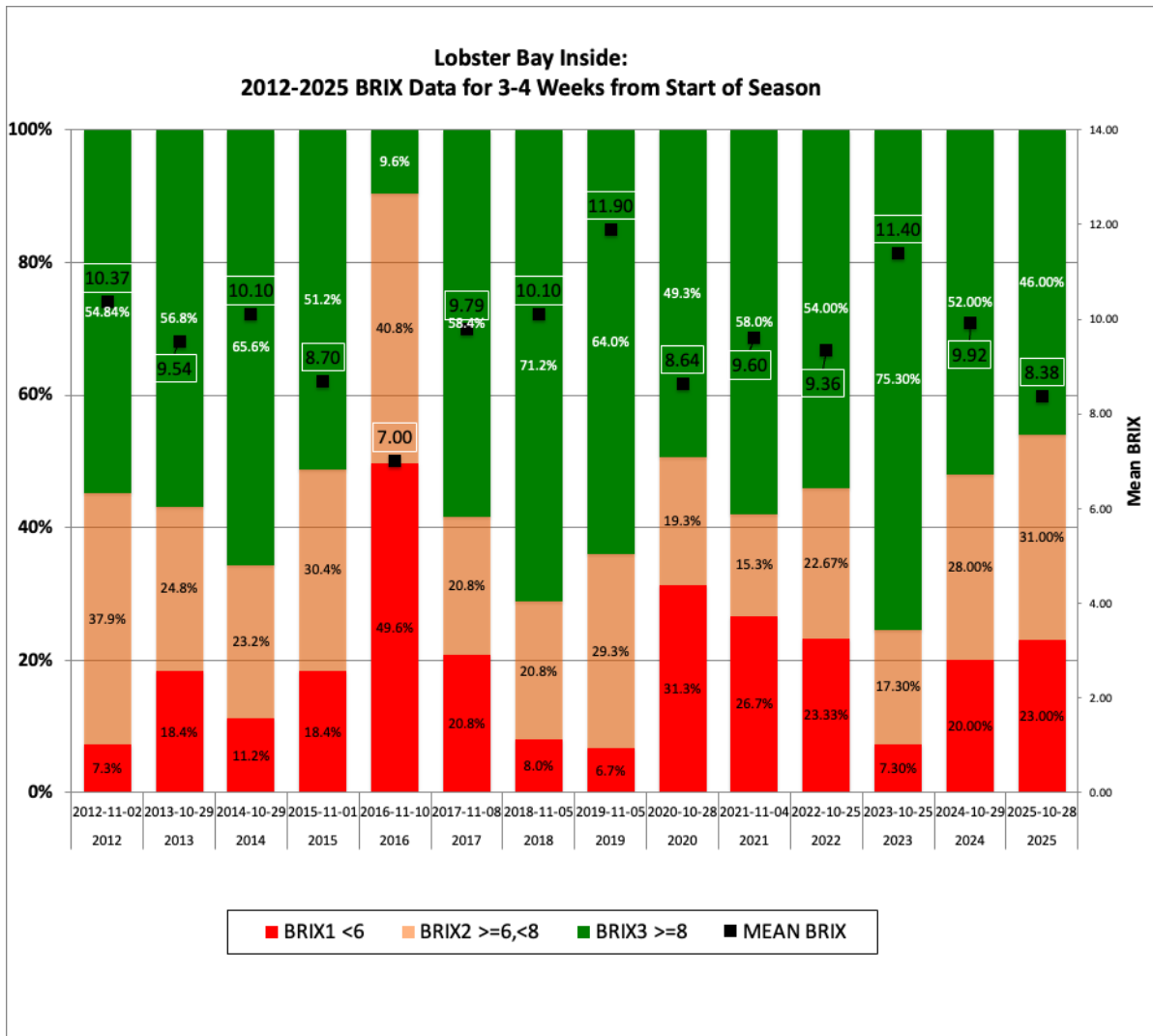
Overall average BRIX level values for preseason samples in 2025 (7.98 mg/ml) were 9% below average preseason BRIX values for Lobster Bay Inside in 2025 (8.81 mg/ml). The trend since September is observed to be a relatively stable average BRIX close 9 mg/ml into the start of the commercial season.

The two in-season samples (February 20 and March 22, 2026) show higher BRIX (> 11 mg/ml), as expected, with 85% lobsters on average having BRIX > 8 mg/ml, and zero lobsters having BRIX below 6 mg/ml in both in-season samples.



(B) Blood Protein (BRIX) Categories – Annual Samples 3-4 weeks before season start

Annual samples 3-4 weeks from the start of each commercial harvest season opening are variable across the series from 2012 to 2025 for Lobster Bay Inside. Overall, Lobster Bay Inside average BRIX are higher than that of the other sampling locations in southwest Nova. As such, the 2025 average BRIX of 8.38 mg/ml for the October 28, 2025 sample is the second lowest in the series. This 2025 sample is directly comparable to the 2015 sample, a period of low quality lobster in the commercial fishery.

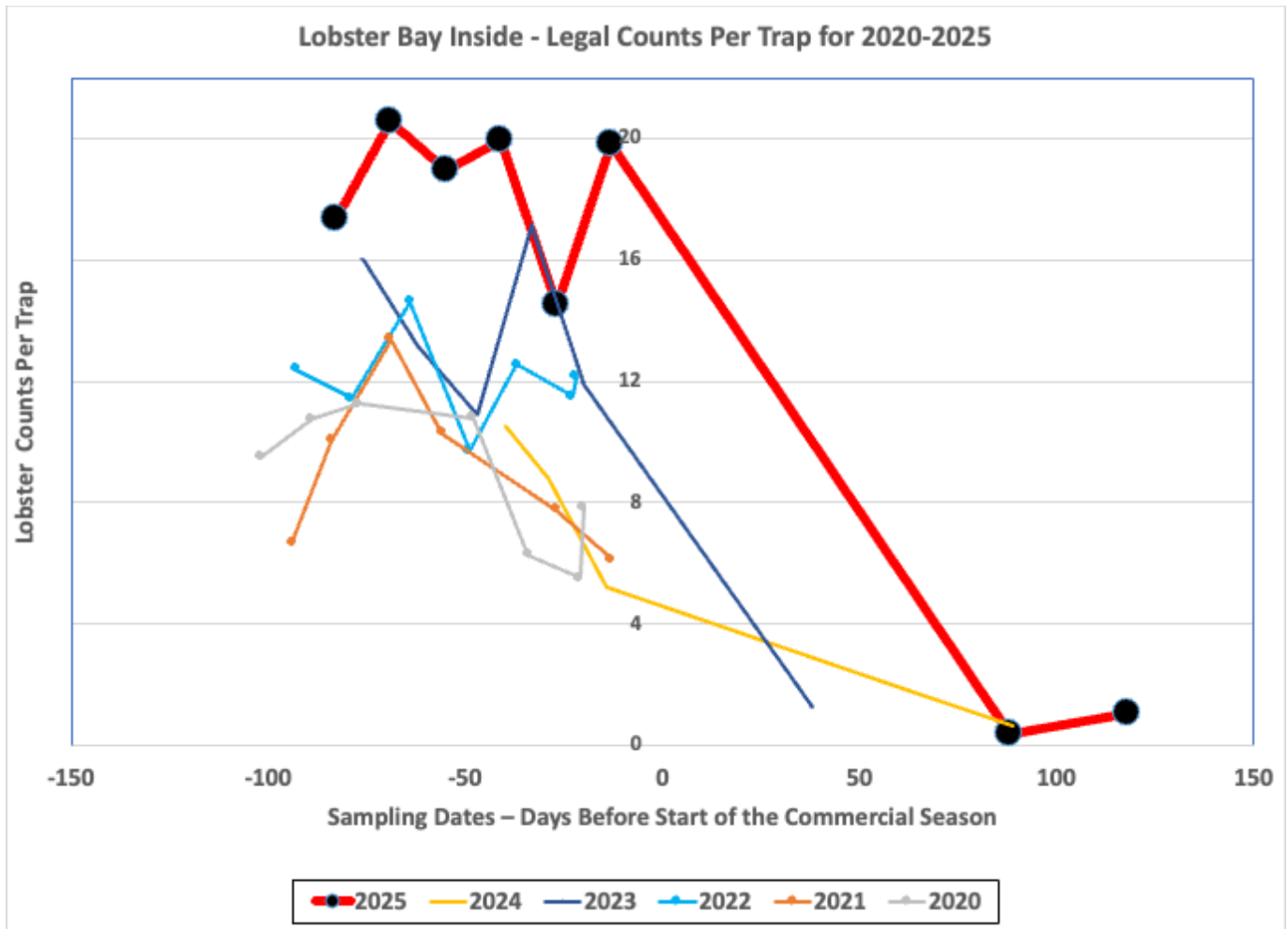


(C) Counts (legal-sized) per trap for 2025 samples

Counts per trap of lobsters (male and female) of legal-sized (82.5 mm or greater) that occurred in the survey samples dates in 2025 (thick red line) are compared to past years' samples (2020-2024). The legal counts per trap for Lobster Bay Inside sampling are generally highest among the 4 Inside locations surveyed in LFAs33 and 34 in each year.

In 2025, Lobster Bay Inside counts per trap are the highest observed in the series for all sample dates of this location. Consequently, the evidence suggests that legal catch counts per trap in Lobster Bay (Inside) at the start of the commercial season in 2025 are expected to be between 15 and 19 legal lobsters per trap.

It is expected that commercial catch rates fall precipitously after the beginning of the commercial season as legal sized lobster abundance is extracted (as per the in-season sampled catch counts of 2023 and 2024 in the figure below). In the two 2026 in-season samples, Lobster Bay (Inside) legal-sized counts per trap fall to 1 lobster and below.



Counts of weak lobsters in the 2025-26 Lobster Bay (Inside) samples were low at just over 1%.

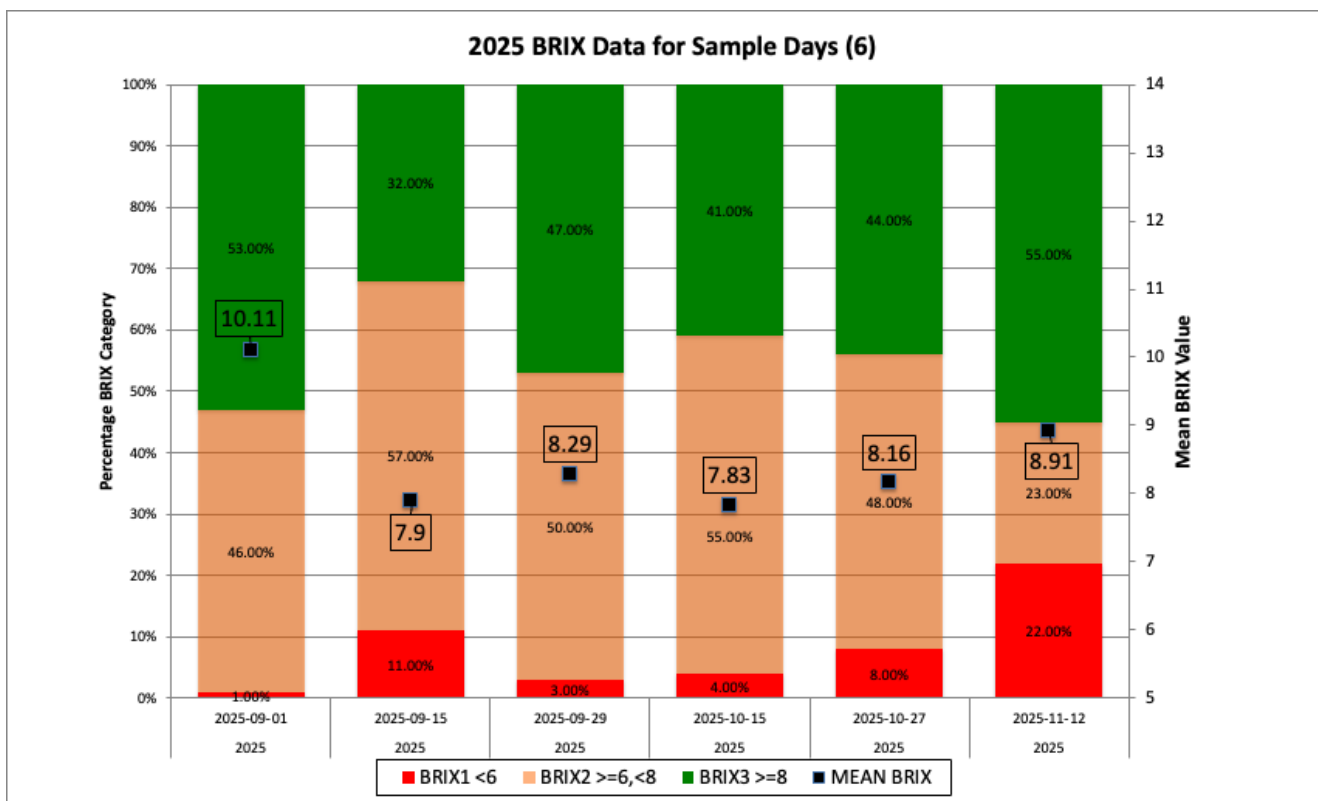
The average percentage of Soft lobsters per sample in Lobster Bay (Inside) were at low levels of 5%, comparable to that of part years 2020 to 2023 (2024 excepted). However, Soft+Medium lobsters were higher at 54% (Table 6).

5.2.4 LOBSTER BAY OUTSIDE

2025 SUMMARY OF RESULTS

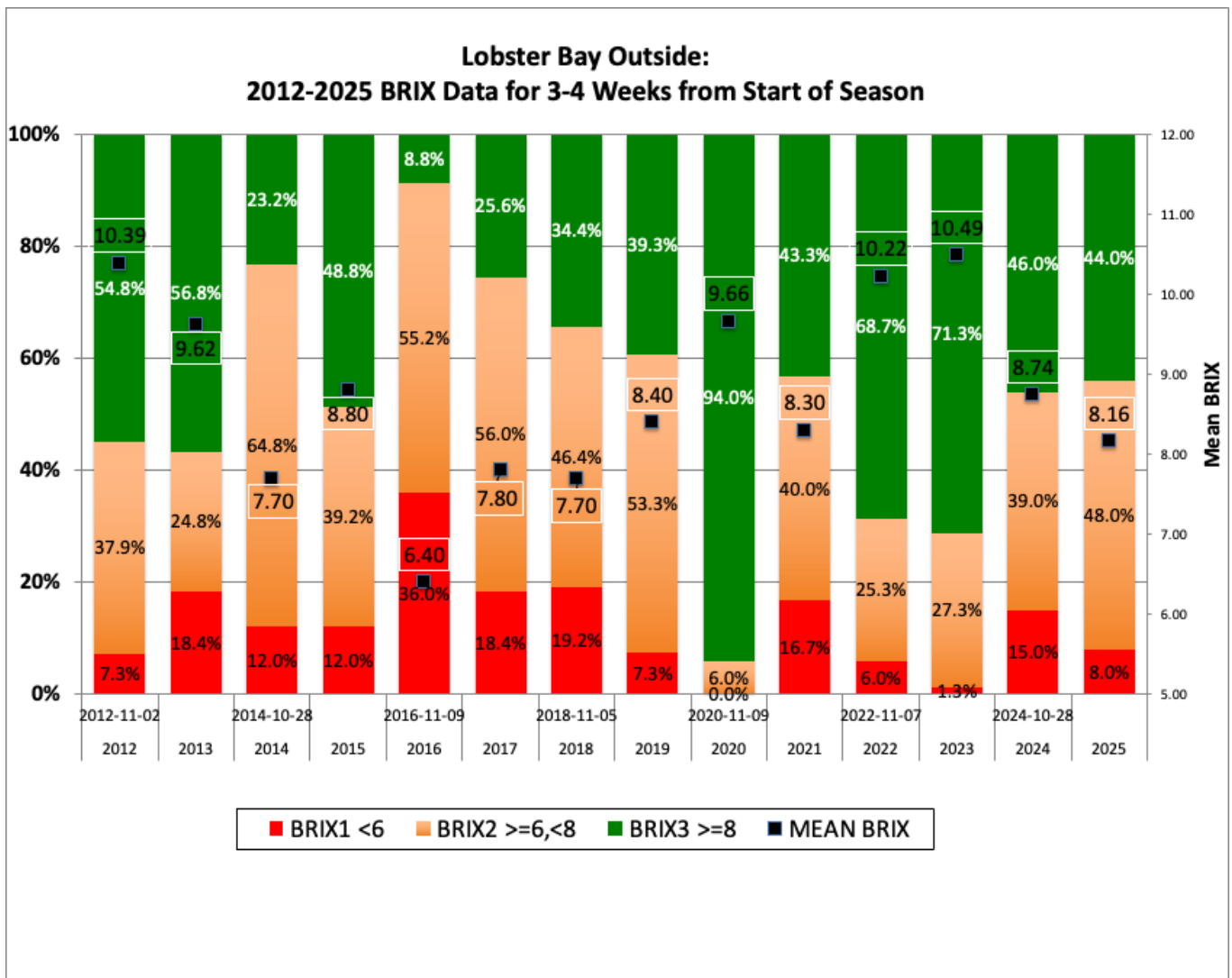
(A) BLOOD PROTEIN (BRIX) CATEGORIES–2025 SAMPLES

2025 preseason sampling results are provided for 6 sample sites in Lobster Bay Outside. There were no in-season samples in this area. The preseason results show a relatively steady set of average BRIX between the mid-September sample and the mid-November sample with average BRIX varying between a low of 7.9 mg/ml in mid-October to a high of 8.91 mg/ml by mid-November. Samples attained “Good” levels of BRIX (≥ 8 mg/ml) near 50% with incidences of “Poor” lobsters in samples around 10%. The exception is the last preseason sample with highest “Poor” percentage of over 20%.



(B) Blood Protein (BRIX) Categories – Annual Samples 3-4 weeks before season start

Annual samples 3-4 weeks from the start of each commercial harvest season opening are variable across the series from 2012 to 2025 for Lobster Bay Outside. The 2025 sample (October 27) has the intermediate BRIX average of 8.16 mg/ml in the series. The October 27, 2025 sample is comparable to the 2019 and 2024, samples with similar average BRIX value and similar BRIX category levels.

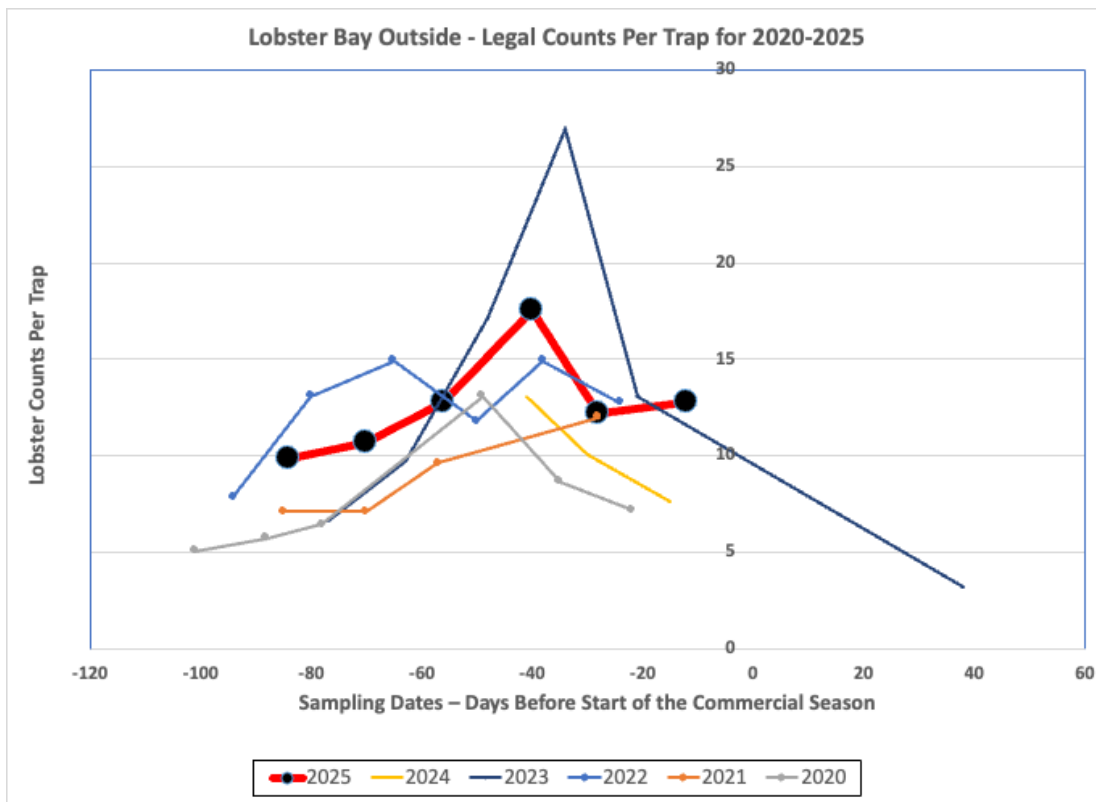


(C) Counts (legal-sized) per trap for 2025 samples

Counts per trap of lobsters (male and female) of legal-sized (82.5 mm or greater) that occurred in the survey samples dates in 2025 (thick red line) are compared to past years' samples (2020-2024). The counts per trap for Lobster Bay Outside sampling in 2025 are within the range of values for other years 2020-2024.

In 2025, Lobster Bay Outside counts per trap are comparable to past years' counts at similar sampling dates. These counts per trap are among the highest legal counts per trap (approximately 15 counts per trap) across all outside areas.

Commercial catch rates are expected to fall precipitously in Lobster Bay Outside after the beginning of the commercial season as legal-sized lobster abundance is extracted (as per the 2023 in-season sample illustrated below).



Counts of weak lobsters in the 2025 Lobster Bay Outside samples were negligible at just over 1% per sample here.

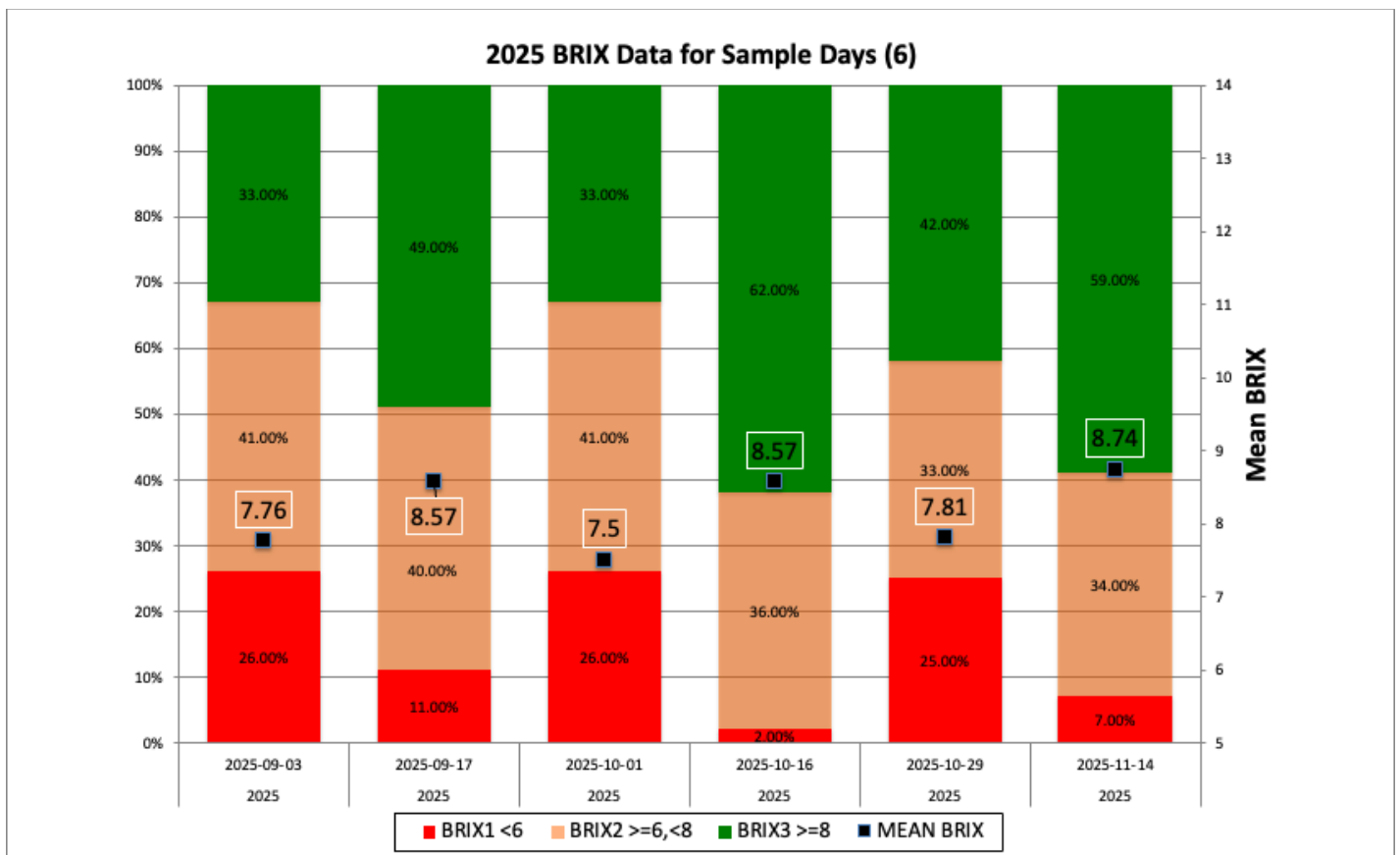
The average percentage of Soft lobsters per sample in Lobster Bay Outside (2.33%) were at low levels similar to the past years 2020 to 2023. However, Soft+Medium lobsters were higher at 61% (Table 6).

5.2.5 PORT LA TOUR INSIDE

2025 SUMMARY OF RESULTS

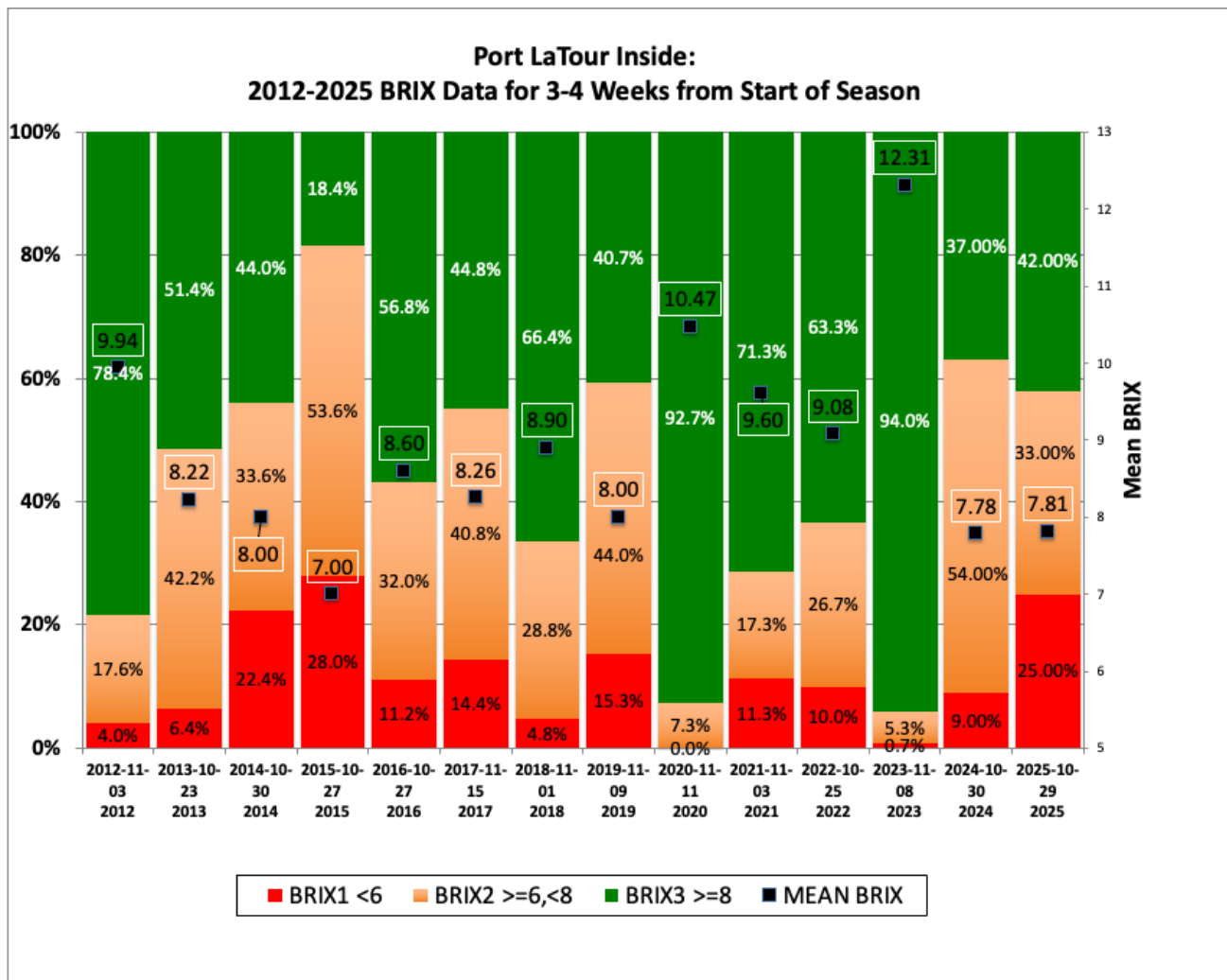
(A) BLOOD PROTEIN (BRIX) CATEGORIES—2025 SAMPLES

2025 preseason survey results for 6 sample sites in Port La Tour Inside show a relatively stable series of average BRIX over the preseason period from the early-September (7.76 mg/ml) to the mid-November sample (8.74 mg/ml). “Good” levels of BRIX (≥ 8 mg/ml) varied between 33% (September 3 sample) to 62% (October 16 sample). “Poor” levels of BRIX (< 6 mg/ml) varied between 2% (October 16 sample) to 25% in the September and October samples.



(B) Blood Protein (BRIX) Categories – Annual Samples 3-4 weeks before season start

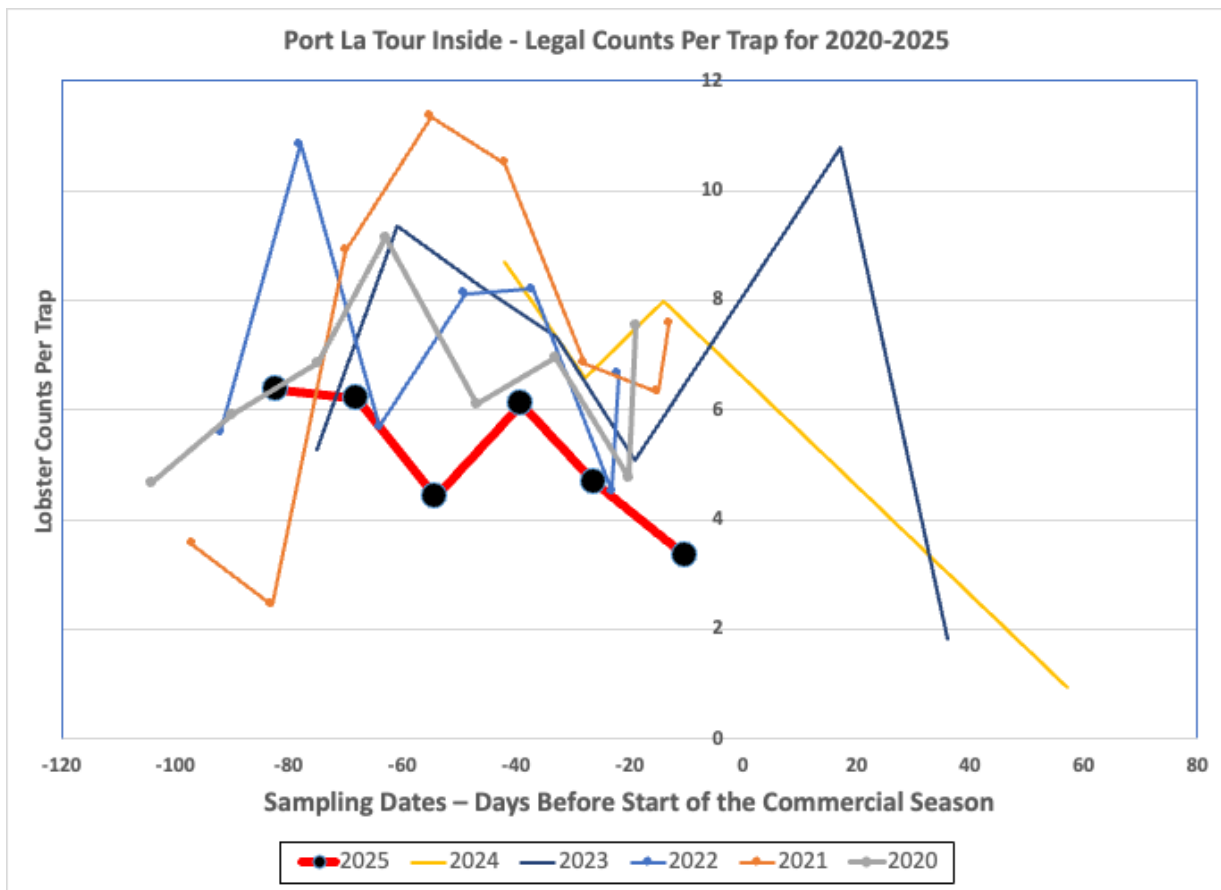
Annual samples 3-4 weeks from the start of each commercial harvest season opening are variable across the series from 2012 to 2025 for Port La Tour Inside. The October 29, 2025 sample is directly comparable to the October 30, 2014.



(C) Counts (legal-sized) per trap for 2025 samples

Counts per trap of lobsters (male and female) of legal-sized (82.5 mm or greater) that occurred in the survey samples dates in 2025 (thick red line) are compared to past years' samples (2020-2022) for Port La Tour (Inside). In 2025, Port La Tour (Inside) counts per trap are below past years' counts at similar sampling dates and show a declining trend into the start of the commercial season (legal counts estimated at 4 counts per trap).

Consequently, it is anticipated that catches in Port La Tour Inside will be reduced compared to past years. Commercial catch rates are expected to fall precipitously after the beginning of the commercial season as legal-sized lobster abundance is extracted (as per 2023 and 2024 in-season samples illustrated below).



Counts of weak lobsters in the 2025 Port La Tour (Inside) preseason samples were negligible at less than 1%.

The average percentage of Soft lobsters per sample in 2025 were also at low levels of less than 2% and comparable to the series slow values of 2021 for this location. However, Soft+Medium lobsters were higher at 66% of Port La Tour (Inside) samples (Table 6).

5.2.6 PORT LA TOUR OUTSIDE

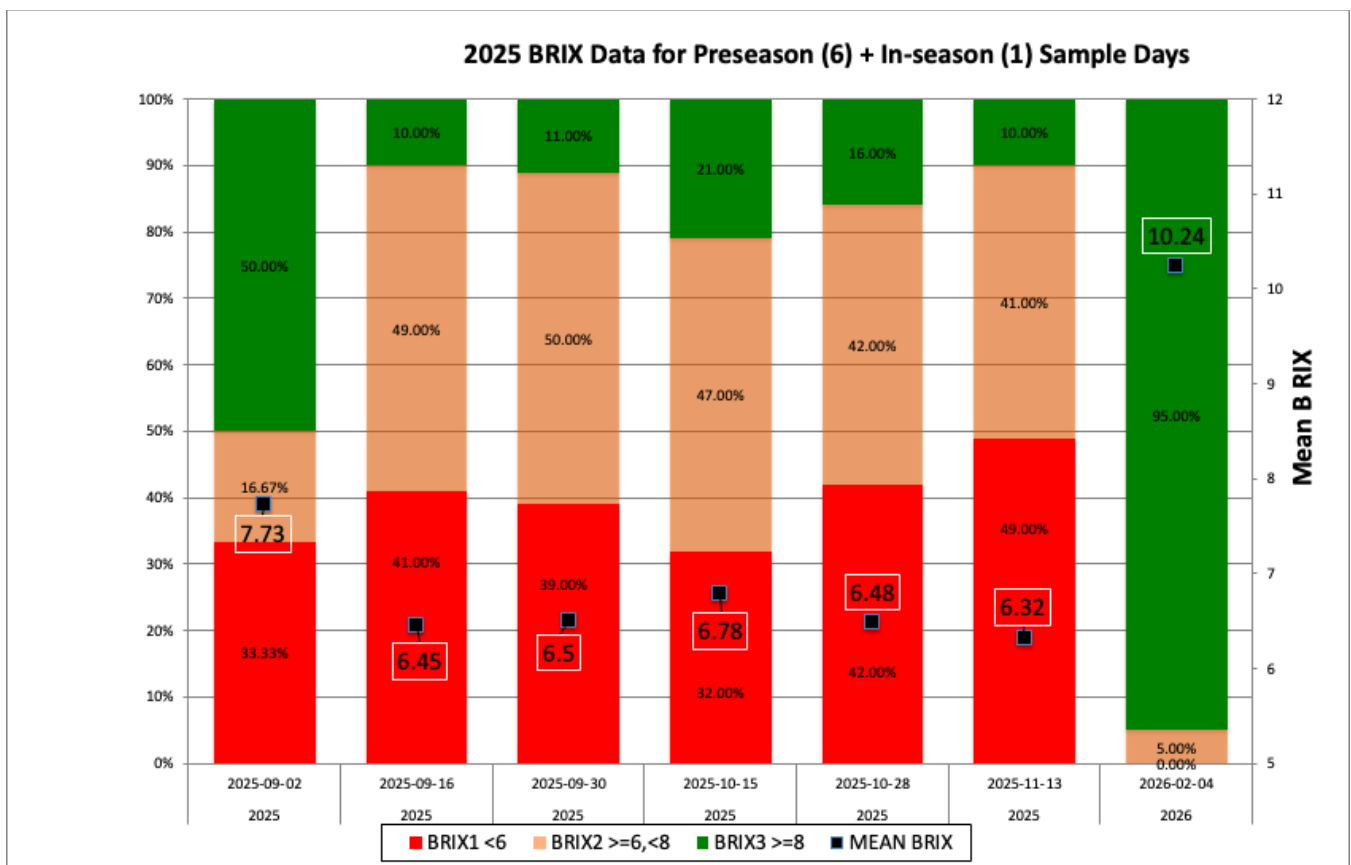
2025 SUMMARY OF RESULTS

(A) BLOOD PROTEIN (BRIX) CATEGORIES—2025 SAMPLES

2025 sampling results are presented for 6 preseason sample sites and 1 in-season sample in Port La Tour Outside. Beyond the first sample of early September, average BRIX values per sample are steady. Average BRIX values range from a high of 6.78 mg/ml in mid-October to a low of 6.32 mg/ml in mid-November.

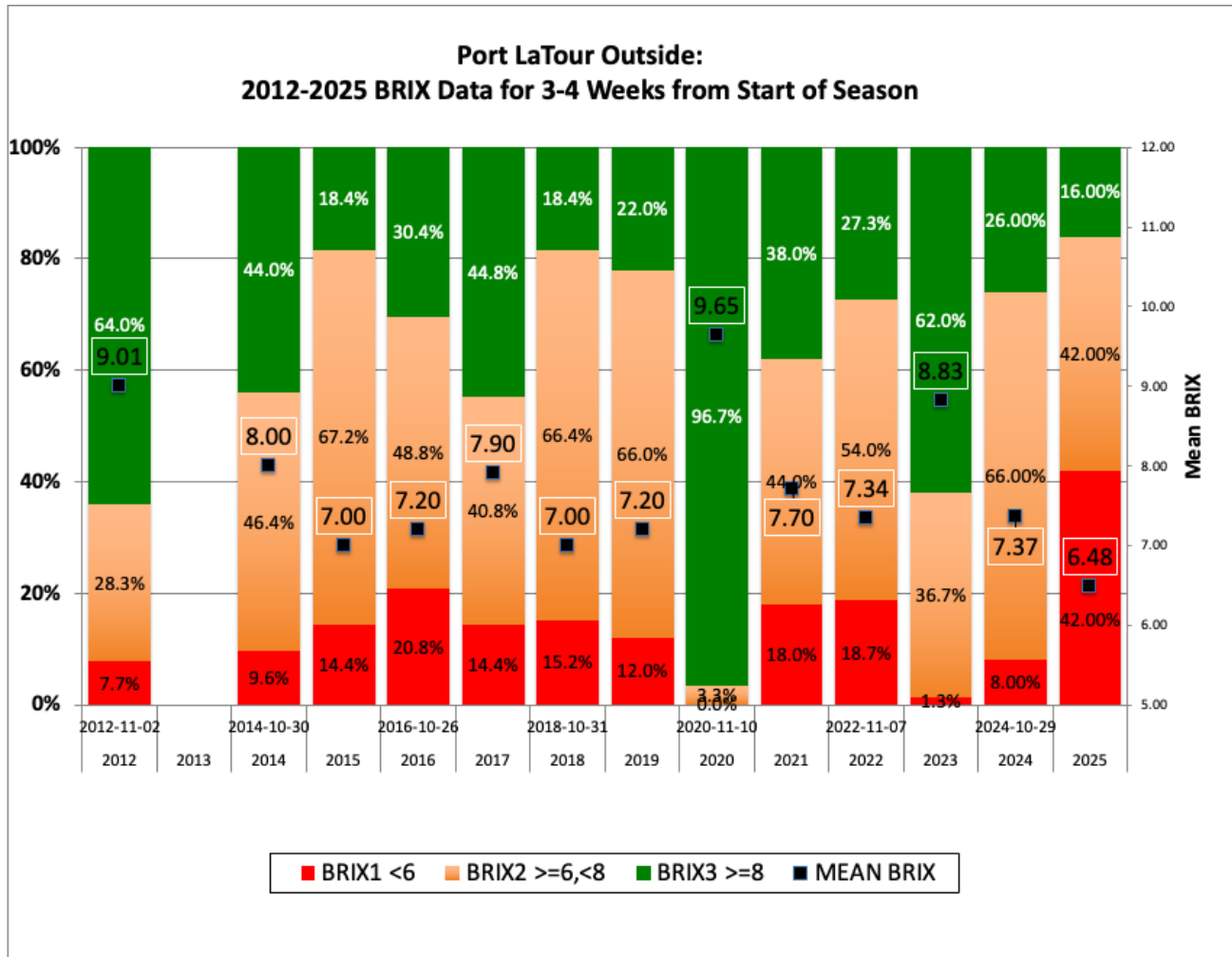
BRIX level categories are relatively constant with “Good” levels of BRIX (≥ 8 mg/ml) varying between 10% to 21% while incidences of “Poor” lobsters in samples to the end of the sampling period vary from 32% to 49%.

The single in-season sample (February 4, 2026) attained the highest BRIX average of 10.24 mg/ml in the series. This sample also had zero lobsters at BRIX levels below 6 mg/ml.



(B) Blood Protein (BRIX) Categories – Annual Samples 3-4 weeks before season start

Annual samples 3-4 weeks from the start of each commercial harvest season opening are highly variable across the series from 2012 to 2025 for Port La Tour Outside. The October 28, 2025 sample is comparable to the October 26, 2016 sample with similar average BRIX value (7.2 versus 6.48 mg/ml) and comparable BRIX category levels.



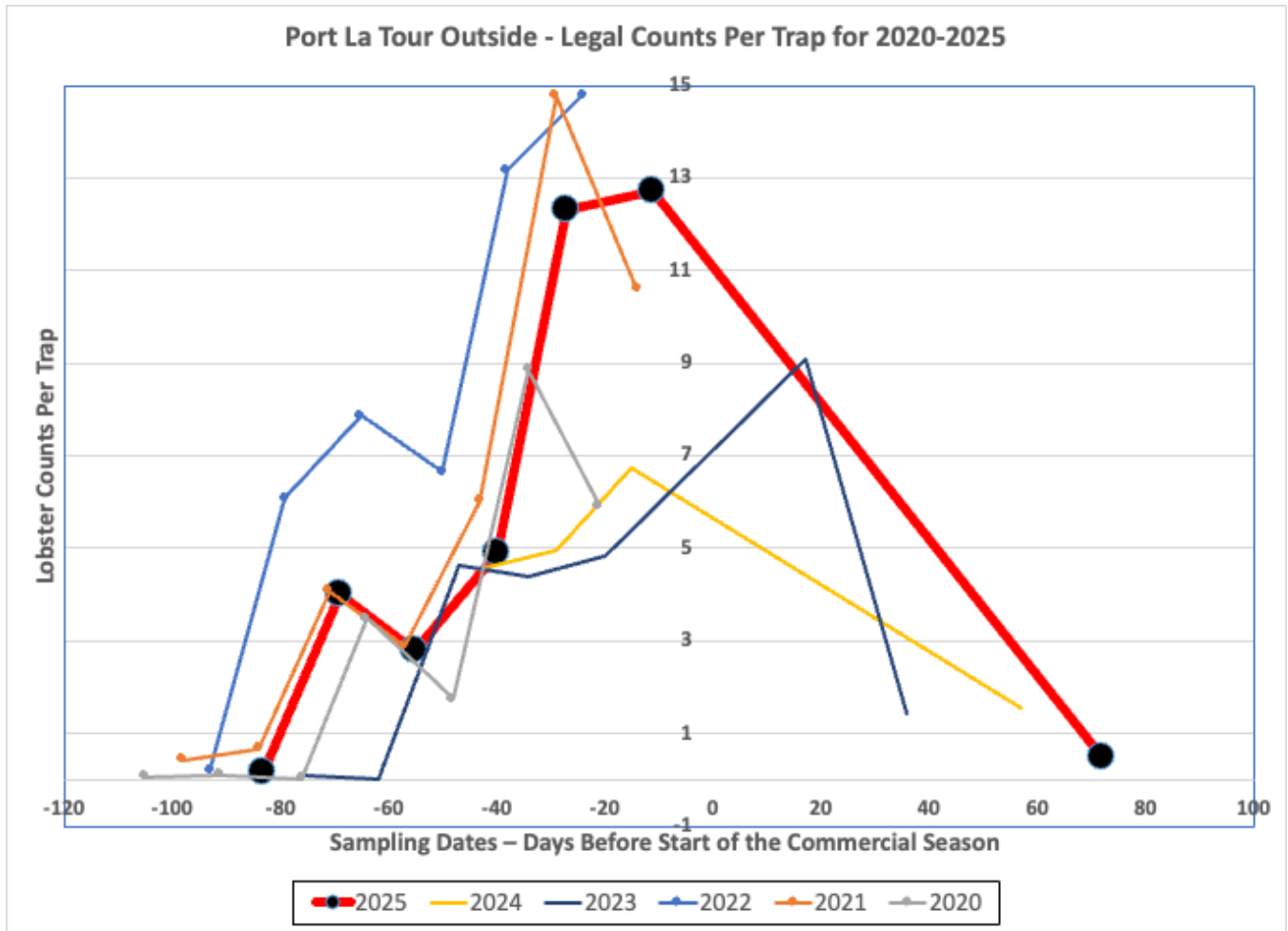
(C) Counts (legal-sized) per trap for 2025 samples

Counts per trap of lobsters (male and female) of legal-sized (82.5 mm or greater) that occurred in the survey samples dates in 2025 (thick red line) are compared to past years' samples (2020-2024) for Port La Tour (Outside). In 2025, Port La Tour (Outside) counts compare similarly to past years' counts at similar sampling dates.

The 2025 time series of counts per trap over the preseason in Port La Tour Outside exhibit a rise to the end of the sampling period (mid-November) similar to the 2021 and 2022 counts per trap series in this location. This is followed by a fall to low levels of counts per trap in the in-season sample (0.5 lobster per trap in the sample).

It is expected that commercial catches in Port La Tour Outside in 2025 will be similar to those of 2021 and 2022. Predicted legal counts per trap are between 12 and 14 lobster pre trap.

As evidenced by the February 4, 2026 in-season sample, commercial catch rates fall precipitously after the beginning of the commercial season as legal-sized lobster abundance is extracted (as occurred in 2023 and 2024 in-season samples illustrated).



Counts of weak lobsters in the 2025 Port La Tour (Outside) samples were negligible at levels less than 1% per sample.

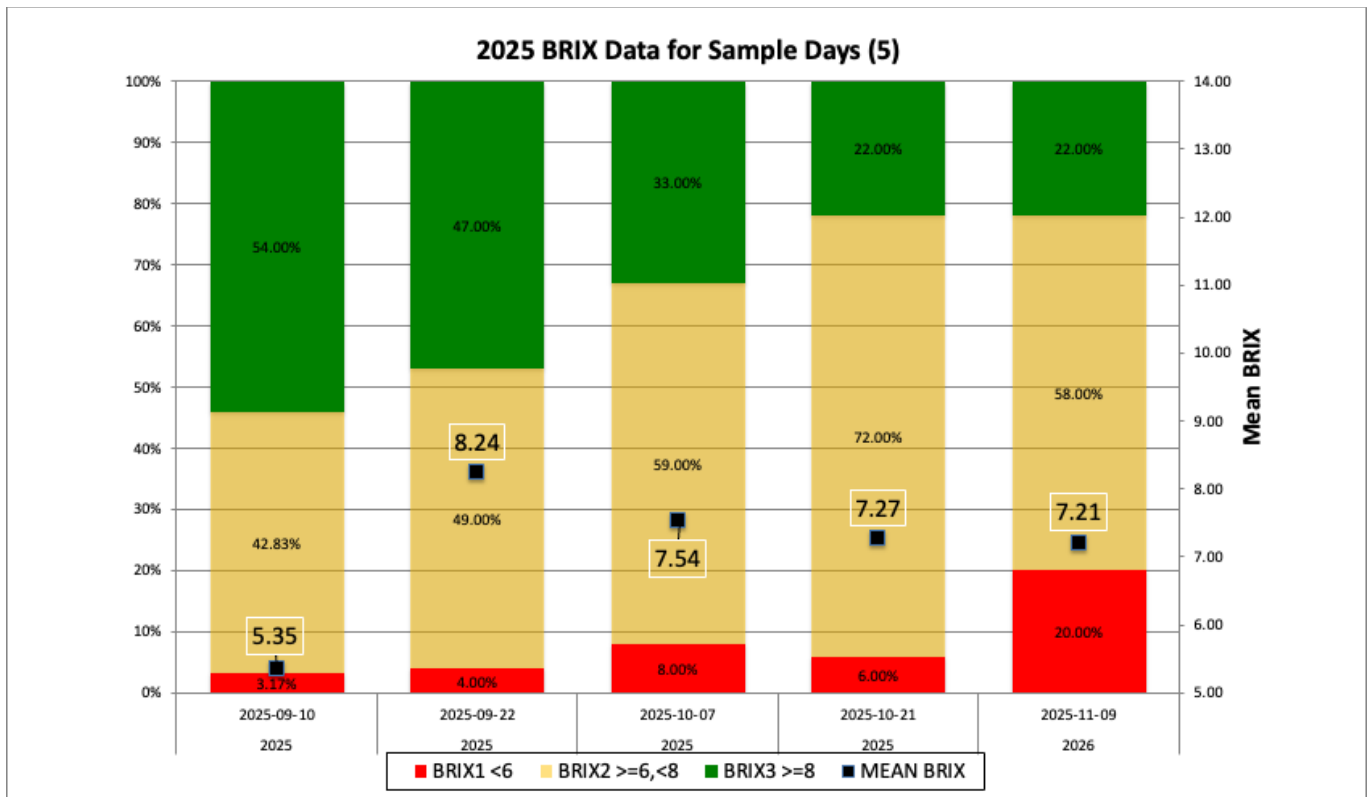
The average percentage of Soft lobsters per preseason sample was only 2%. However, Soft+Medium lobsters were considerably higher at 83% of Port La Tour (Outside) samples (Table 6).

5.2.7 ST. MARY’S BAY INSIDE

2025 SUMMARY OF RESULTS

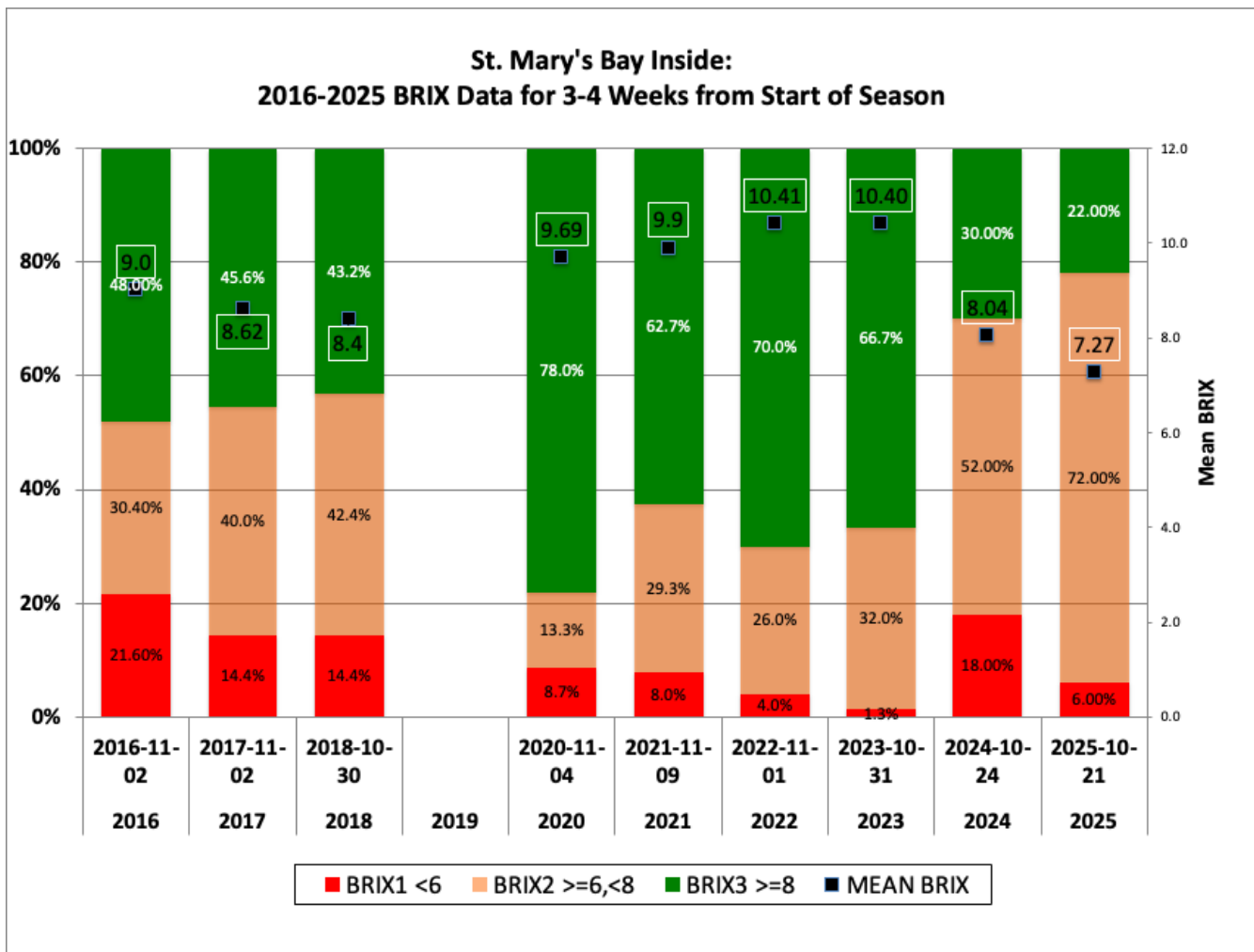
(A) BLOOD PROTEIN (BRIX) CATEGORIES–2025 SAMPLES

2025 preseason survey results for 5 sample sites in St. Mary’s Bay Inside are provided. Beyond the initial September 10 sample, average BRIX values tend to fall from the end September sample (8.24 mg/ml) to the final early-November sample (7.21 mg/ml). “Good” levels for BRIX (≥ 8 mg/ml) decline over the same period from less than 50% to near 20%. At the same time, the proportion of “Poor” lobsters (BRIX < 6 mg/ml) sampled in St. Mary’s Bay Inside gradually increase from 4% to 20% by the early-November sample at the end of preseason sampling.



(B) Blood Protein (BRIX) Categories – Annual Samples 3-4 weeks before season start

Annual samples 3-4 weeks from the start of each commercial harvest season opening are somewhat variable across the series from 2016 to 2025 for St. Mary’s Bay Inside. The 2025 sample (October 21) has the lowest BRIX average (7.27 mg/ml) in the series. The October 21, 2025 sample is most closely comparable to the October 24, 2024 sample (which has the second lowest BRIX in the series at 8.04 mg/ml).

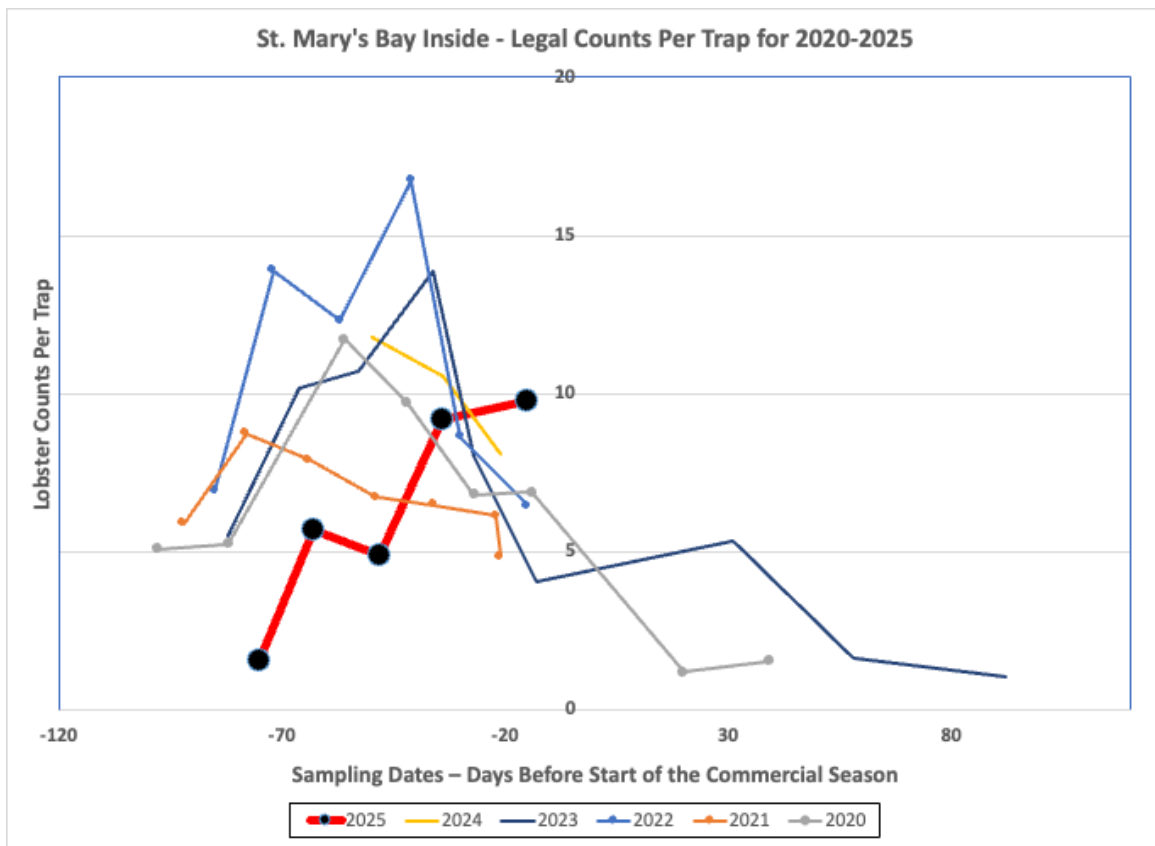


(C) Counts (legal-sized) per trap for 2025 samples

Counts per trap of lobsters (male and female) of legal-sized (82.5 mm or greater) that occurred in the survey samples dates in 2025 (thick red line) are compared to past years' samples (2020-2024).

Counts per trap for St. Mary's Bay (Inside) are of intermediate values relative to the previous years' comparable counts with an increasing trend over the preseason sampling period. Early in the preseason, counts per trap were well below past years at similar dates. By the end of sampling, legal counts per trap in this area exceed past years counts (to approximately 10 legal counts per trap). Consequently, it is anticipated that St. Mary's Bay catches at the start of the commercial season may increase relative to past years with predicted levels of 8 to 10 counts per trap.

As evidenced by the 2020 and 2023 in-season sampling commercial catch rates are expected to fall precipitously after the beginning of the commercial season as legal sized lobster abundance is extracted (as for the in-season samples of 2020 and 2023 illustrated).



Counts of weak lobsters in the 2025 St. Mary's Bay Inside samples were negligible at less than 2% per sample. Similarly, average percentage of Soft lobsters were also below 2% in the preseason samples. However, Soft+Medium lobsters per sample in 2025 were elevated to 53% lobsters per sample (Table 6).

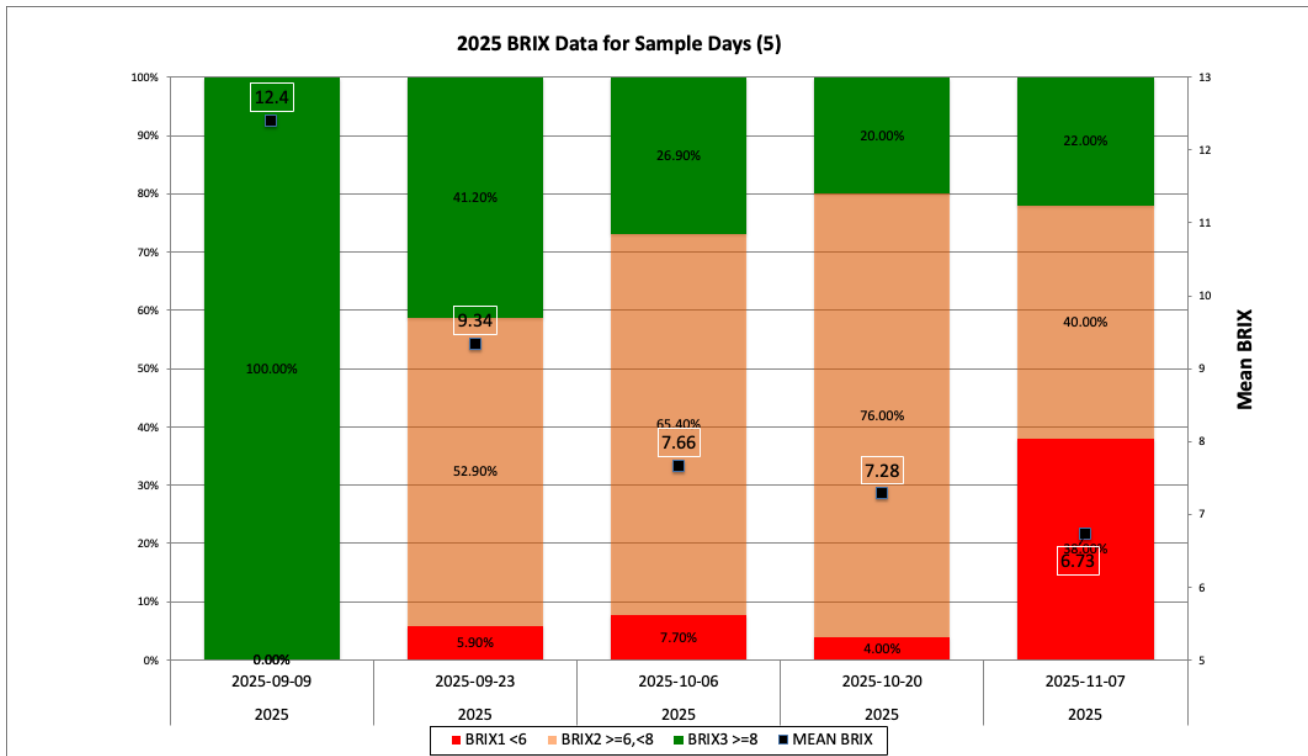
5.2.8 ST. MARY’S BAY OUTSIDE

2025 SUMMARY OF RESULTS

(A) BLOOD PROTEIN (BRIX) CATEGORIES–2025 SAMPLES

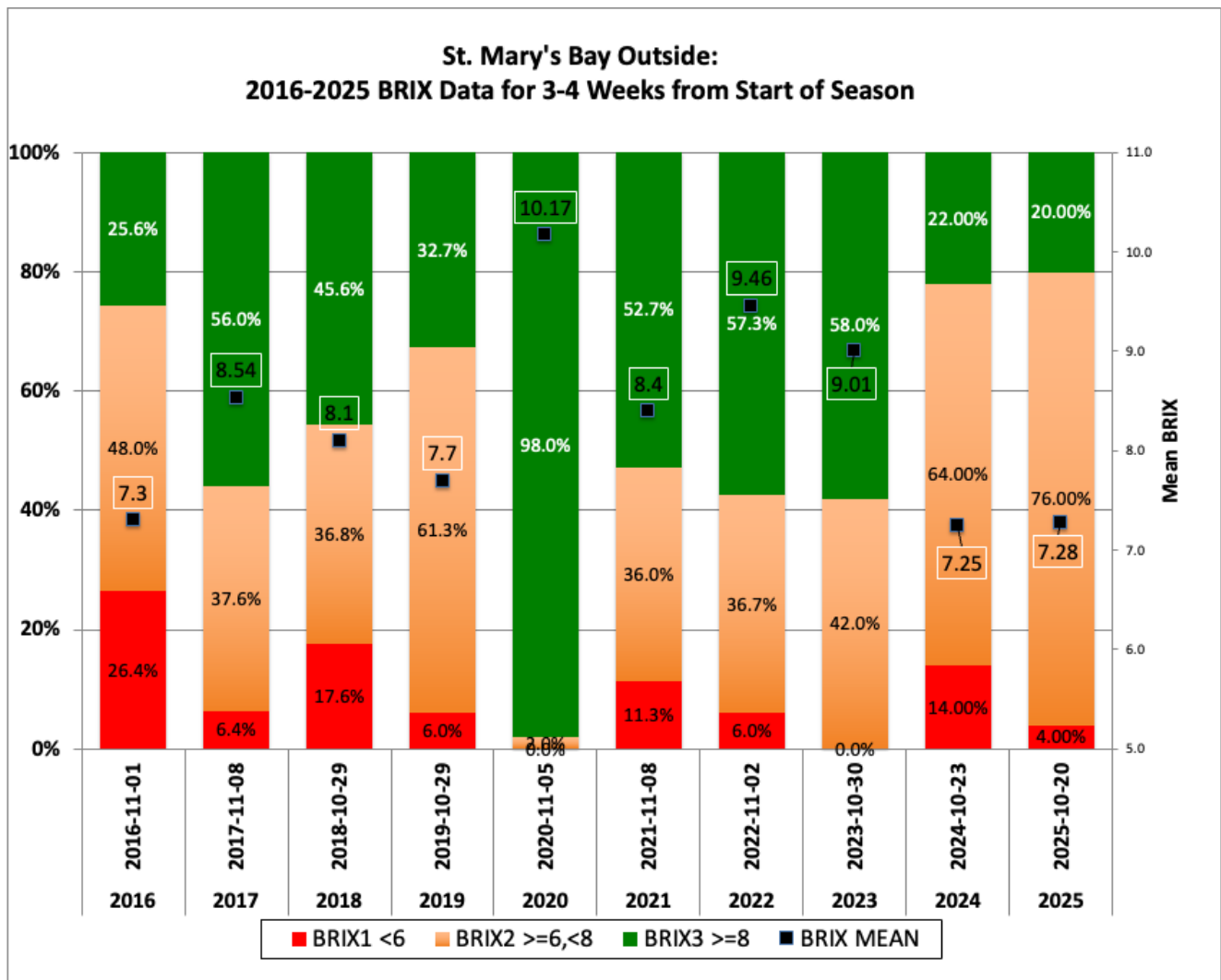
2025 preseason survey results for 5 sample sites in St. Mary’s Bay Outside are presented. Beyond the early September sample (which had limited availability), there is a steady decline in average BRIX ranging from a high of 9.34 mg/ml (September 23 sample) to the low of 6.73 mg/ml at the ending early-November 7 sample.

BRIX category levels shifted with samples attaining “Good” levels for BRIX (≥ 8 mg/ml) that declined from 41% down to 20% over the sampling period. The proportion of “Poor” lobsters (BRIX < 6 mg/ml) sampled in St. Mary’s Bay Outside grew from 6% to almost 40% by the end of sampling. Average BRIX level at the end of the sampling period (6.73 mg/ml) approach unacceptable category levels (at 6 mg/ml).



(B) Blood Protein (BRIX) Categories – Annual Samples 3-4 weeks before season start

Annual samples 3-4 weeks from the start of each commercial harvest season opening are variable across the series from 2016 to 2025 for St. Mary’s Bay (Outside). The 2025 sample (October 20) is directly comparable to the October 23, 2024 sample that has the lowest BRIX average (7.25 mg/ml) in the series. This low BRIX also approximates the 2025 average BRIX of only 7.28 mg/ml.

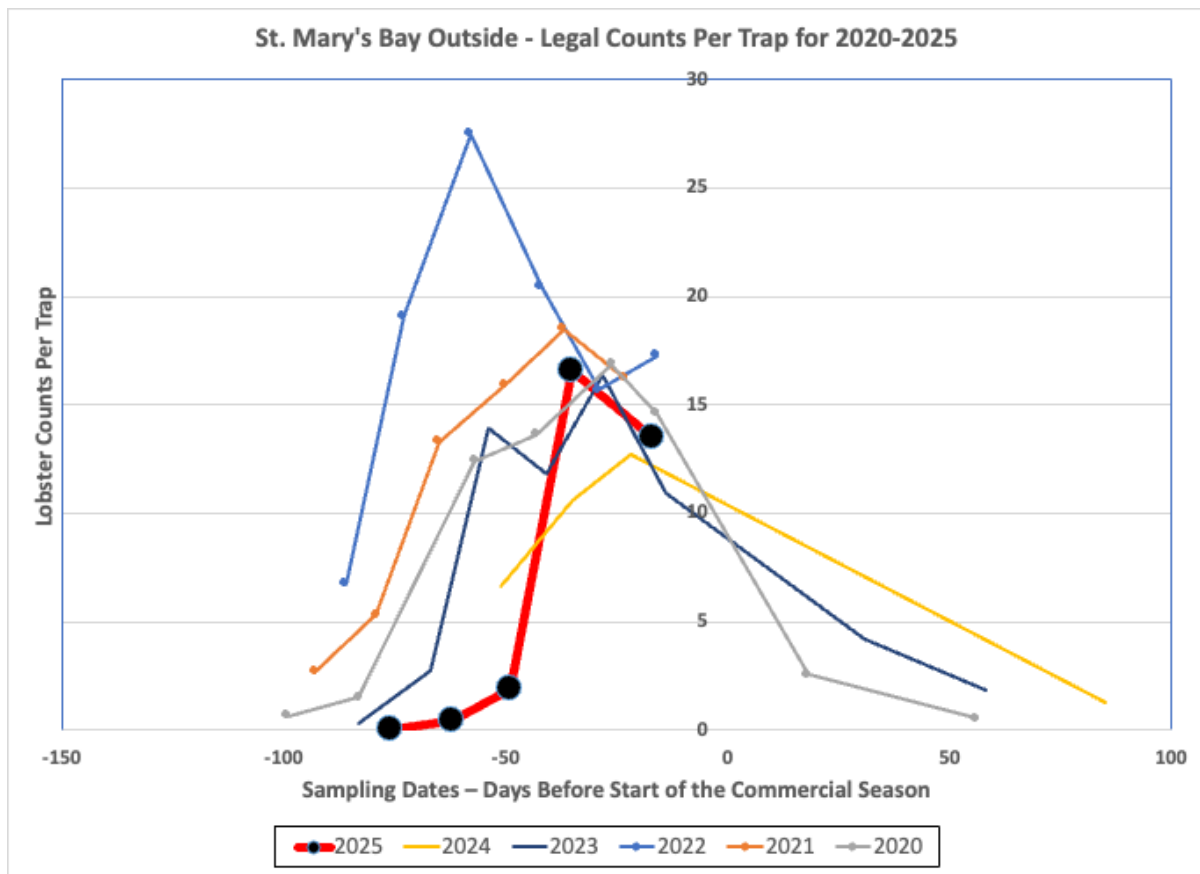


(C) Counts (legal-sized) per trap for 2025 samples

Counts per trap of lobsters (male and female) of legal-sized (82.5 mm or greater) that occurred in the survey samples dates in 2025 (thick red line) are compared to past years' samples (2020-2024).

For the early samples of 2025 (early-September through early-October), the counts for St. Mary's Bay Outside are the lowest in the time series for comparable dates prior to season opening. However, the late October and early November samples show a recovery of legal counts per trap to levels comparable to past years. Consequently, it is anticipated that this recovery will continue into the start of the commercial season when legal catch counts are estimated to be near 14-16 legal lobsters per trap in St. Mary's Bay Outside.

As evidenced by the 2020, 2023, and 2024 in-season sampling for St. Mary's Bay Outside commercial catch rates are expected to fall precipitously after the beginning of the commercial season as legal sized lobster abundance is extracted.



Counts of weak lobsters in the 2025 St. Mary's Bay Outside samples were negligible at levels below 1% per sample.

Similarly, average percentage of Soft lobsters in samples were also less than 1% per sample. However, Soft+Medium lobsters per sample in St. Mary's Bay (Outside) were elevated to nearly 75% in the 2025 preseason samples (Table 6).

6 In-season Sampling Data in 2025-2026

The 2025-2026 sampling program included 6 sampling location-dates that took place after the beginning of the commercial lobster fishing season from February 4, 2026 in Port La Tour (Outside) to March 22, 2026 in Lobster Bay (Inside). In-season sampling activity was below expectations in 2025-26 due to poor weather conditions and cold water that tended to reduce catch rates.

6.1 In-season Sampling Data

In-season samples took place in the Outside subarea of Port La Tour, the Outside area of Yarmouth Bar, and the Inside area of Lobster Bay, as summarized in Table 10. As per the 2025 sampling protocol (Table 1), in-season samples were comprised of 100 legal-sized lobsters per location-date, as available.

Table 10. Summary of 2026 In-season Sampling Data

Sampling Location	Samples Subarea	2026 Sampling Dates	#Counts Harvested	Total Samples	Ave Legal Cts/Trap	Sample Ave BRIX	% Change Ave BRIX*	Sample %Soft	Sample %Soft+Medium	Sample %Weak
Lobster Bay LFA 34	Inside	20-Feb	114	100	0.35	11.20	27.15%	3.00%	47.00%	0.00%
		22-Mar	127	100	1.08	11.87	34.76%	0.00%	34.00%	0.00%
	Outside	-	-	-	-	-	-	-	-	-
Port La Tour LFA 33	Inside	-	-	-	-	-	-	-	-	-
	Outside	04-Feb	80	100	-	10.24	57.04%	0.00%	45.00%	0.00%
St. Mary's Bay LFA 34	Inside	-	-	-	-	-	-	-	-	-
	Outside	-	-	-	-	-	-	-	-	-
Yarmouth LFA 34	Inside	-	-	-	-	-	-	-	-	-
	Outside	20-Mar	135	72	0.50	9.23	19.79%	1.39%	84.72%	0.00%
IN-SEASON TOTALS				Lobsters Sampled	Ave Legal Cts/Trap	Average BRIX	Ave BRIX %Change	Overall %Soft	Overall %Soft+Medium	Overall %Weak
			456	372	0.74	10.74	34.69%	1.08%	50.27%	0.00%

[^]Zero In-season samples were taken in Lobster Bay (Outside), St. Mary's Bay (Inside+Outside), and Yarmouth (Inside) in 2025-2026.

*Average BRIX % change compares average preseason BRIX means by location with average in-season BRIX means.

#Counts Harvested totals include legal and sublegal lobsters in 4 strings of 10 traps per string.

In-season samples consistently show markedly improved overall BRIX indicators over all areas across all in-season sampling dates, as expected. Overall in-season 2025-26 BRIX has a mean of 10.74 (Table 10) versus the overall areas preseason BRIX mean of 7.98 mg/ml (Table 3), a +35% change. In-season samples also showed low %Soft and %Weak values respectively of 1.08% and 0.0% on 372 total in-season samples (Table 10).

As for the case of preseason samples, the percentage of Soft lobsters in samples was low, while the percentage of Soft+Medium lobster was elevated. In-season percentages of 50% are compared to 67% for preseason Soft+Medium lobsters in samples. These higher percentages of Soft+Medium lobsters in samples imply lower percentages of "Hard" (hardness scale=5) lobsters in 2025 samples.

6.2 Preseason and In-season Comparison

The preseason and in-season sample results are compared to the corresponding 2025 preseason samples for each location with the 2026 in-season samples. An examination of the performance results of the preseason prediction indicators of Table 9 compared to the in-season results of Table 10 is provided in Table 11 below. There was no in-season sampling in St. Mary's Bay Inside or Outside subareas in 2025-26.

6.2.1 Lobster Bay (Inside only) In-season Results

There were 8 total sampling periods for Lobster Bay (Inside) including 2 in-season sample dates (February 20 and March 22, 2026). In-season samples were 3 and 4 months after the start of the commercial season (November 26, 2025 in LFAs33&34). The in-season samples included predominantly high quality lobster BRIX (85% of lobsters exceeding 8 mg/ml) with average BRIX sample over 11 for both cases. Average BRIX improved by over 30% in comparison of the preseason and in-season values.

6.2.2 Port La Tour (Outside only) In-season Results

The single in-season sample occurred February 4, 2026 in the Port La Tour (Outside) area, 5-weeks after the start of the commercial season. Average BRIX in the sample exceeded 10 mg/ml an increase of over 57% in comparison to the preseason average BRIX for Port LA Tour (Outside). The in-season sample had 95% of lobsters with BRIX greater than or equal to 8 mg/ml, and zero lobsters with BRIX below 6 mg/ml.

6.2.3 Yarmouth (Outside only) In-season Results

The single in-season sample was taken March 20, 2026 in the Yarmouth (Outside) area, a full 4-months after the start of the commercial season. Average BRIX in the sample exceeded 9 mg/ml an increase of over 20% in comparison to the preseason average BRIX in this area. The in-season sample had 88% of lobsters with BRIX greater than or equal to 8 mg/ml, and zero lobsters with BRIX below 6 mg/ml.

6.2.4 Preseason Predictions versus In-season Results

The total of 6 in-season sampling periods provide a check on the preseason lobster quality indicators and predictors (Table 9) as presented in the Lobster Quality 2025 Preseason Sampling Program: Preseason Summary Report (Thomas, Mulock and Lane 2025). Table 11 compares the lobster quality predictors by location to the observations of the in-season sampling results of Table 10.

Average BRIX predictors are all below the in-season average BRIX values for Lobster Bay (Inside), and the Port La Tour and Yarmouth Outside areas. It is noted that the predictors were meant to apply to "early season" values applicable to December 2025 and January 2026. The actual 2026 in-season samples of February and March are beyond the "early season" time frame when BRIX are expected to climb higher into the premoult period for LFA33&34 lobster.

In contrast, average counts per trap in the "early season" predictors all overestimated the actual in-season later observations. This result is likely evidence of a deteriorating trend into the Winter months (February

and March) of 2026 with regard to colder water inhibiting lobster catchability and poor weather conditions inhibiting trap hauls.

The significant overestimation of average counts per trap may be of concern with regard to overall actual catches in the current 2025-26 commercial season. In the 2023-24 commercial season, catches rebounded significantly in the Spring of 2024 to mitigate the poor start of that season. However, in the Spring of 2024, cold waters into April and poor status of lobster in catches continued to be reported as the commercial season in LFAs33&34 would down. In the Spring of 2026, waters remained cold in southwest Nova. Meanwhile, reopening of LFAs in the Bay of Fundy and eastern Nova Scotia brought promise of good catches and lobsters of high Spring quality.

Predictors for average percentage Soft hardness levels and weak lobsters in samples were low following the negligible preseason sampling results for these indicators. These low results are also repeated in the 6-in-season samples across the areas at levels (Table 11). However, results for Soft+Medium lobster show a large actual percentage (85%) in the 2 Lobster Bay (Inside) in-season samples that exceeds the preseason sample average (56%). Lower percentages in the Outside in-season samples at Port La Tour and Yarmouth Bar (41-45%) fall below the preseason values of 54% and 83% respectively.

Table 11. 2025 Preseason Sampling Predictors Performance vs In-season Sampling

Locations: Predictors:	Yarmouth Inside	Yarmouth Outside	Lobster Bay Inside	Lobster Bay Outside	Port La Tour Inside	Port La Tour Outside	St.Mary's Bay Inside	St.Mary's Bay Outside
In-Season Samples (Dates)	X	72(1)	200(2)	X	X	100(1)	X	X
Ave BRIX Predict (mg/ml)	9	8	9	10	9	8	8	8
In-season Obs Average BRIX	X	9.23	11.53	X	X	10.24	X	X
Ave Legal Counts Per Trap Predict	10	16	17	15	4	13	10	16
In-season Obs Ave Leg Cts/trap	X	1.03	0.70	X	X	0.50	X	X
Ave % Soft*	0.6%	0.4%	5.0%	2.3%	1.7%	2.2%	1.6%	0.5%
In-season Obs Ave % Soft	X	1.4%	1.5%	X	X	0%	X	X
Ave % Soft+Med*	54%	56%	54%	61%	66%	83%	53%	74%
In-season Obs Ave % Soft+Med	X	85%	41%	X	X	45%	X	X
Ave % Weaks Predict	1%	1%	<1%	<1%	1%	<1%	<1%	<1%
In-season Obs Ave % Weaks	X	0%	0%	X	X	0%	X	X

*Average Soft indicators are taken from Table 6 and the November 2025 preseason sampling report (Thomas, Mulock and Lane 2025).

Notes: Table 9 predictor values are denoted in **red text**; **green cells** denote in-season observations that exceed the corresponding predictor value; **blue cells** denote in-season observations that are less than the corresponding predictor value.

7 Discussion

The objective of this report is to present all information from the 2025-26 preseason and in-season sampling program—in the most concise manner—for the benefit of the lobster sector in Nova Scotia. The extent of the expansive sampling program dataset and the variety of the rich information therein makes this a challenging task. This challenge is met by following strictly the sampling protocol (described in Table 1 above) each year of the sampling program so that observations are substantiated, validated and, where necessary, verified so that they are comparable across years as well as by sampled location. Following the protocol is at once a requirement for good data collection (leading to validated data analyses) as well as a goodwill protector against biased observations. We are confident that the 2025-26 dataset contributes unbiased observations of sampled lobsters in LFAs33 and 34 as per the full 2006-2026 dataset.

It is also important to note what this dataset does not do. The lobster data collected are samples taken from 8 defined subareas of LFAs 33 and 34. As such, these data provide representative information about lobster quality indicators in these different and specific subareas. The data do not represent the entire LFA as a whole neither do they pretend to provide information on live lobster status for other LFAs around the region. This is the reason why designated subareas are established – they represent a variety of integrated parts of the whole of the LFA that permit repeated observation and longitudinal analyses that characterize good data. For example, the single representative data for the subarea of Port La Tour in LFA33 cannot be expected to be representative of actual results of lobster quality across the entire expanse of LFA33 since it is well-known that key components of LFA33 (such as around the Halifax area) are not included in the Port La Tour dataset. Rather, Port La Tour provides an integrated location in a separate jurisdiction that enables comparison with the other areas of the database that happen to be in LFA34 – St. Mary's Bay, Lobster Bay, and Yarmouth Bar. Similarly, these LFA34 subareas sampled in the dataset may not be considered representative of lobster status across the entire LFA34.

Given the rich – and variable – observations of the sampling dataset from this report, we may anticipate that other lobster quality observations from these same LFAs may nevertheless differ from the results observed and presented here. In such a case, we caution the need to substantiate all observations and adhere to the same protocols as the dataset presented here so that the observations may be directly comparable. In situations where observations follow a different protocol or adopt different approaches to collecting data, then we understand that effort needs to be made to align the different data collection protocols so that the results may be justly comparative.

Since 2006, there have been some years of excellent quality (2012, 2013) and others of poorer and deteriorating quality (2015, 2016, 2024) as measured by the distribution of BRIX values from the preseason samples (e.g., Figure 6). Our ability to discriminate each year's sample using the same protocol standards improves as we collect and consider more years of historical data. The objective of the preseason and in-season sampling programs by location is to carry out a structured, statistical analysis of year-over-year comparisons to gauge the early season prediction of lobster quality by fishing areas. This information, we believe, is of benefit to Nova Scotia harvesters, processors, buyers, exporters and decision makers looking to prepare inventories for live and processed markets that yield most value to the lobster sector. The following discussion considers the outlook for the preseason and in-season lobster sampling program in LFAs33&34 and presents issues for continuous improvement of this report for the benefit of the lobster industry looking strategically toward the coming commercial seasons.

7.1 Annual Lobster Quality and Landings Comparison

In the current commercial season 2025-26, and for the second consecutive annual Final Report (2024-25 and 2025-26), there are instances of BOTH lobster BRIX values (Figure 16) AND catches per trap (Figure 17) declines relative to the historical values of the database from 2020 to 2023. Prior to 2024, when sampling catches per trap had decreased, there was typically a signal of rising lobster BRIX values. Vice versa, when catches per trap were up, then typically BRIX values were relatively lower. In 2025-26, this is particularly notable in St. Mary Bay (Inside and Outside), as well as Port La Tour (Inside) and Yarmouth Bar (Outside). This concurrence raises questions about other broader possibilities that may present themselves in the LFAs33&34, e.g., state of the lobster ecosystem, lobster abundance and other survival issues.

It was also reported in the 2021-2022 final report (Mattock, Mulock, and Lane 2022a) that overall predictions of lobster quality and lobster landings in LFAs 33 and 34 can be seen as an independent time series that moves annually according to detectible and comparable trends. We caution that a strict annualized time series analysis approach may ignore sporadic yearly exogenous factors that clearly affect lobster fishing effort (i.e., numbers of trap hauls) and subsequent landings, independent of lobster quality, e.g., fishing effort, weather conditions, access and allocation disputes, shore prices, lobster inventory and catchability, international markets, as well as global socioeconomic conditions (i.e., global public health issues in a pandemic, or economic fluctuations).

Again this year, this final report does not report on estimates of commercial landings compared to the preseason and in-season lobster sampling program. Further research on the dynamic determinants of lobster effort and catches by LFA – including predicted and perceived quality – is ongoing toward preparing sufficient analyses of the potential impacts of perceived quality on catch and effort for lobster. Future final reports of the preseason and in-season sampling program will seek to define quality rankings and grading definitions in further detail based on the historical and the current BRIX observations (Lane, Theriault, David and Tobin 2026 – In progress).

7.2 Decision Opportunities

The ability to compare historical data by selected sites may allow industry to consider options about when and where to harvest quality lobster. For example, industry may consider setting harvesting openings, e.g., if the prediction on quality expects harvests with low BRIX (and corresponding lower meat percentage levels), and high offloading losses, or lower lobster catchability, then it may be preferable to shift harvesting to alternative locations (e.g., Inside areas being preferred temporarily to Outside areas) that may have better than expected BRIX performance and catch rates to enable storage and shipment of higher valued quality product. Alternatively, lower BRIX levels may trigger industry decisions to move product from storage and shipment for live markets into processed product until lobster quality improves.

These options can be evaluated in advance and based on modelling of the historical annual lobster BRIX observations into the commercial season combined with price trends and dynamic behaviour, e.g., based on inventory levels, in order to help lobster harvesters and the industry to make decisions on where and when to fish to improve harvest quality and overall value to the lobster sector over the course of the commercial seasons. Future full reports will endeavour to research and model the value implications of alternative decisions that may be a consequence of the observed BRIX profiles of the preseason sampling program. On-going research is underway toward decision modelling in the lobster sector (Lane, Theriault, David and Tobin 2026 – In progress).

7.3 Lobster Abundance Considerations

In 2024, the United States considered new lobster fishery regulations that would have revised minimum lobster carapace size from 82.5mm to 84mm. This measure was considered due to the perceived reduction of juvenile lobsters appearing in commercial traps along the New England coastline and into the Gulf of Maine. The US measures were cancelled prior to the proposed January 2025 implementation that would have had serious repercussions on Canadian lobster fisheries and, in particular, lobster commercial fishing in LFAs33 and 34 – the focus of this report. Estimates of up to 25% shipments of Canadian lobster to the United States could have faced rejection from US markets if the proposed regulations had in fact been implemented. Original American concerns were that lobster egg production may be declining, e.g., due to migration, climate change, disease, or other impacts (such as increased juvenile lobster predation from seals populations) were hindering historical lobster recruitment. In LFAs33&34, the year-over-year decline in commercial catches since the peak catches of the 2015-16 season is sufficient to trigger further research on lobster resource concerns.

The Lobster Quality Centre is in the process of reviewing these data toward framing research on determining lobster abundance estimates based on observed lobster catch per unit effort, i.e., catch per unit trap or CPUT. The idea consists of using: (1) pre-season sampling data on lobster counts per trap by location (as noted in this report) and (2) commercial (logbook) data on catch weight and trap hauls (Fisheries and Oceans Canada 2022) to develop an estimate of commercial catchable biomass and expected catch per trap over the season in specific LFA34 subareas. That analysis applies knowledge of annual lobster moult dynamics (Factor 1995) to determine expected moult and lobster catchability over the year. Data observations from the sampling program (dataset for this report) are matched with counts per sampling trap with data by subareas. Together, the moult schedule, lobster catchability, and observed catch data enable an annual estimate of lobster Catch Per Unit Trap (CPUT) over the year by subarea. Assuming relevant catchability coefficients by area (based on sampling data protocols results, temperature shifts, and knowledge of the moult cycle), an estimate of an index of catchable biomass may be determined. A Lobster Quality Centre Working Paper is currently in progress to explore these concepts. Additionally, the Lobster Quality Centre is currently exploring potential impacts on lobster abundance including warming temperatures and shifts in ocean acidification (pH levels). This extensive work also involves consideration of the impact of predation (e.g., including grey seals) on juvenile lobster stocks.

7.4 Lobster Conditions

The commercial lobster season of 2024-25 was marked by poor lobster status from the beginning of the season in December 2024 and continuing into April 2025. Industry participants reported lower BRIX and higher incidences of “soft” lobster, lower than expected catches, and higher than expected lobster mortalities in storage facilities.

After the difficult 2024-25 season, the 2025-26 season has been characterized by caution. The Lobster Quality Centre through the Marine Research Centre in laboratory in Petit de Grat continues to engage lobster facilities throughout the province of Nova Scotia to undertake sampling and water quality analyses at facilities, and to advise owners on best practices toward developing improved conditions for lobster harvesting and storage. Subsequently, the industry has taken steps to be cautious in 2025-26. While

overall BRIX remain low relative to past years, reports of soft and weak lobster in 2025-26 are reduced compared to 2024-25. Meanwhile, the hard winter of 2025-26 and cold water has resulted in lower than expected catches in some areas. The lingering cold of March and April in the southwest Nova region has delayed the anticipated rebound of Spring catch rates as occurred in the Spring of 2023. Nevertheless, at the time of writing of this report (end April) there are signs that May may bring some improvement in lobsters coming to traps.

7.4 Sampling Program Funding Plan

As in previous reports, the future of the ALMQ sampling program in southwest Nova is precarious due to continued funding concerns. Since 2020, the program has relied on provincial and federal funding mainly through the Atlantic Fisheries Fund (AFF) principally to finance at-sea sampling via costly commercial vessel charters. It has been made clear once again by governments that future funding of sampling, analysis and reporting must become more of a responsibility of the lobster industry for whom the work has been directed. To date, while participation and response regarding the ALMQ program from industry has been unanimously positive, funding from industry has been limited. In response to the requests from government funders to engage industry in this lobster sampling program, we endeavour to present in this report alternatives for reduced government funding requests and enhanced industry involvement.

It is understood that future sampling surveys will continue to follow the traditional protocols (Table 1) toward maintaining the integrity of the longitudinal database – among the world’s longest running marine scientific databases. This continuation seeks to ensure the availability to industry of annual LFA 33 and 34 information on the status of lobster quality, in a timely manner, prior to the start of the commercial season (at end November) and in a full final report each Spring. The information includes: individual lobster statistics, lobster harvests by location-area samples, lobster sample counts, moult stages (pleopod analyses), hardness scale analyses, and year-over-year comparative analyses implicating the full database.

Proposed revisions to annual lobster sampling in LFA33&34 with enhanced industry participation is characterized by the following points:

1. Reduce the numbers of high cost preseason surveys based on a trimmed sampling program;
2. Shift costly preseason sampling to in-season sampling on commercial charter vessels during which lobsters are retained as part of the commercial fishery; include a per trip vessel stipend to participating commercial vessel captains to subsidize in-season data collection in place of fully costed vessel charters;
3. Extend sources of annual cash contributions as subscriptions to Nova Scotia lobster companies as subscribers and including harvesters, processors, buyers, and exporters for the regular on-going delivery of lobster sampling raw data as just-in-time lobster biological status throughout the reception of the preseason and in-season data from the Data Collection Technician; (a preliminary version of this ‘data drop’ to industry participants was inaugurated as a test in the Fall of 2025 during preseason sampling; a limited group of lobster industry subscribers took delivery of these just-in-time data prior to the start of the 2025-26 season and release of the preseason summary report (Thomas, Mulock, Lane 2025); and
4. Expand the on-board data collection of data to include blood samples for analysis (preseason and in-season) and a limited number of live lobster samples for post-harvest analysis during in-season sampling only when lobsters are retained as part of commercial catches.

7.5 Future Preseason Sampling Survey Outlook

Finally, future reports and research initiatives will seek to:

- provide the preseason summary report of the LFA33&34 lobster sampling program to industry members including our CLA members partners, members of the Nova Scotia Seafood Alliance, as well as other members of lobster sector including harvesters, processors, buyers, exporters and lobster companies at least **1 week prior to the start of the commercial season** in order for effective decision making to take place based on the information provided in the report; it is recognized that the usefulness of the summary report released at the start of the season is diminished if the report arrives too close the season start that does not allow industry members to prepare appropriately;
- establish and apply a lobster grading function consistent with industry grading schemes (Lane et al 2025, update in progress);
- enhance the program of temperature data collection and temperature modelling analyses (e.g., regression of surface temperatures to estimate bottom temperatures) associated with the changing marine climate, and the potential for creating conditions that may lead to increased incidences of epizootic shell disease (ESD);
- develop a specific Quality Indicator time series for each location and inside-outside area that combines lobster landings, BRIX, and other determinants of lobster quality measures across the subareas of LFA34;
- develop statistical analyses using the information in the entire ALMQ database 2006-2025 to discriminate years into quality categories for direct comparison and future analysis and prediction;
- develop a dynamic lobster BRIX level model for the 8 locations in order to track sample BRIX level changes over the preseason sampling period and to prepare a forecast of (i) BRIX level distributions and (ii) average BRIX estimates for the start of the commercial season at end November annually to be presented in the Preseason Summary of the commercial season;
- develop a lobster Catch (kg) Per Trap (CPT) analysis based on commercial and sampling data and link to indices of catchable lobster biomass by subarea through the lobster annual BRIX model;
- match lobster quality analyses with ongoing feedback from industry (e.g., as a condition for industry subscribers to ongoing raw sampling data) as to the usefulness of the information for improved industry value and decision making;
- implement the proposed funding plan, in collaboration with federal and provincial governments for the continuation of the extended ALMQ into 2026 and beyond including promoting this continued work with the LQC Advisory Board, the Department of Fisheries and Aquaculture of the Province of Nova Scotia, and Fisheries and Oceans Canada; and maintain the stellar working relationship between Coldwater Lobster Association and the Lobster Quality Centre, Université Sainte-Anne to deliver the annual lobster sampling program data analyses for public consumption and the extension of ongoing research on lobster resource dynamics.

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9 Acknowledgements



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