

NOVA SCOTIA AQUACULTURE REVIEW BOARD

IN THE MATTER OF: *Fisheries and Coastal Resources Act*, SNS 1996, c 25

- and -

IN THE MATTER OF: An Application by KELLY COVE SALMON LTD. for a boundary amendment and two new finfish aquaculture licenses and leases for the cultivation of Atlantic salmon (*Salmon salar*) – AQ#1205x, AQ#1432, AQ#1433, in Liverpool Bay, Queens County

Affidavit of Peter Norsworthy affirmed on February 19, 2024

I affirm and give evidence as follows:

1. I am Peter Norsworthy of Paradise, Newfoundland and Labrador. I am the President of Pisces Consulting Limited, a company which provides consulting services to the Atlantic Canadian seafood industry.
2. I have personal knowledge of the evidence affirmed in this affidavit except where otherwise stated to be based on information and belief.
3. I state, in this affidavit, the source of any information that is not based on my own personal knowledge, and I state my belief of the source.
4. I have received and reviewed the report of Chris Milley attached as Exhibit A to his Affidavit affirmed on January 19, 2024 (the “**Milley Report**”) and filed in this proceeding by the Intervenor Group of 22 Fishermen.
5. Kelly Cove Salmon (“**KCS**”) has requested my independent expert opinion in response to the opinions expressed in the Milley Report.
6. My response to the Milley Report is attached as **Exhibit A**.
7. My CV is attached as **Exhibit B**.

AFFIRMED before me in Halifax, Nova Scotia on February 19, 2024.

[Redacted]

A Barrister of the Supreme Court of Nova Scotia

[Redacted]

Peter Norsworthy

DAVID A. BARRY
A Barrister of the Supreme Court of Nova Scotia

**KCS Application re AQ#1205X, AQ#1432,
AQ#1433 in Liverpool Bay, Queens County**

This is **Exhibit A** referred to in the Affidavit
of Peter Norsworthy, affirmed before me
on February 19, 2024.



A Barrister of the Supreme Court of Nova
Scotia

DAVID A. BARRY
A Barrister of the Supreme
Court of Nova Scotia

Rebuttal Report
Liverpool Bay Site Economic Impact Analysis
Peter Norsworthy
February 19, 2024

1. **Preamble:** At the request of Kelly Cove Salmon (“KCS”), I have reviewed the report prepared by Chris Milley of Nexus Coastal titled “*Economic Profile of the Liverpool Bay Inshore Lobster Fishery – January 2024*” which was attached as Exhibit A to his Affidavit affirmed on January 19, 2024 and filed by the Intervenor Group of 22 Fishermen (the “**Milley Report**”).

2. In this report, I respond to the conclusions in the Milley Report in respect of the economic impact of KCS’s proposed salmon growout operation in Liverpool Bay, particularly with respect to the economic output of lobster harvest calculated in the Milley Report.

Summary

3. The fundamental argument of the Milley Report is that the economic value of the lobster fishery within subarea 310 of LFA 33 will be compromised if the Liverpool Bay proposal is accepted. This independent review concludes that the lobster fishery will not be compromised based on the following examination of the most current available public information.
4. There is no license restriction that prohibits license holders from fishing anywhere within LFA 33. The most recent information indicates that only 0.05% of the suitable LFA 33 fishing area (depths <100m) is impacted by the 7.3 million trap hauls each year. There appears to be adequate real estate within LFA 33 for license holders to fish elsewhere.
5. KCS's proposed sites comprise only 0.72% and cages only 0.13% of Subarea 310, so inferring that the fishery in the entire subarea 310 will be compromised is an overstatement.
6. Subarea 310 yields the third lowest total catch and the second lowest catch per km² of all 22 coastal adjacent subareas in LFA 33, indicating it is one of the least productive lobster fishing areas in LFA 33.
7. The economic impact of Subarea 310 lobster fishing is believed to be overstated given publicly available information regarding landing trends and prices. The Milley Report estimated landed lobster value of \$4.2m, whereas analysis of publicly available information indicates it is likely \$2.2m.
8. Once fully productive the proposed sites will yield approximately 1.7million salmon every two year cycle, equating to annual farm gate value of approximately \$50million.
9. Compared to the economic impact of all Subarea 310 lobster landings the proposed sites provide 25 times more sales, 20 times more GDP, 15 times higher income generation and 11 times more full-time equivalent jobs.

1.0 Mandate for Sustainable Growth of Aquaculture in NS

10. The NS Fisheries and Aquaculture Minister [mandate letter](#) specifically tasked the Minister to:¹
- (a) Support low-impact, sustainable aquaculture by implementing a proper licensing process that places much weight on environmental considerations and includes provincial regulation for potential environmental impacts, animal welfare, fish health and/or pest control product sale and use.
 - (b) Create a classification system under which coastal areas would be rated as Green, Yellow or Red based on their suitability for fin-fish aquaculture, which was one of the core recommendations of the Doelle-Lahey Report.
 - (c) Engage with key stakeholders regarding the open pen aquaculture licensing process.
11. In March 2023 an [Aquaculture Regulatory Review](#) report was completed in accordance with the mandate letter. This was an exhaustive review and included broad consultations with representation across all stakeholder groups and from every area of the province. A total of 17 recommendations were provided and the concluding remark from the author, Davis Pier, was:²
- 'While the recommendations identified in this report do not prescribe a roadmap forward, they do suggest next steps for incremental change along the journey of continuous improvement to strengthen the regulations.'*
12. There were a series of recommendations to increase transparency of information and public participation regarding aquaculture licenses. The NS Department of Fisheries and Aquaculture accepted the report and stated their commitment [to move forward with recommendations from the report](#). This current hearing demonstrates this commitment by the NS Department of Fisheries and Aquaculture.

¹ Online: https://novascotia.ca/exec_council/letters-2021/ministerial-mandate-letter-2021-FA.pdf

² Online: <https://novascotia.ca/fish/aquaculture/laws-regs/docs/regulatory-review-final-report.pdf>

13. **Conclusion:** *The NS Department of Fisheries and Aquaculture has followed the mandate letter from the Premier and has accepted and is now adopting recommended changes from the Aquaculture Regulatory Review.*

14. The seafood export sector in Eastern Canada is highly interdependent, with trade of live lobster and fresh seafood among various exporters and across provincial borders. This permits synergy across the sector and reduces overcapitalization. For example, when supply gluts occur a live lobster exporter may sell some of their inventory to another when holding capacity is exceeded and/or when the market is sluggish. As a result, economic benefits are, and always should be, calculated on a provincial and/or national basis, which is contrary to the following statement by Mr. Milley that infers that economic benefits should remain within a small geographic catchment area.

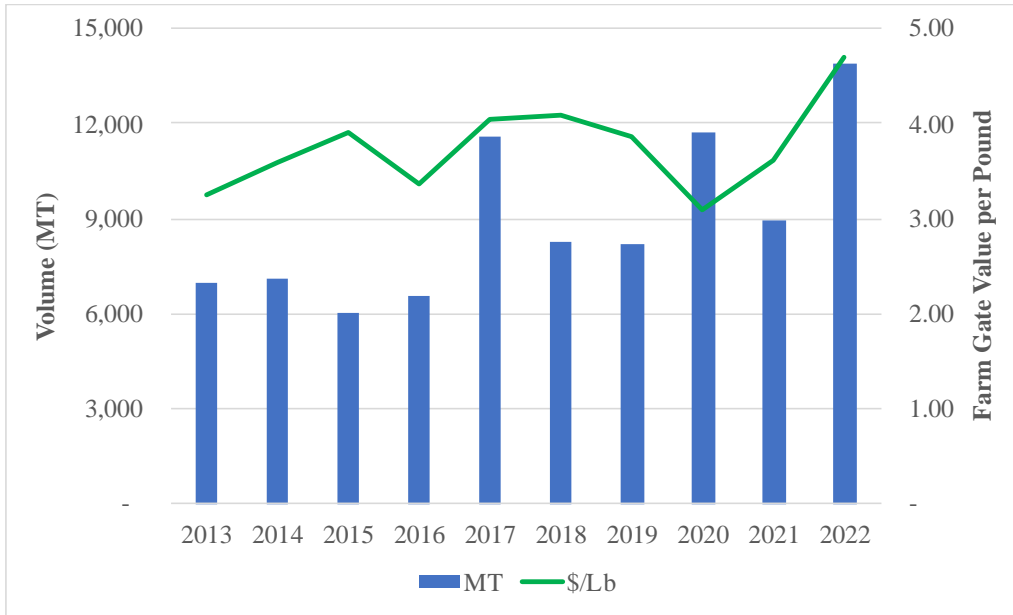
'.....revenues from the Project will likely be accrued primarily to interests outside the Liverpool area.' (page 2)

15. Kelly Cove Salmon publicly stated on [September 14, 2023](#) (*Statement Regarding the Nova Scotia Aquaculture Review Board Liverpool Bay Hearing*) that the proposed sites would provide up to 20 new 'direct' jobs and that additional materials and services would be purchased in the community. This is contrary to the following statement from Mr. Milley.

'...it is understood that the expansion of the Kelly Cove Aquaculture operations in Liverpool Bay will not generate new employment in the area,...' (page 2)

16. Finfish aquaculture in NS has achieved growth in volume, 102%, and significant growth in value, 189% over the period reviewed, worth \$144 million in 2022. With an annual growth in volume of nearly 10% and 19% in value, the finfish aquaculture sector supports a growing number of year-round highly skilled and qualified staff members.

Figure 2.1: Finfish aquaculture volume and value



Source: [Statistics Canada](#)

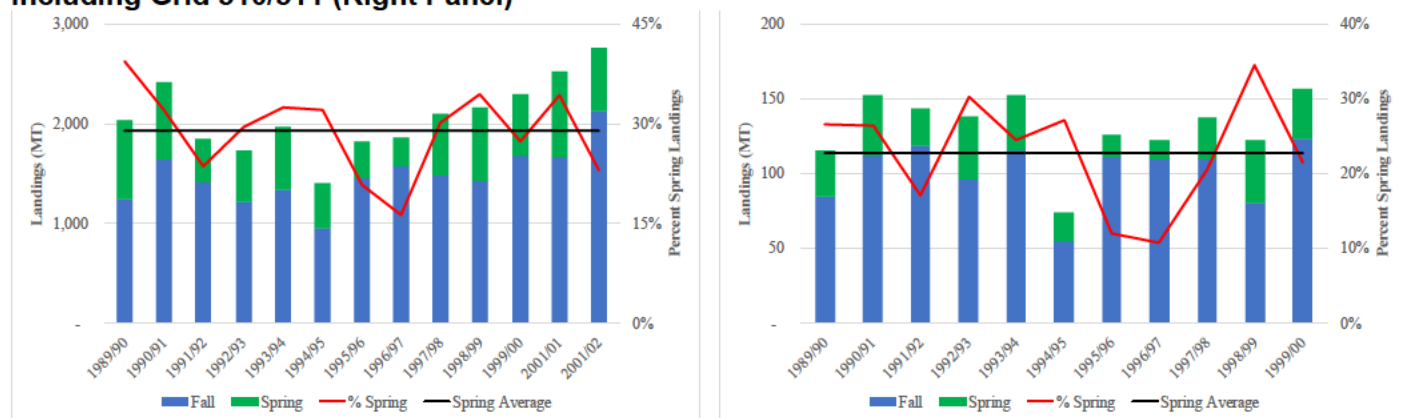
17. **Conclusion:** Expansion of finfish aquaculture provides high paying year-round employment to a growing number of people in Nova Scotia and Atlantic Canada.

3.0

The LFA 33 Lobster Fishery

18. The LFA 33 fishery is open from late November until the end of May. Historically, DFO reported landings by season, before and after March 1, indicating that 29% of lobster in LFA 33 were harvested in the spring with significant variation in only 2:13 years reviewed. Though examination of seasonal catch is not available by grid, a study examining landings by port cluster³ indicates that the spring catch is lower, 23% versus 29%, which may be reflective of the reduced number of enterprises⁴, 32 versus 46, that participated in the spring versus fall fishery.

Figure 3.1: Seasonal landings of lobster in LFA 33 (Left Panel) and Port Cluster 8 including Grid 310/311 (Right Panel)



Source: [Stock Status Report 2004/038](#), and [Research Document 2001/019](#)

19. **Conclusion:** Historically, most of the lobster are harvested in the fall season, and fewer enterprises participate in the spring fishery.
20. **Spatial impact of lobster fishing:** The lobster fishery is pursued exclusively with traps (pots). The Fishery Management Plan [The Fishery Management Plan](#) (Section 2.2.4) states:⁵

'The trap footprint on the sea bottom is small and traps are weighted to restrict movement caused by currents. The area affected is thus limited primarily to the trap footprint area (< 0.62 m²) and the area of disturbance as the trap is hauled.'

³ [Research Document 2001/019](#) Port Cluster 8 included Grids 310 and 311

⁴ [Research Document 2001/019](#) Tables 1 and 2

⁵ DFO, "Lobster Fishing Areas 27 – 38: Integrated Fisheries Management Plan, Maritime Region, Updated March 2022", online: <https://www.dfo-mpo.gc.ca/fisheries-peches/ifmp-gmp/maritimes/2022/inshore-lobster-homard-cotiere-eng.html#fig4>

21. Further, the most recent scientific research document, [Science Response 2023/007](#), indicates:
- (a) The LFA 33 area covers 25,722 km² from Halifax to Shelburne County. Though the LFA extends out to 92 km (50 nautical miles), the fishery is primarily prosecuted within 15 km (100 m depth contour) on the eastern end and more recently into offshore areas on the western end (*Page 1*);
 - (b) 2021-2022 landings were 7,005 mt, based on 90% of logbooks received (*Page 2 Table 1*); and
 - (c) 2021-2022 three-year running median CPUE (Catch per unit effort) was 0.95 kg per trap haul (*Page 3*).
22. **Conclusion:** *The lobster fishery in LFA 33 had a total of ~7.4 million trap hauls in 2021-2022, equating to 4.57 km² of spatial impact in LFA 33. The LFA 33 fishing area is 25,722 km², so the spatial impact of lobster fishing across the entire area is only 0.02%.*
23. **License requirements:** The license condition for LFA 33 - 2022/23 (Condition ID 7280) does not limit where any individual license holder may fish within LFA 33.
24. **Conclusion:** *There are no license restrictions regarding where fishers may set their traps within LFA 33.*
25. **Data limitation of lobster catch:** The following excerpt from the LFA 33 – 2022/23 license indicates that the published results of harvest by grid could be under or overstated due to reporting limitations if an enterprise fishes more than three grids in an individual trip.
- 'Grid #: Enter the grid number where your traps were hauled. If traps were hauled from more than three grids, provide information (weight and species of catch) for the three main grids fished and then combine the information from the extra grids with the information from the closest of the three main grids.'* (*Page 13*)
26. **Conclusion:** *Data limitations results in uncertainty regarding reported lobster landings and effort within each subarea.*

4.0

Subarea 310 Lobster Fishery

27. The most recent landing information (2015-2019) for Subarea 310 in LFA 33 had average landings of 125,252 kg, ranging from 97,596 kg to 167,270 kg, that comprise 1.7% of the LFA 33 landings. On average, both catch and trap hauls in Subarea 310 have declined 19% over the five year period.

28. **Subarea 310 catch analysis:** The Milley Report asserts:

'The productive lobster grounds within and directly adjacent to Liverpool Bay produce higher than average catches than the other nearby grounds along the coast.....' (page 1)

29. The table below presents the most recent (2019) available information regarding all LFA 33 coastal adjacent subareas. As indicated, Subarea 310 had the third lowest overall catch, second lowest catch per km², and was 13th of 22 subareas in catch per trap haul.

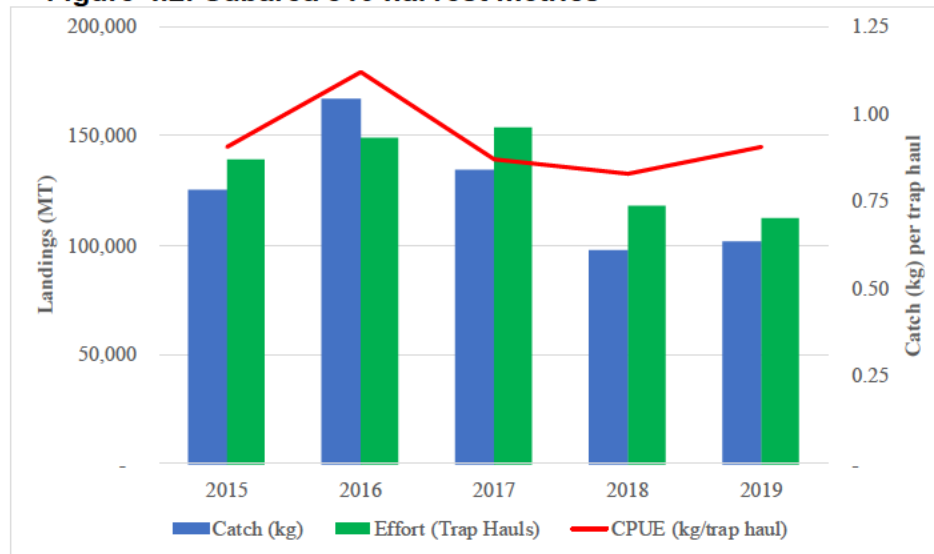
Figure 4.1: LFA 33 Coastal adjacent grid catch statistics (2019)

Subarea	Catch (kg)	Catch (kg) per km ²	Catch (kg) per trap haul
301	476,258	4,045	0.83
302	260,077	2,364	0.91
303	161,167	1,304	0.79
304	177,847	1,755	0.94
305	137,623	935	0.66
306	277,718	2,762	0.97
307	169,327	1,639	1.09
308	123,975	666	1.01
309	285,293	1,310	1.07
310	101,643	600	0.91
311	167,194	714	1.17
312	277,815	931	0.71
313	242,203	1,037	0.76
314	120,809	1,291	0.68
315	58,798	395	0.78
316	78,901	868	0.84
317	254,867	878	0.87
318	139,165	1,106	0.72
319	242,032	837	0.71
320	191,648	908	0.73
321	208,651	835	0.93
322	214,465	49	1.15

Source: DFO

30. Examination of Subarea 310 performance over a five year period (2014-2019) indicates:
- (a) Landings have declined 19% over the period; and
 - (b) Effort has declined 19% over the period.

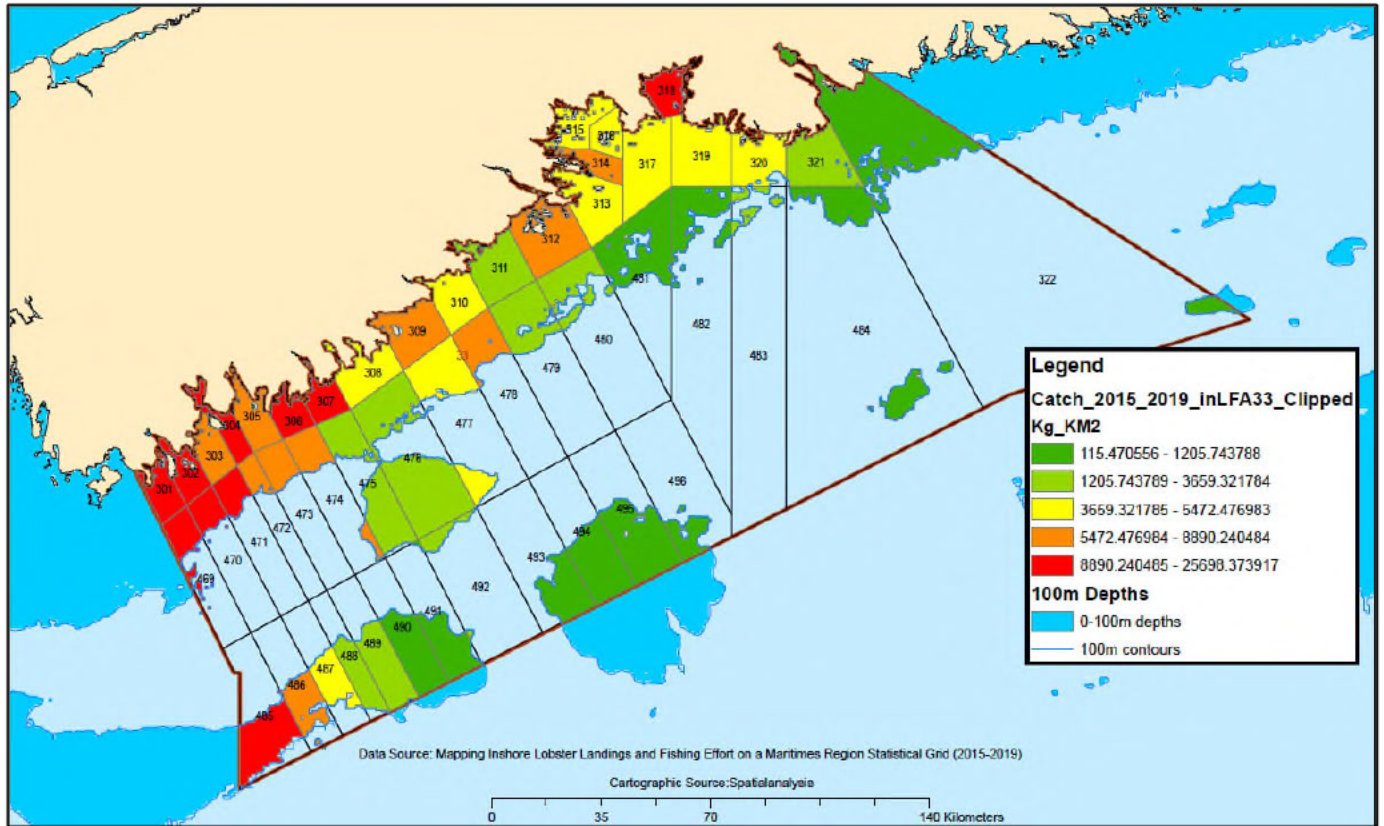
Figure 4.2: Subarea 310 harvest metrics



Source: DFO

31. **Conclusion:** Subarea 310 is one of the least productive lobster fishing areas within LFA 33.
32. Figure 4.3 illustrates the five year cumulative catch by subarea in LFA 33. Using published DFO information, the map was modified to reflect the most common fishing depth of <100m. As illustrated all inshore adjacent subareas are less than 100m, whereas much of the mid and offshore fishing areas are >100m. In total, the area in LFA 33 that is <100m is 9,177 km² (Spatial Analysis), or 35.7% of the LFA 33.
33. **Conclusion:** The most common lobster fishing occurs in depths <100m, which comprises 35.7%, or 9,177 km² of LFA 33.
34. In terms of cumulative catches, Subarea 310 is directly adjacent to two other areas that provide consistently higher catch rates.

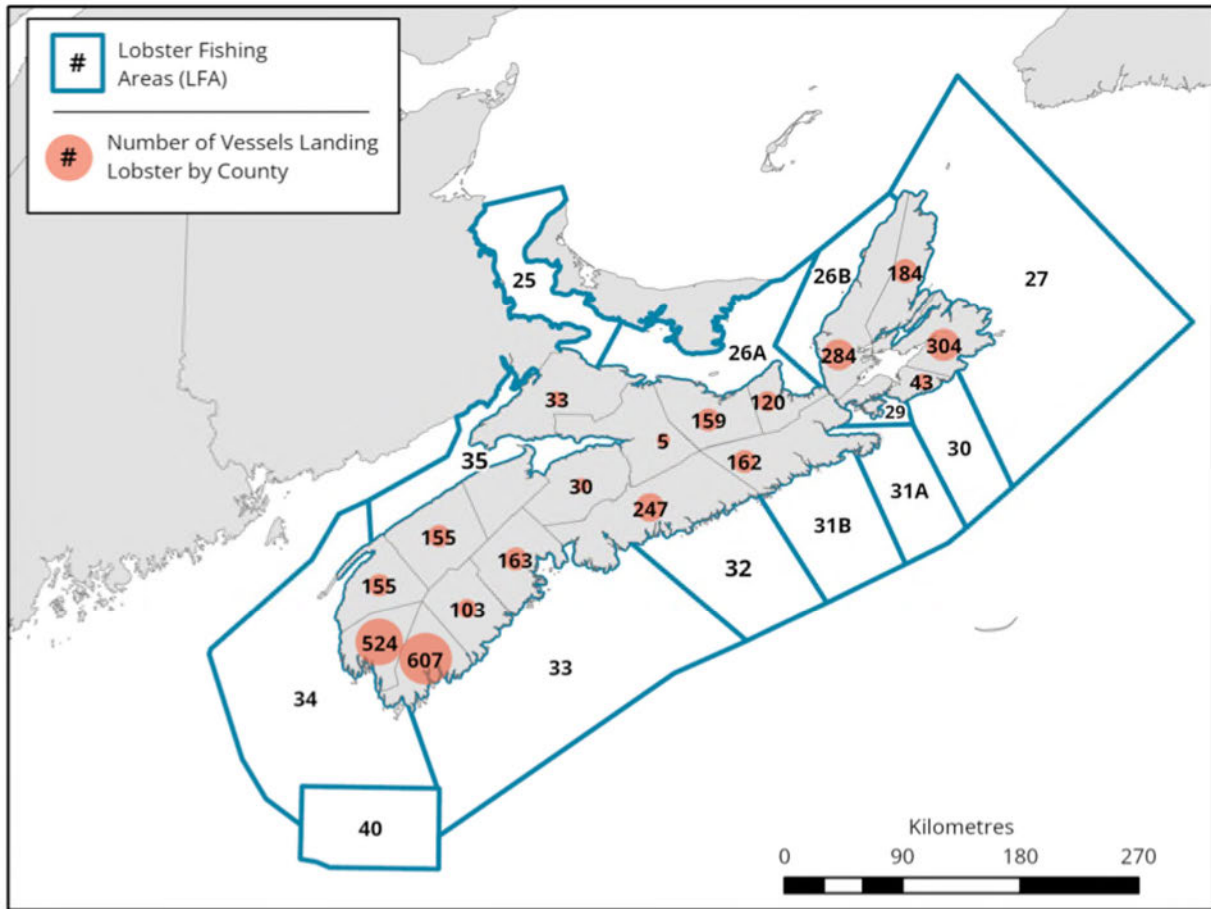
Figure 4.3: Cumulative catch (kg) of lobster by statistical grid in areas less than 100m



Source: Modified from [Mapping Inshore Lobster Landings and Fishing Effort on a Maritimes Region Statistical Grid \(2015-2019\)](#) (Figure 5) by Spatial Analysis

35. **Conclusion:** Lobster catches are higher in areas directly adjacent to Subarea 310, which may be the rationale for less effort in recent years within Subarea 310.
36. **The Lobster fishery in Queens County:** Liverpool Bay is in Queens County. A recent (September 2023) publication by [Oceans North](#) indicates that Queens County has the fewest number (103) of vessels landing lobster of all counties adjacent to LFA33.
37. Information indicates that when the lobster fishing opens in the late fall, enterprises fish offshore. Most of the inshore fishing occurs in the spring after lobster have migrated into coastal waters. During the spring fishery it is most common for enterprises to fish in sheltered bays and close to the shoreline where lobster can find protected shelter amongst coastal rock formations and gravel substrate.

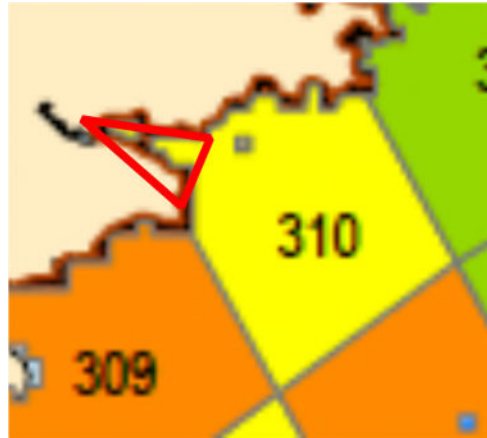
Figure 4.4: Lobster licenses by County



Source: [Oceans North](#)

38. **Conclusion:** Queens County has the least amount of lobster fishing activity of all LFA 33 adjacent counties.
39. Liverpool Bay comprises only a portion of Subarea 310, indicating that the total lobster catches from Subarea 310 overstate the catch within the Liverpool Bay and the proposed sites.

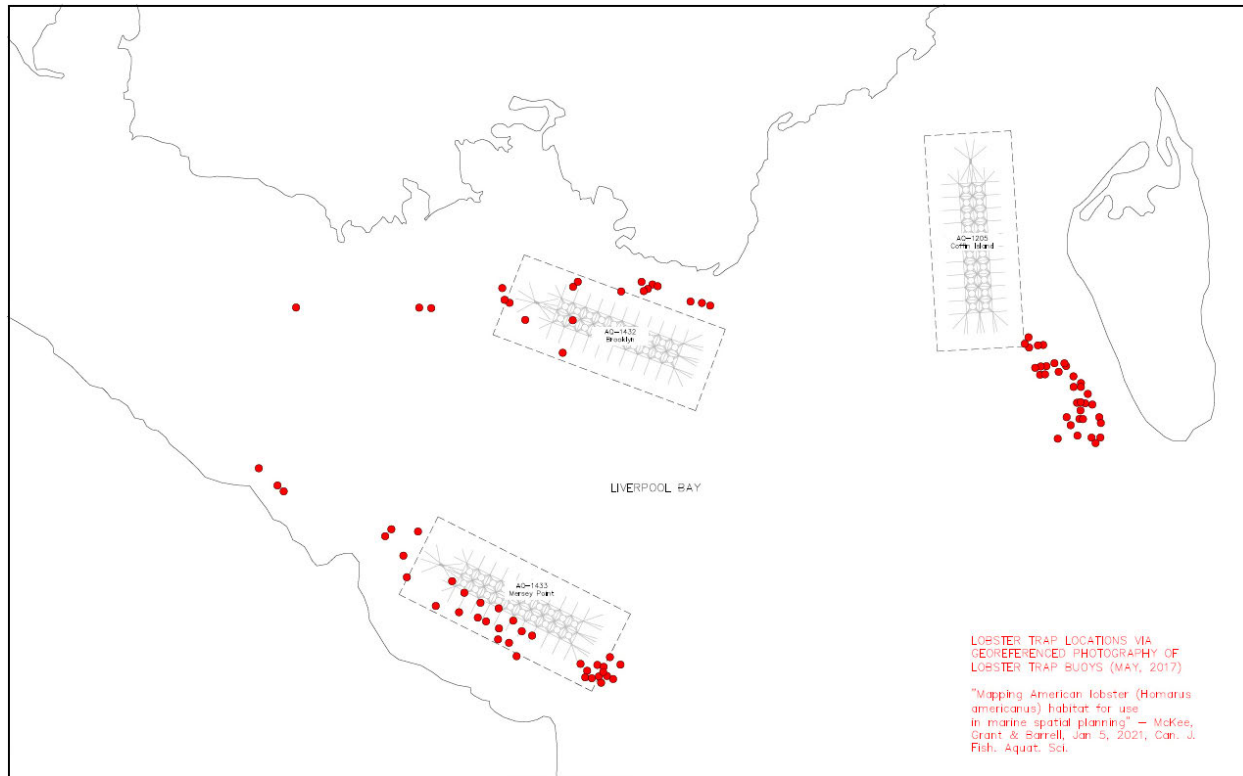
Figure 4.5: Liverpool Bay - Portion of Subarea 310



Source: Modified from Figure 4.3 (above)

40. **Conclusion:** *Liverpool Bay comprises only a portion of Subarea 310, therefore reported lobster catches for the subarea overstate the catches that occur within the Liverpool Bay.*
41. Documentation of lobster trap locations was completed during a marine spatial planning exercise completed by [McKee et al.](#) Examination of substrate types (rock, gravel, sand) indicated that lobster fishing in Liverpool Bay is executed primarily on rock/gravel substrates in depths less 20m (McKee et al., Fig. 4). Further, most of the effort is on rock substrate adjacent to Coffin Island. Figure 4.6 presents the observed trap locations overlayed on the proposed sites. Whereas fishers are permitted to fish within the site location, but not among the cages, then only six trap locations would be displaced, based on observations during May 2017 as they overlap the cage locations.

Figure 4.6: Lobster trap locations near proposed sites (May 2017)



Source: Received from KCS

42. Lobster fishers would be permitted to fish within the cage sites, but not among the cages. Information suggests that where cages are currently located around coastal areas in Eastern Canada, many fishers set traps adjacent to moorings. These moorings can act as artificial reefs, providing shelter to lobster. Further, observations indicate that rock crab will inhabit the areas under the cages due to food availability. Rock crab are a known prey for lobster⁶ and whereas lobster have been observed to transit under cage sites, it is likely they prey on rock crab.
43. **Conclusion:** Fishers are permitted to set traps in the site locations, permitting for continued fishing in areas of Liverpool Bay where trap concentrations have been observed.

⁶ [Contribution of mussel fall-off from aquaculture to wild lobster *Homarus americanus* diets \(2019\)](#)

44. **Spatial Impact of site locations:** Figure 4.7 presents the maximum area of the proposed site locations in Subarea 310 and LFA 33, which are 0.721% and 0.013% respectively. Further, whereas fishers can set traps within the site areas, but not amongst the cages, then nearly 82% of the site would be available to set traps, further reducing the spatial impact in Subarea 310 to 0.132% from 0.721%.

Figure 4.7: Spatial impact of site locations

Site Areas	Site km ²	Subarea 310		LFA 33 <100m	
		km ²	Site % of Area	km ²	Site % of Area
Coffin Island	0.41	169.39	0.240%	9,177.00	0.004%
Brooklyn	0.41	169.39	0.240%	9,177.00	0.004%
Mersey Point	0.41	169.39	0.240%	9,177.00	0.004%
Footprint (km2 and %)	1.22	169.39	0.721%	9,177.00	0.013%

Source: Adapted from DFO, Spatial Analysis sources.

45. **Conclusion:** *The impact of the proposed sites will have little spatial impact on the area available for lobster fishing in Subarea 310 or LFA 33.*

46. **Liverpool Bay aquaculture economic outputs:** The proposed sites in Liverpool Bay will yield approximately 1.7 million salmon each two year cycle. Based on farm gate annual output, excluding any value added production that may be realized if markets require, farm gate sales will be in the \$50 million range each year.
47. The following two figures illustrate the direct and spinoff benefits that should be realized each year once full production is achieved. As shown by the high spinoff incomes and employment, there is significant reliance on service providers to support aquaculture growout operations.

Figure 5.1: Liverpool Bay salmon annual economic outputs

	Sales (\$m)	GDP (\$m)	Income (\$m)	Employment (FTE)
Direct	50.46	22.57	4.04	109.15
Spinoff	43.03	20.36	11.18	77.55
Total	93.49	42.93	15.22	186.70

	Sales (\$m)	GDP (\$m)	Income (\$m)	Employment (FTE)
Primary	52.56	23.51	4.20	113.70
Secondary	20.86	13.78	8.35	55.35
Service	20.07	5.64	2.67	17.65
Total	93.49	42.93	15.22	186.70

Source: Adapted from Statistics Canada – Pisces Consulting Limited

48. **Lobster economic outputs:** Mr. Milley presented the following economic output data (*Table 8*) for the lobster fishery in Subarea 310. This figure indicates that the landed value of lobster in Subarea 310 was \$4.2 million in 2022.

Figure 5.2: Subarea 310 lobster economic outputs per Milley Report - 2022

	Direct	Indirect	Induced	Province	Canada
Output/Sales (\$000's)	4,220	679	603	5,502	7,018
GDP (000's)	2,578	359	384	3,321	4,009
Income (\$000's)	1,068	245	160	1,473	1,840
Employment (FTE)	17	5	4	26	32

Source: Adapted from Milley Report⁷

49. **Critique of Milley Report economic output results:** Landings data from DFO for the Subarea 310 in 2019 indicated the total catch was 626,259 kg and using the Milley Report average landed value of \$21.84/kg (*Table 5*) indicates the landed value in 2019 was only \$2.2 million. Further, according to DFO landings information, catches since 2019 have declined. The source of the Milley Report 2022 landings information is uncertain as no publicly available information was found; however, the trends in landed volume and value do not appear to support the \$4.2 million landed value cited by the Milley Report.

Figure 5.3: Lobster landings and value

	MT	\$000's	\$/kg
2019	51,555	895,374	17.37
2020	42,440	631,329	14.88
2021	48,113	1,008,789	20.97

Source: DFO landings NS

50. Given current available information the following figure provides an adjusted estimate of lobster Subarea 310 economic outputs. These are based on the Milley Report average landed value and 2019 reported landings for the subarea. As indicated the economic outputs are ~53% of those presented in the Milley Report.

⁷ Economic Profile of the Liverpool Bay Inshore Lobster Fishery

Figure 5.4: Adjusted Subarea 310 lobster economic outputs

	Direct	Indirect	Induced	Province	Canada
Output/Sales (\$000's)	2,220	357	317	2,894	3,692
GDP (000's)	1,356	189	202	1,747	2,109
Income (\$000's)	562	129	84	775	968
Employment (FTE)	8.9	2.6	2.1	14	17

Source: Adapted from actual 2019 landings and Milley Report average landed values for Subarea 310

51. **Conclusion:** *The Subarea 310 economic output estimates provided in the Milley Report appear to be significantly overestimated.*
52. Figure 5.5 provides a direct contrast of the estimated economic outputs of the proposed site development and the Subarea 310 lobster fishery. As indicated the economic value of the proposed salmon operation is significant and will provide economic benefit to the local community, Nova Scotia, and Atlantic Canada.

Figure 5.5: Contrast of annual economic outputs - KCS and Milley Report

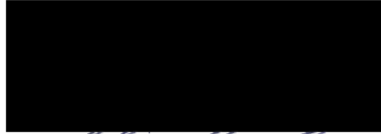
	Sales (\$m)		GDP (\$m)		Income (\$m)		Employment (FTE)	
	Kellys Cove	Nexus	Kellys Cove	Nexus	Kellys Cove	Nexus	Kellys Cove	Nexus
Direct	50.46	2.22	22.57	1.36	4.04	0.56	109.15	8.94
Spinoff	43.03	1.47	20.36	0.75	11.18	0.41	77.55	7.89
Total	93.49	3.69	42.93	2.11	15.22	0.97	186.70	16.83

Source: Adapted from Statistics Canada and Milley Report

53. **Conclusion:** *Compared to the economic impact of all Subarea 310 lobster landings the proposed sites provide 25 times more sales, 20 times more GDP, 15 times higher income generation and 11 times more full-time equivalent jobs.*

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This is **Exhibit B** referred to in the Affidavit
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on February 19, 2024.



A Barrister of the Supreme Court of Nova
Scotia

DAVID A. BARRY
A Barrister of the Supreme
Court of Nova Scotia

PETER A. NORSWORTHY

Cell: [REDACTED] ♦ Paradise NL ♦ [REDACTED] ♦ Canada
♦ Email: [REDACTED]

Business Advisor



Proven achievements in fish processing, marketing, plant design, regulatory program development and implementation, PC and internet systems architecture, seafood plant valuations and divestitures, and corporate restructuring.

Extensive business background in regional, national, and international fisheries.

Senior executive with verifiable year-after-year success achieving revenue, profit, diversification and business growth objectives within startup, turnaround, and rapid-change environments. Extensive experience in the seafood processing industry including understanding of regulatory, institutional and industry sectors. Highly successful in building relationships with upper-level decision-makers, seizing control of critical problem areas, and delivering on customer commitments. Led and motivated Atlantic wide teams comprised of more than 500 employees and managed profit and loss for business divisions exceeding \$5 million in services revenues.

Operation Management ♦ Strategic Planning ♦ Performance and Quality Standards
P&L Management/Budget Planning ♦ Engineering and Manufacturing
Software Solutions ♦ Acquisitions and Divestitures

SELECTED ACHIEVEMENTS

- **Financial assessment of NL seafood sector**, working in conjunction with industry stakeholders a financial sensitivities analysis was completed to determine the impact of rationalization and restructuring of the industry as part of the Memorandum of Understanding (MOU).
- **Extensive fish processing experience**, working with a large multinational fish processing firm and through consulting assignments in more than 200 fish processing plants.
- **Designed and implemented an industry wide quality assessment program**, delivered in 300 communities by over 350 employees this initiative was the first commercial quality program introduced in the Canadian fishing industry.
- **Acquired and integrated competitive firm**, this larger competitive firm was acquired and successfully integrated with ongoing operations.
- **Designed and implemented an internet based fleet management and production control system**, coordinating activities of 360 vessels and 13 processing plants to eliminate supply gluts, reduce logistical costs, and ensure fleet access equity.

PROFESSIONAL EXPERIENCE

President, Pisces Consulting Limited, Halifax, NS Canada 2006 – Present

Completion of numerous fishery consulting assignments, in conjunction with associates, including economic analysis of the NS seafood industry, financial assessment of NL processing and harvesting sectors, fisheries resource surveys, dockside grading, seafood plant and processing equipment design, resource acquisition strategies, plant acquisitions and divestitures, groundfish sustainability strategy, coordination of MSC certifications and market development initiatives.

Pisces Consulting Limited was established to provide professional management consulting services to the seafood sector in Atlantic Canada. Established in 2006 Pisces, and associates, has focused on providing strategic planning for numerous government, institutional and private sector clients.

President, Tavel Limited, Halifax, NS Canada 2003 – 2006

\$5 million company comprised of five business units focussed on quality assessment field services, sample collection and analysis, fishery sustainability and federal regulatory programs implementation and management.

Advanced to lead three Atlantic wide business units with a staff of ~500 and \$5m in annual revenues. Business expansion into internet based resource procurement and purchasing programs. Oversaw a team of 12 senior managers across all units/functions, including HR, finance, customer service, business development, as well as sales and marketing.

Spearheaded change company-wide, establishing new strategic direction for consulting division (established new subsidiary), resulting in successful and profitable corporate growth.

Bottom Line Improvement

- In an environment of increasing costs and service delivery requirements improved profits in company to record levels, reaching 18% PBT, and 45% gross margin while increasing free-cash-flow performance. Contributing factors included:
 - Modified field auditing procedures to identify non-compliance:
 - Updated computer monitoring systems to identify non-compliance:
 - Master scheduling for improved service delivery reliability; and
 - Established new company to focus on internet solutions models.

Vision Planning

- Facilitated and guided business unit leaders in formulating new vision and strategic direction that successfully positioned the division as a differentiated competitor in the market. This added value to the firm, which provided a more prominent role for the unit in the corporate strategy.

Needs Matching

- Completed several fish processing plant divestitures for client bankers and receivers.

Government Advisor

- Worked with government and processors to restructure operations of several processing firms resulting in continued operations of the firms in a downsizing industry environment.

Industry Advisor

- Advised provincial governments on fishing industry-restructuring initiatives.
- Developed and implemented scientific research surveys in support of fish stock assessments.
- Provided strategic plans for clients to procure additional or new fish resource supplies, and geographically diversify operations.



Vice President – Operations, Tavel Limited, Halifax, NS Canada**1996 - 2003***\$0.5m fishery service and consulting firm.*

Devised and executed strategic and tactical action plans focused on changing corporate identity, diversifying operations, and establishing long-term business growth.

Revenue and Profit Growth	<ul style="list-style-type: none"> Improved corporate sales from \$0.5m annually to over \$2.0m and profits from 5% PBT to 12% PBT. This was accomplished through corporate acquisitions and services diversification.
Diversification	<ul style="list-style-type: none"> Acquired largest competitor in fishery services sector; immediately restructured company realizing unprecedented profitability. This firm was successfully integrated including staff of 120, systems, and offices, into existing operations within three months. Identified, secured, and implemented a government regulated industry wide commercial dockside grading program employing 300 people.
Operations Engineering	<ul style="list-style-type: none"> Designed a new fish processing plant resulting in 40% labour cost reduction and 3% yield gain. Completed numerous plant re-engineering assessments and several equipment modification designs resulting in more competitive processing practices. Established and lead an industry association to deal with Federal fishery regulatory amendments.
Team Development	<ul style="list-style-type: none"> Worked with Provincial and Federal governments and educational institutes to develop and deliver performance improvement workshops to more than 5,000 people in all sectors of the fishing industry. Completed a sector processing study comparing processing methods and techniques to identify best methods, resulting in a more competitive international industry.

**Manager – Industrial Services, Tavel Limited, Halifax, NS Canada****1986-1996***\$0.2m fisheries consulting firm*

Joined a one-person consulting firm and successfully assisted in growing the firm to 20 professional staff servicing the food processing industry from two office locations in Atlantic Canada.

Diverse Experience	<ul style="list-style-type: none"> Assisted in increasing consulting services sales from \$0.2m annually to over \$1.0m. Consistently met project budget targets ensuring profitability of the firm. Completed more than 400 food processing and marketing related projects including engineering assessments and design, management consulting, financial assessment, and commercial software design and sales. Designed and oversaw programming and sales of three commercial software programs. These programs included a manufacturing production costing system, work measurement system for manufacturing employees, and fishermen's payroll program.
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PRIOR EXPERIENCE

Functional leadership positions in Finance, Operations, Industrial Engineering, and Purchasing

National Sea Products Limited

Achievements include overseeing and managing corporate costing systems for 16 Canadian food manufacturing facilities, development and implementation of inventory valuation system for over 4,000 products, development of Plant Management Information System, completing industrial engineering assessments, assisting in development of new products, purchasing all vessel and plant supplies and equipment for one plant, and providing submissions to US trade regulators regarding anti-dumping tariffs.

EDUCATION AND CREDENTIALS

Certified Managerial Accountants (1982 – 1984)

Completed all introductory accounting programs

Commerce and Finance (1985 – 1992) St. Mary's University

Completed all senior finance, accounting, economics, management, and marketing courses

Methods Engineering (1985) Technical University of NS

Seafood Processing Technology (2001) Technical University of NS

International Marketing (2007)

Professional Training & Development

Labour Negotiations

Dynamic Team Building

Marketing Consulting Services