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 to Marine Finfish Licence and Lease AQ#1039

NSARB #2021-001

CLOSING SUBMISSIONS ON BEHALF OF GREGORY HEMING

December 16, 2021

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Overview

1. The Intervenor, Dr. Gregory Heming, makes the following closing submissions for the Nova Scotia Aquaculture Review Board ("**Board**")'s consideration in the context of Kelly Cove Salmon Ltd. ("**Kelly Cove**")'s application for a lease and licence expansion at AQ#1039, otherwise known as the Rattling Beach site.

2. Dr. Heming, a resident on the Annapolis Basin, shares many of the concerns that have been expressed by members of the public about the historical and ongoing lease and licence violations at the Rattling Beach site, as well as the site's potential impacts on critically endangered wild salmon populations. Dr. Heming also strongly supports the Kwilmu'kw Maw-klusuaqn Negotiation Office ("**KMKNO**")'s position that Kelly Cove's application triggers the constitutionally-mandated duty to consult.

3. For the Board's ease of reference, Dr. Heming's arguments on each of these three points are briefly summarized in this Overview in the order in which they appear in these closing submissions.

4. To begin with, Dr. Heming submits that the Province owes the Mi'kmaq a duty to consult on Kelly Cove's application. The Board's decision will determine whether Kelly Cove is required to come into compliance with its existing 8.75 ha lease and licence, or whether its current 29.08 ha operations will be legalized and permitted to continue over the long term. KMKNO's evidence, much of which is confirmed by evidence from both Kelly Cove and the Department of Fisheries and Aquaculture ("**DFA**"), is clear that the expanded Rattling Beach site has had, and if approved will continue to have, adverse impacts on the exercise of Mi'kmaw Aboriginal and treaty rights in the Annapolis Basin. This is plainly sufficient to trigger the duty to consult.

5. DFA's position that no duty to consult is triggered is based largely on the assertion that Kelly Cove is not proposing any functional changes to its operations at the Rattling Beach site. Of course, the reason that Kelly Cove is not proposing to alter its operations is because the company has been operating the site in serious violation of its lease and licence boundaries for the past 17 years. This logic suggests that, if Kelly Cove were currently operating the site in compliance with its lease and licence boundaries and the company

applied for an expansion in the normal course, the duty to consult would be triggered – but since Kelly Cove has already expanded the site without the required approvals, no consultation is required. The Crown cannot avoid constitutionally mandated consultation by tacitly permitting industry proponents to initiate projects without going through the required approval processes, and then retroactively claiming that the project will have no novel adverse impacts on Aboriginal and treaty rights.

6. Secondly, Dr. Heming submits that the *Fisheries and Coastal Resources Act* ("***FCRA***") and the *Aquaculture Licence and Lease Regulations* ("***Regulations***") cannot be interpreted to permit the *post facto* approval of existing unlawful operations. The Board must interpret its enabling legislative scheme in accordance with the objects and purposes of the *FCRA*, which include incentivizing regulatory compliance and ensuring public confidence in regulation of the industry. The Board must also ensure that its interpretation and application of the *FCRA* and the *Regulations* accords with constitutional norms like the rule of law.

7. These interpretive principles should be used to inform the Board's understanding of the phrase "the optimum use of marine resources." Specifically, both the objects and purposes of the *FCRA* and the rule of law dictate that the retroactive approval of existing noncompliant operations, such as the proposed expansion of the Rattling Beach site, cannot constitute the "optimum use of marine resources."

8. Finally, the evidence before the Board is insufficient to establish that Kelly Cove's operation will not have unacceptable adverse impacts on critically endangered wild salmon populations. Neither Kelly Cove nor DFA have conducted any monitoring of local salmon rivers to determine whether the Rattling Beach site has affected wild salmon by way of genetic introgression or the transfer of diseases or parasites to wild populations. As Mr. Jonathan Carr of the Atlantic Salmon Federation testified, without this monitoring the Board cannot meaningfully evaluate the site's impacts. As a result, the precautionary principle dictates that the Board must err on the side of protecting wild salmon.

9. In light of the above, Dr. Heming submits that the Board must reject Kelly Cove's application to expand its lease and licence boundaries at the Rattling Beach site. In the alternative, should the Board see fit to approve the application, Dr. Heming requests that the Board impose a number of conditions on its approval, as reviewed in detail below.

Facts

A. Kelly Cove's history of operations at the Rattling Beach site

10. Kelly Cove has been operating AQ#1039 since 2004. Although Kelly Cove's lease and licence for the Rattling Beach site have been renewed several times during the period from 2004 to present, Kelly Cove has never been authorized to occupy an area larger than 8.75 ha.

> Affidavit of Ronald Neufeld, affirmed April 22, 2021, Exhibits A & B ("**Neufeld Affidavit**") [Exhibit 2021-001-02].

11. Kelly Cove acknowledges that it has been operating on a considerably larger scale than permitted by its lease and licence since the company took over the Rattling Beach site. In fact, Kelly Cove's Application Package indicates that the company has been operating over an area of 29.08 ha for the past 17 years – over three times the size of its lease and licence. Kelly Cove now asks the Board to legalize the company's noncompliant operations via this lease expansion application.

> Application documents, p 2, 7, 446, 454 (page numbers at top of page) [Exhibit 2021-001-13].

12. Jeffrey Nickerson, Kelly Cove's Business Development Manager, testified to the Board that if Kelly Cove were to operate the Rattling Beach site lawfully within the boundaries of its current lease and licence, it would only be able to fit three to four cages and approximately 120,000 salmon on the site. This is in stark contrast to the current 20 cages and approximately 660,000 fish that Kelly Cove currently farms on the site. In essence, this means that Kelly Cove has been operating the Rattling Beach site for the past 17 years with approximately 16 more cages, and 440,000 more fish than it can lawfully fit within its 8.75 ha lease and licence.

13. During last month's hearing, counsel for DFA informed the Board that Kelly Cove's application to expand its lease and licence to legalize its noncompliant operation at the Rattling Beach site is "unique." Counsel further stated that the Board would be unlikely to encounter further applications of this nature. This assertion is directly contradicted by evidence on the record before the Board. Mr. Nickerson testified to the Board that "many" finfish aquaculture sites were operating outside of their lease boundaries in both 2008 and

2011. In correspondence with Mr. Neufeld in 2018, Nova Scotia Environment confirmed that Kelly Cove had submitted applications to DFA to expand its lease and licence boundaries at four noncompliant sites – AQ#1039 (Rattling Beach), AQ#1040 (Victoria Beach, Annapolis Basin), AQ#0742 (St. Mary's Bay), and AQ#1205 (Coffin Island, Liverpool Bay). Of course, three of these applications have yet to come before the Board. The evidence is therefore clear that the current application is not unique – rather, it will set a precedent for future applications to formalize expansions at other non-compliant sites.

Neufeld Affidavit, Exhibit M [Exhibit 2021-001-02].

14. Kelly Cove's historical and ongoing noncompliance at the Rattling Beach site, as well as other salmon farming sites in the Province, continues to generate significant public concern. Mr. Neufeld's affidavit outlines he and his wife's lengthy history of outreach to DFA and Nova Scotia Environment staff about the lease and licence violations they observed at the Rattling Beach site, along with other Kelly Cove sites. In addition, the written submissions this Board received from members of the public include expressions of concern from individuals and organizations representing numerous members and supporters. For example, the Ecology Action Centre wrote to the Board as follows:

> The [Ecology Action Centre] is concerned that the hearing for AQ#1039 will be used as a mechanism to legitimize noncompliance at Rattling Beach by ratifying expanded operations already taking place at the lease site without proper regulatory approval. We are very troubled by the precedent that will be set for sites operating outside of legal boundaries if the current outstanding regulatory compliance is not addressed prior to the ARB's possible approval of the lease site expansion.

Letter from Simon Ryder-Burbidge (EAC) to the Board, dated April 25, 2021 [Exhibit WRT-004].

Neufeld Affidavit [Exhibit 2021-001-02].

Letter from Derek Purcell (Healthy Bays Network) to the Board, dated April 25, 2021 [Exhibit WRT-003].

Letter from Wendy Watson-Smith (Association for the Preservation of the Eastern Shore) to the Board, dated August 9, 2021 [Exhibit WRT-005].

15. Both Kelly Cove and DFA have attempted to justify the history of serious lease and licence violations at the Rattling Beach site in a couple of different ways. However, neither of the narratives put forward by Kelly Cove or DFA is supported by the evidence before the Board.

16. Kelly Cove submits that it could not properly site its equipment when it took over the Rattling Beach site in 2004 because GPS technology at the time was "primitive." However, it is worth noting that the lease and licence for the Rattling Beach site do not define the site's parameters purely by way of GPS coordinates. In addition to coordinates, the lease and licence include specific metric dimensions for the site.

> Affidavit of Nathaniel Feindel, affirmed May 5, 2021, Exhibit B, "GPS Coordinate Information Sheet" ("**Feindel Affidavit**") [Exhibit 2021-001-11].
>
> Neufeld Affidavit, Exhibit B [Exhibit 2021-001-02].

17. The dimensions of Kelly Cove's current 8.75 ha lease and licence are 160m x 464m x 209m x 461m. Kelly Cove currently has 20 cages on the Rattling Beach site in 49m grid cells in a 2 x 10 configuration. Simple math tells us that Kelly Cove's cages themselves take up 490m in length, which is already longer than the length of the lease and licence – and of course, Kelly Cove must also fit its mooring lines and anchors within the lease and licence boundaries.

> Feindel Affidavit, Exhibit B, "GPS Coordinate Information Sheet" [Exhibit 2021-001-11].
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> Application documents, p 7, 446 (page numbers at top of page) [Exhibit 2021-001-13].

18. Mr. Nickerson testified to the Board that Kelly Cove would have been aware of the size and number of cages it was installing on the site back in 2004. Even if Kelly Cove did not have the technology available to it to verify the precise location of its site at the time, the evidence before the Board establishes that Kelly Cove was capable of complying with the size of its lease and licence. Instead, Kelly Cove installed equipment and fish over an area three times the size of its lease and licence and has been operating in that manner for the past 17 years.

19. The second explanation put forward by both Kelly Cove and DFA is that regulatory changes after 2004 created a new obligation for Kelly Cove to bring its equipment into compliance with its lease boundaries. Kelly Cove and DFA are inconsistent in the dates they cite for this purportedly new obligation – Mr. Nickerson testified in his opening remarks that the requirement to bring all equipment into the lease boundaries was instituted in 2008, whereas counsel for DFA argued that the regulatory scheme was unclear on this point until 2015.

Jeffrey Nickerson amended opening statement, November 12, 2021, p 4 ("**Nickerson Opening Statement**") [Exhibit 2021-001-7-A].

20. The Intervenor has been unable to identify any regulatory changes made in 2008 that relate to the requirement for aquaculture operators to operate within their lease and licence boundaries. Although the former *Aquaculture Licence and Lease Regulations*, NS Reg 15/2000, were amended in 2007, none of the amendments related to compliance with lease and licence boundaries.

21. As the Board knows, the current *Regulations* were made in 2015. The 2015 *Regulations* include, for the first time, an explicit requirement for aquaculture operators to ensure "[…] that equipment and aquacultural produce related to any of their sites remain within the geographic boundaries of that site." However, the evidence before the Board confirms that DFA required aquaculture operators to keep their equipment within their lease and licence boundaries prior to the new *Regulations*. For instance, Mr. Nickerson's evidence is that DFA and Kelly Cove were engaged in conversations back in 2008 about how to bring Kelly Cove's various noncompliant sites into compliance with their lease and licence boundaries. Further, in correspondence with Mr. Ronald Neufeld back in 2013, Mr. Barry MacPhee (then Acting Executive Director with DFA) wrote that "[o]ur most recent inspection records indicate that site 1039 is non-compliant with respect to the location of the gear within the approved boundaries." Mr. Neufeld's affidavit also appends inspection reports from DFA inspectors dating back to 2010 noting that the Rattling Beach site is out of compliance due to gear located outside the lease boundaries.

Aquaculture Licence and Lease Regulations, NS Reg 347/2015, s 55(2)(b) ("***Regulations***").

Nickerson Opening Statement, p 4 [Exhibit 2021-001-7-A].

Neufeld Affidavit, Exhibits E & P [Exhibit 2021-001-02].

22. Cumulatively, the evidence on the record before the Board indicates that Kelly Cove has knowingly operated the Rattling Beach site for the past 17 years on a scale of three times the size of its lease and licence. This has allowed the company to have five times as many cages and fish on the site than it could lawfully fit within the site's current boundaries. As the Parties are aware, operating an aquaculture site outside of its lease and licence boundaries is an offence under the *FCRA*.

Fisheries and Coastal Resources Act, SNS 1996, c 25, s 110(f) ("***FCRA***").

Regulations, s 55(2)(b).

B. Impacts on wild salmon

23. Salmon are a critical part of the ecosystem in the Annapolis Basin and its rivers, including the Annapolis, Bear and Round Hill. Since the 1990s, the numbers of individual salmon returning to these rivers has continued to decline. The Southern Upland Atlantic salmon population, which is the wild salmon population that migrates through the Annapolis Basin and its tributaries and as such is closest to the Rattling Beach site, was evaluated by the Committee on the Status of Endangered Wildlife in Canada as endangered in 2010. The Southern Upland population has also been identified as "biologically unique." In its 2013 Recovery Potential Assessment, Fisheries and Oceans Canada ("**DFO**") notes that loss of the Southern Upland population would constitute an "irreplaceable loss" of Atlantic salmon biodiversity.

Affidavit of Jonathan Carr, Exhibit A, Tab 5, p 4 ("**Carr Affidavit**") [Exhibit 2021-001-05].

24. The Annapolis, Bear and Round Hill Rivers are among the 22 rivers (of the 72 in the area) determined to have important habitat for Southern Upland Atlantic salmon survival. Despite the many stressors impacting this unique salmon population, they continue to return to their home rivers, albeit in critically low numbers. A 2018 study of the Annapolis watershed found that salmon still run in these rivers. The subpopulation of salmon that runs in the Annapolis system is of particular importance as its continued returns indicate that it has adapted better than expected to the specific conditions of the watershed, including acidification.

AQ#1039 Report on Consultation, Appendix A – Fisheries and Oceans Canada, "DFO Maritimes Region Review of the Proposed Marine Aquaculture Boundary Amendment, Rattling Beach, Digby County, Nova Scotia," p 23 ("**CSAS Report**") [Exhibit 2021-001-13-C].

Carr Affidavit, Exhibit A, Tab 5, p 29 [Exhibit 2021-001-05].

25. Unfortunately, the Southern Upland Atlantic Salmon, and the subpopulation that calls the Annapolis system its home, is simply holding on by its fingernails (or perhaps a pectoral fin).

26. On behalf of the Intervenor, Dr. Stephen Sutton and Mr. Jonathan Carr prepared a report regarding the potential impacts of the proposed boundary amendment on wild Atlantic salmon (the "**Report**"). Dr. Sutton and Mr. Carr are salmon researchers and experts, and Mr. Carr's research over the past nearly three decades has focused on interactions between wild and farmed salmon.

Carr Affidavit, Exhibits B & C [Exhibit 2021-001-05].

27. Dr. Sutton and Mr. Carr found that there was insufficient information to determine conclusively whether the Rattling Beah site has had or will have a negative impact on wild salmon. However, based on the research and literature available, it is likely that the farm has had adverse effects on wild salmon in the area.

Carr Affidavit, Exhibit A, p 3 [Exhibit 2021-001-05].

28. The potential impacts of open net pen salmon farming on wild salmon populations, as outlined in Dr. Sutton and Mr. Carr's Report, are well established in the literature. The Report summarized the literature, and in his oral testimony Mr. Carr elaborated on the pathways through which aquaculture impacts wild salmon. Those pathways are as follows: escape and interbreeding; proliferation and transmission of sea lice; transmission of diseases and pathogens; alterations to the local environment leading to selective pressure on wild salmon; and negative ecological interactions.

Carr Affidavit, Exhibit A, p 4 and 9-10 [Exhibit 2021-001-05].

29. The Report further found that aquaculture has been implicated in the decline of wild salmon in the Bay of Fundy and Southern Upland of Nova Scotia and that neither the Southern Upland population, nor the wild salmon particular to the Annapolis system have been adequately studied to assess the potential impact of the Rattling Beach site on these critically endangered wild Atlantic salmon.

Carr Affidavit, Exhibit A, p 4 [Exhibit 2021-001-05].

30. Both the provincial DFA and the federal DFO acknowledge that the aquaculture industry has significant potential environmental impacts, particularly on wild Atlantic salmon. The Canadian Science Advisory Secretariat in its report to DFO on the Rattling Beach site (the "**CSAS Report**") identifies three wild Atlantic salmon populations and confirms that the Southern Upland population's migration route would include the zone of influence of the

Rattling Beach site. The CSAS Report further confirms the pathways of interactions between wild and farms salmon:

> Salmon aquaculture site can potentially impact wild populations through the transmission of parasites, pathogens and disease from cage-farmed salmon; potentially increased predation as a result of predator attraction to the cage site; and through an additional range of pathways that arise from aquaculture escapees. Escapees can hybridize with wild salmon which has the potential to reduce genetic fitness of wild populations. [citations omitted].

Feindel Affidavit at paras 95-98 [Exhibit 2021-001-11].

AQ#1039 Report on Consultation, Appendix A – Fisheries and Oceans Canada, CSAS Report, p 23-24, 45 [Exhibit 2021-001-13-C].

Carr Affidavit, Exhibit A, Tab 5, CSAS Recovery Potential Assessment for Southern Upland Atlantic Salmon 2013, p 39-40, 58 [Exhibit 2021-001-05].

31. Pursuant to the recommendations of the Doelle-Lahey Report, Nova Scotia has modeled parts of its regulatory regime and farm management plan system after the comprehensive containment system developed and implemented in Maine (the "**Maine model**"). This system is aimed at addressing risks to wild salmon from escapes and interbreeding, as well as the transmission of sea lice, diseases, and pathogens. While all witnesses acknowledged that the Maine model represents best practice for open net pen aquaculture, the evidence demonstrates that risks persist nonetheless.

Doelle-Lahey Report, p 110-114 [Kelly Cove closing submissions, Tab 1].

32. Further, Nova Scotia has declined to adopt a number of the most critical elements of the Maine model. Most importantly, unlike in Maine, Nova Scotia has not adopted a mandatory marking/traceability program, nor ongoing proactive monitoring and surveillance of wild salmon in local rivers to verify whether the containment management system has in fact been successful in reducing or eliminating impacts of aquaculture sites like Rattling Beach on wild Atlantic salmon populations.

NASCO Implementation Plan 2019-2024, p 13, 16, 18 [Exhibit 2021-001-16].

33. To illustrate the ongoing risks to wild salmon, at the time of this hearing a sea lice outbreak at the Rattling Beach site meant it was under intensive monitoring. Another Kelly Cove farm in the Annapolis Basin at Victoria Beach was also undergoing mechanical sea lice treatments after in-feed treatment proved unsuccessful. The current sea lice outbreak at the

Rattling Beach site is the second in only seven years – a 2014 sea lice outbreak at the site was managed with in feed treatment. While the company points to historically low incidents of sea lice, the current situation raises questions about how warming waters and climate change might impact sea lice proliferation, as well as sea lice resistance to in-feed treatments.

Carr Affidavit, Exhibit A, Tab 14, Shephard and Gargan, 2017, p 181-182; Tab 1, Aquaculture Stewardship Council Salmon Standard Version 1.3, 2019, p 47 [Exhibit 2021-001-05].

34. In addition, Mr. Carr testified that escapees have been identified in Maine through the ongoing proactive river monitoring program in years when no escape events were reported to the regulator. In spite of the best human made technologies, animals seem to find a way. Jennifer Wiper, Kelly Cove's Compliance and Certification Manager, further testified that a seal was once found inside a salmon net at the Rattling Beach site without any holes in the net or obvious point of entry, which suggests that the nets are not fully secure.

35. Mr. Nickerson indicated during his testimony that Kelly Cove has committed to implementing a traceability program by 2023 that will allow any escaped farm salmon to be traced back to Kelly Cove facilities with the use of genetic markers. Unfortunately, at this time there is no legal mechanism that can be used to hold Kelly Cove accountable to its commitment.

36. In addition, unlike visual markers, the use of genetic markers requires escapees, or suspected escapees, to be captured and a tissue sample taken to be tested in order to trace them to their farm of origin. As such, ongoing monitoring and surveillance of local rivers is required to identify suspected escapees and enable tracing. Further, such monitoring (together with monitoring of sea lice on wild salmon) is a recommended Best Management Practice by the North Atlantic Salmon Conservation Organization ("**NASCO**"). Unfortunately, Nova Scotia does not presently have, nor does it plan to implement, a robust monitoring and surveillance program. Neither Kelly Cove, nor DFA have committed to monitoring of local rivers to locate and trace escapees, test for genetic introgression, or monitor for sea lice or pathogens.

Carr Affidavit, Exhibit A, p 7, and Tab 12, p 2-3 [Exhibit 2021-001-05].

C. Impacts on Mi'kmaw communities

37. As documented by KMKNO in its submission to the Board dated November 1, 2021, Kelly Cove's unlawful operation has had, and if approved will continue to have, adverse impacts on the exercise of Aboriginal and treaty rights in and around the Annapolis Basin. KMKNO cites, among other things, impacts on traditional harvesting practices in and around the Rattling Beach site. These include impacts on wild fish stocks via their potential exposure to viruses and parasites, impacts on marine mammals of traditional significance to the Mi'kmaq, and general impacts on Mi'kmaw communities' ability to fish and hunt in the area occupied by Kelly Cove's site. KMKNO notes that the Assembly of Nova Scotia Mi'kmaw Chiefs plans to work with its member communities, including the Bear River First Nation located closest to the Rattling Beach site, to revive traditional Mi'kmaw customs such as harvesting porpoise.

> Letter from Twila Gaudet (KMKNO) to the Board, dated November 1, 2021 ("**KMKNO submission**") [Exhibit WRT-006].

38. KMKNO also references potential impacts on Mi'kmaw archaeological heritage. Rattling Beach, the Annapolis Basin, and the surrounding region are noted to be of significant historical and traditional importance to the Mi'kmaq. KMKNO notes that underwater archaeological research to assess impacts on Mi'kmaw archaeological heritage should be included in the assessment of any project affecting a submerged coastal nearshore landscape, given the significant geological changes that have occurred over the tens of thousands of years that L'nu people have occupied what is now Nova Scotia.

> KMKNO submission [Exhibit WRT-006].

39. Many of the potential impacts on Aboriginal and treaty rights cited by KMKNO are supported by the evidence filed by the Parties. As explored in detail above, Kelly Cove's operation may impact local, critically endangered wild salmon populations via genetic introgression and the transfer of diseases and parasites. In addition, Kelly Cove's Application package acknowledges that a number of other endangered and threatened species are present in the Annapolis Basin, including the Harbour Porpoise. Kelly Cove's materials further state that "[d]ue to the environment in which we operate, wildlife interactions will be unavoidable – both positive or neutral and negative (predator)." The

federal DFO's report on Kelly Cove's proposed expansion also notes that the site poses some level of risk to the Harbour Porpoise. As DFA indicates in its closing submissions, Mr. Feindel testified to the Board that both DFA and DFO acknowledge "[…] there will always be some degree of risk flowing from the aquaculture industry's operation in locations adjacent to marine wildlife species."

Carr Affidavit, Exhibit A, p 4 and 9-10 [Exhibit 2021-001-05].

Application documents p 85-89, 251 (page number at top of page) [Exhibit 2021-001-13].

AQ#1039 Report on Consultation, Appendix A – Fisheries and Oceans Canada, CSAS Report, p 25-26 [Exhibit 2021-001-13-C].

DFA brief, para 84.

40. If the Board chooses to approve Kelly Cove's lease expansion application, the Rattling Beach site will continue to occupy over 29 ha of space in the Annapolis Basin. In contrast, if the Board denies the application, Kelly Cove will have to shrink its site down to its current lease size of 8.75 ha. The Board decision will therefore determine whether Kelly Cove can continue occupying an additional 20 ha of ocean space in an area in which Mi'kmaw communities continue to exercise their Aboriginal and treaty rights to fish and harvest. Mr. Nickerson testified to the Board that he is aware of Mi'kmaq participation in fishery activities in the Annapolis Basin. Although he indicated that Kelly Cove permits local fishers to fish within the company's leased area, doing so is not without risk – as Mr. Nickerson himself stated, fishers may run into problems when their gear becomes entangled in Kelly Cove's nets or mooring lines, among other things.

41. DFA attributes particular importance to Mr. Nickerson's testimony that he has not personally witnessed any camping activity on Rattling Beach during his time working on the site. However, KMKNO's evidence is not that the Mi'kmaq currently use Rattling Beach for camping. Rather, KMKNO asserts that Rattling Beach was historically used by the Mi'kmaq for camping and other traditional activities and that the Mi'kmaq are working to restore these and other culturally significant customs in the area.

KMKNO submission [Exhibit WRT-006].

42. Despite the Rattling Beach area being of significant historical importance to the Mi'kmaq, there is no indication that any archaeological assessment was conducted as part of Kelly

Cove's lease and licence expansion application. Kelly Cove's Application simply states that "most" cage-based aquaculture sites cause "minimal" damage to submerged archaeological resources, and notes that the Province intends to conduct an internal review of new and existing aquaculture sites. Although the Nova Scotia Museum purportedly informed Kelly Cove that the Rattling Beach site is not known to be a site of "significant" archaeological importance, no underwater archaeological research appears to have been conducted to confirm this statement or to evaluate any potential impacts on Mi'kmaw archaeological heritage.

Application documents, p 78 (page number at top of page) [Exhibit 2021-001-13].

Law

43. As outlined above, the Intervenor's arguments focus on three issues:

    (1) Kelly Cove's application to expand its lease and licence boundaries at the Rattling Beach site triggers the Crown's duty to consult affected Mi'kmaw communities;

    (2) The Board's enabling statute and regulations do not permit the *post facto* approval of existing illegal operations; and

    (3) Kelly Cove has not established that its operation will not have unacceptable impacts on critically endangered wild salmon.

44. Each of these issues is examined in turn below.

A. Kelly Cove's lease and licence expansion application triggers the duty to consult

i. The Board must consider the Intervenor's arguments on the duty to consult

45. As a preliminary matter, DFA submits that the Intervenor does not have "standing" to take a position or make arguments on the duty to consult. Respectfully, the Intervenor is a full party to this adjudicative hearing and may make submissions on any matter that is properly before the Board.

Regulations, s 22(b).

46. DFA's submissions conflate two distinct scenarios: (1) a party that improperly claims a s 35 constitutional right to be consulted or attempts to raise the matter in its own right; and (2) a party that takes a position on a consultation issue that has been properly raised by the Crown or by the Indigenous community to whom consultation is owed. In this case, Dr. Heming certainly does not claim a right to be consulted on Kelly Cove's application. Dr. Heming also acknowledges that he would not be permitted to raise the duty to consult with the Board at first instance. However, as the Board has already found, the issue of consultation has been properly put before it by both DFA itself and by KMKNO. As a result, as a party to this proceeding Dr. Heming has the right to take a position and make arguments on the duty to consult.

> Affidavit of Robert Ceschuitti, affirmed May 5, 2021 [Exhibit 2021-001-10].
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> KMKNO submission [Exhibit WRT-006].

47. Almost all of the case law relied upon by DFA on the issue that it terms "constitutional standing" relates to scenarios in which individual members of Indigenous communities, or Indigenous organizations unauthorized to represent their communities, instituted proceedings claiming they were owed s 35 consultation. The Intervenor acknowledges the courts' repeated finding that the duty to consult is a collective right owed to Indigenous communities as a whole and agrees that in this case it is a right owed to the Mi'kmaq of Nova Scotia as represented by KMKNO.

> *Behn v Moulton Contracting Ltd.*, 2013 SCC 6 [Book of Authorities of the Department of Fisheries and Aquaculture ("**DFA BOA**"), Tab 4].
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> *Beckman v Little Salmon/Carmacks First Nation*, 2010 SCC 53 [DFA BOA, Tab 3].
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> *Athabasca Regional Government v Canada (Attorney General)*, 2010 FC 948 [DFA BOA, Tab 2].
>
> *Komoyue Heritage Society v British Columbia (AG)*, 2006 BCSC 1517 [DFA BOA, Tab 8].
>
> *Kane v Lac Pelletier*, 2009 SKQB 348 [DFA BOA, Tab 7].

48. The one case cited by DFA that is distinct from this pattern is the Ontario Court of Appeal's decision in *2403177 Ontario Inc.* That case was a motion for directions on a bankruptcy issue under the federal Bankruptcy and Insolvency Act. The Debtor, who does not appear to have been a member of an Indigenous community, attempted to provide evidence that the sale agreement at issue would impact Indigenous communities and to advance an argument

based on the duty to consult in the absence of any evidence or participation in the proceeding by either Indigenous communities themselves or by the Crown. Once again, this is distinct from the current case in which the Board has found that the issue of the duty to consult has been properly raised by both DFA and KMKNO.

> *2403177 Ontario Inc. v Bending Lake Iron Group Limited*, 2016 ONCA 225 [DFA BOA, Tab 1].

49. DFA's position is that only KMKNO and DFA have "standing" to make arguments on the duty to consult in this proceeding. Should the Board accept this submission, it would represent a sweeping change in the conduct of judicial and quasi-judicial proceedings where the issue of the duty to consult is properly raised. The case law, including case law cited by DFA, is replete with examples of cases where industry proponents and others have made submissions on consultation issues raised by Indigenous communities or by the Crown. For instance, in *Nova Scotia (Aboriginal Affairs) v Pictou Landing First Nation*, Northern Pulp Nova Scotia Corporation made submissions before the Nova Scotia Court of Appeal about whether the Crown owed Pictou Landing First Nation a duty to consult on the Province's decision to fund the Northern Pulp Mill's new effluent treatment facility. Similarly, in *Chippewas of the Thames First Nation*, a case about consultation on the modification of a pipeline in southwestern Ontario, the proponent Enbridge Pipelines Inc. was named as a respondent, and a number of parties uninvolved in the immediate dispute, including the Nunavut Wildlife Management Board and Suncor Energy Marketing Inc., participated as intervenors to make submissions on the duty to consult.

> *Nova Scotia (Aboriginal Affairs) v Pictou Landing First Nation*, 2019 NSCA 75 ("***Pictou Landing First Nation***") [DFA BOA, Tab 10].
>
> *Chippewas of the Thames First Nation v Enbridge Pipelines Inc.*, 2017 SCC 41 [DFA BOA, Tab 5].

50. It is impracticable to review in detail every example of proceedings where parties or intervenors who would not be "party to Crown-Indigenous consultations" on the decision at issue participated in court proceedings to make submissions on the duty to consult. However, the case law cited by DFA contains numerous examples, including the following: *Beckman v Little Salmon/Carmacks First Nation*, 2010 SCC 53; *Behn v Moulton Contracting Ltd.*, 2013 SCC 26; *Haida Nation v British Columbia (Minister of Forests)*,

2004 SCC 73; *Mi'kmaq of PEI v PEI (Her Majesty the Queen)*, 2019 PECA 26; and *Rio Tinto Alcan Inc. v Carrier Sekani Tribal Council*, 2010 SCC 43.

51. On this basis, Dr. Heming respectfully submits that he has the right to make arguments on the duty to consult, and that the Board must consider his arguments when making its decision on this critical issue.

ii. The duty to consult framework

52. The duty to consult, as affirmed and protected by s 35 of the *Constitution Act*, is grounded in the honour of the Crown. As described by the Supreme Court of Canada in *Haida Nation*:

> In all its dealings with Aboriginal peoples, from the assertion of sovereignty to the resolution of claims and the implementation of treaties, the Crown must act honourably. Nothing less is required if we are to achieve "the reconciliation of the pre-existence of aboriginal societies with the sovereignty of the Crown" [citations omitted].
>
> *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73 at para 17 (***"Haida Nation"***) [DFA BOA, Tab 6].

53. In *Taku River Tlingit First Nation*, the companion case to *Haida Nation*, the Supreme Court further directed that "[t]he Crown's honour cannot be interpreted narrowly or technically, but must be given full effect in order to promote the process of reconciliation mandated by s 35(1)."

> *Taku River Tlingit First Nation v British Columbia (Project Assessment Director)*, 2004 SCC 74 at para 24 [Intervenor's BOA, Tab 10].

54. In this context, the Supreme Court of Canada established the modern duty to consult. The duty is triggered when three criteria are met:

(1) the Crown has knowledge, actual or constructive, of a potential Aboriginal claim or right;

(2) there is contemplated Crown conduct; and

(3) the contemplated Crown conduct has the potential to adversely affect an Aboriginal claim or right.

> *Rio Tinto Alcan Inc. v Carrier Sekani Tribal Council*, 2010 SCC 43 at para 31 (***"Carrier Sekani"***) [DFA BOA, Tab 11].
>
> *Haida Nation* at para 35 [DFA BOA, Tab 6].

55. In this case, DFA concedes that the first two criteria of this test are met. The only remaining question is whether the contemplated Crown conduct, being approval of Kelly Cove's lease and licence expansion application, may have an adverse effect on the Aboriginal or treaty rights of the Mi'kmaq.

56. As repeatedly confirmed by the Supreme Court of Canada, the third element of the test sets a low threshold. Adverse impacts include any effect that may prejudice an Aboriginal or treaty right. Once the duty to consult is triggered, the scale of any potential impact is taken into account in determining the level of consultation owed to the affected Indigenous community. However, the question before the Board in this instance is simply whether the duty to consult is triggered at all.

> *Carrier Sekani* at para 47 [DFA BOA, Tab 11].
>
> *Haida Nation* at para 39 [DFA Boa, Tab 6].
>
> *Mikisew Cree First Nation v Canada (Minister of Canadian Heritage)* at para 34 [Intervenor's BOA, Tab 7].

57. Dr. Heming respectfully submits that the duty to consult is triggered in this case. As a result, since no consultation has occurred, the Board must deny Kelly Cove's application to expand its lease and licence boundaries.

iii. KMKNO is not required to prove the existence of rights set out in treaties and confirmed in case law

58. Although DFA has repeatedly conceded that the first criterion of the test for the duty to consult has been satisfied, paragraphs 36-45 of its brief appear to dispute the validity of the Aboriginal and treaty rights asserted by KMKNO. In doing so, DFA relies on case law addressing instances where the Aboriginal rights in question were asserted but not yet proven. In contrast, as DFA well knows, the Mi'kmaq of Nova Scotia have well defined rights set out in treaties and in case law. Those rights, and particularly the rights to fish and harvest for food and for a moderate livelihood, have been affirmed by both the Nova Scotia Court of Appeal and the Supreme Court of Canada.

> *R v Denny*, 1990 CanLII 2412 (NSCA) [DFA BOA, Tab 12].
>
> *R v Marshall*, [1999] 3 SCR 456 ("***Marshall***") [DFA BOA, Tab 13].

59. DFA relies exclusively on the Supreme Court's decisions in *Haida Nation* and *Carrier Sekani* to argue that KMKNO did not put forward sufficient evidence of the Aboriginal and

treaty rights exercised in and around the Annapolis Basin. Both of these court decisions relate to First Nation claimants who did not have rights set out in treaties, and whose claims to particular rights or title had not yet been proven in court. For instance, the very first paragraph of the Supreme Court of Canada's decision in *Haida Nation* reads as follows:

> [...] For more than 100 years, the Haida people have claimed title to the lands of the Haida Gwaii and the waters surrounding it. That title is still in the claims process and has not been formally recognized. [emphasis added].

Haida Nation at para 1 [DFA BOA, Tab 6].

60. The Supreme Court of Canada is clear in *Haida Nation* that its evidentiary concerns are founded on the absence of a final judicial determination or legal settlement of the Haida people's claims. DFA quotes selectively from paragraph 36 of the Supreme Court's decision in its brief – in context, the quote in fact reads as follows:

> It is said that before claims are resolved, the Crown cannot know what rights exist, and hence can have no duty to consult or accommodate. This difficulty should not be denied or minimized. As I stated (dissenting) in Marshall, supra, at para 112, one cannot "meaningfully discuss accommodation or justification of a right unless one has some idea of the core of that right and its modern scope. [emphasis added].

Haida Nation at para 36 [DFA BOA, Tab 6].

DFA closing submissions at para 39.

61. Similarly, in *Carrier Sekani*, the Supreme Court of Canada was dealing with an as-yet-unproven claim by the Carrier Sekani Tribal Council First Nations to title over the Nechako Valley in northwestern BC and to a right to fish in the Nechako River. Once again, the quote provided by DFA at paragraph 38 of its brief relates primarily to the evidentiary basis required for claims that have not yet been legally established. However, the Supreme Court of Canada does comment briefly on the relevance of treaties in the context of the duty to consult, as follows:

> To trigger the duty to consult, the Crown must have real or constructive knowledge of claim to the resource or land to which it attaches. The threshold, informed by the need to maintain the honour of the Crown, is not high. Actual knowledge arises when a claim has been filed in court or advanced in the context of negotiations, or when a treaty right may be impacted. [citations omitted] [emphasis added].

Carrier Sekani at paras 6, 40, 80 [DFA BOA, Tab 11].

62. In the present case, many of the rights held by the Mi'kmaq of Nova Scotia are set out in case law and in the Treaties of Peace and Friendship. Among other things, the Supreme Court of Canada in *Marshall* affirmed both the existing Mi'kmaq Aboriginal right to hunt and fish for food in Nova Scotia and the treaty right to fish for a moderate livelihood:

> In *R v Denny*, and earlier decisions cited therein, the Nova Scotia Court of Appeal has affirmed the Mi'kmaq aboriginal right to fish for food. The appellant says the treaty [of peace and friendship] allows him to fish for trade. In my view, the 1760 treaty does affirm the right of the Mi'kmaq people to continue to provide for their own sustenance by taking the products of their hunting, fishing, and other gathering activities, and trading for what in 1760 was termed "necessaries."

Marshall at paras 4, 42, 56 [DFA BOA, Tab 13].

63. Notably, the Supreme Court in *Marshall* did not restrict Mi'kmaw fishing and harvesting rights to particular species – rather, the Court confirmed broad rights to fish, hunt and gather both for food and in pursuit of a moderate livelihood.

64. In light of the Mi'kmaw rights set out in treaties and affirmed by both the Nova Scotia Court of Appeal and the Supreme Court of Canada, the Crown in this case is deemed to have actual knowledge of Aboriginal and treaty rights that may be affected by Kelly Cove's application. In the Intervenor's respectful submission, it is contrary to the honour of the Crown for DFA to demand further proof of rights affirmed in case law and set out in treaties to which the Crown itself is a party.

Carrier Sekani at para 40 [DFA BOA, Tab 11].

Mikisew Cree at para 34 [Intervenor's BOA, Tab 7].

65. In addition, the Nova Scotia Court of Appeal has recently found that First Nations claimants are not obliged to prove their rights with evidence before requesting consultation. In *Pictou Landing First Nation*, the respondent Mi'kmaq band cited a concern about airborne contaminants from the Northern Pulp Mill as the basis for requesting consultation on a funding agreement between the Province and Northern Pulp Nova Scotia Corporation ("**Northern Pulp**"). Northern Pulp argued that the First Nation had not identified any Aboriginal or treaty right, and that there was no proof of a right to be free of "contamination of the air." The Court of Appeal rejected that submission as follows:

> The submission has no merit. [Pictou Landing First Nation]'s 2010 Statement of Claim includes credible claims respecting airborne pollution. The Crown knew of

these claims. [Pictou Landing First Nation] was not obliged to prove its claims with evidence before requesting consultation.

Pictou Landing First Nation at paras 123-126 [DFA BOA, Tab 10].

66. The Court of Appeal's statement directly refutes DFA's argument that in order to be "credible," First Nations must support their claims with concrete evidence. Similarly to *Pictou Landing First Nation*, in this case KMKNO's November 1 submission includes credible claims about the Aboriginal and treaty rights historically and currently exercised in the Annapolis Basin, many of which are set out in treaties and supported by case law. Dr. Heming therefore submits that the first element of the duty to consult test is met.

DFA closing submissions, paras 44-45.

KMKNO submission [Exhibit WRT-006].

iv. Kelly Cove's application may have adverse impacts on Aboriginal and treaty rights

67. DFA relies in large part on the fact that Kelly Cove has proposed no changes to its current operation at the Rattling Beach site to assert that the proponent's lease expansion application will have no novel adverse impacts on Aboriginal or treaty rights. Respectfully, this mischaracterizes the issue before the Board.

68. Kelly Cove's current lease and licence for the Rattling Beach site is for 8.75 ha. The lease is valid until 2036, and the licence until 2026. Both the lease and licence contain a "[…] right of renewal, in accordance with the terms of the [Fisheries and Coastal Resources Act] and the [Aquaculture Licence and Lease Regulations]" [emphasis added].

Feindel Affidavit, Exhibits B & C [Exhibit 2021-001-11].

69. Of course, Kelly Cove has been operating on a much larger scale than permitted by its lease and licence since it took over the site in 2004. These historical and ongoing violations have allowed Kelly Cove to operate the site with many more cages and fish than it would lawfully be able to fit within the boundaries of its current lease and licence.

Application documents, p 2, 7, 446, 454 (page numbers at top of page) [Exhibit 2021-001-13].

70. Although the evidence before the Board suggests some tacit agreement by DFA not to enforce the lease and licence boundaries at the Rattling Beach site, there is no dispute that any such informal agreement was only temporary – specifically, it was intended to last only

until Kelly Cove applied in accordance with the *FCRA* and the *Regulations* for an expansion of its lease and licence boundaries. Now that Kelly Cove has done so, the Board's decision will determine whether the company's current illegal operations become legal and are permitted to continue over the long term and potentially indefinitely. Without the Board's approval, the company would be required to shrink its operations significantly to comply with the terms of its current lease and licence. In Dr. Heming's submission, the evidence is clear that the legalization and resulting indefinite perpetuation of the Rattling Beach site expansion may have adverse impacts on Aboriginal and treaty rights exercised by the Mi'kmaq.

Nickerson Opening Statement, p 4 [Exhibit 2021-001-7-A].

71. The current scenario is analogous to the circumstances in the *Pictou Landing First Nation* case cited by DFA. Contrary to DFA's characterization, in that case the Nova Scotia Court of Appeal did not base its finding that the Province owed a duty of consultation to the First Nation on any "new" impacts caused by the redesigned effluent treatment facility. In fact, the concerns cited by Pictou Landing First Nation as the primary basis for their consultation request were related to the discharge of airborne contaminants from the Mill itself, rather than the discharge of effluent from a new treatment facility.

Pictou Landing First Nation at paras 26-31, 121-125 [DFA BOA, Tab 10].

72. In *Pictou Landing First Nation*, the Province acknowledged to the Court that the First Nation would be consulted throughout the environmental assessment process for the new effluent treatment facility. It also acknowledged that consultation would occur on future Industrial Approvals for the Mill itself. However, Pictou Landing First Nation sought additional consultation on the Province's decision to fund the design and construction of the new effluent treatment facility on the basis that such funding would increase the likelihood of the Mill itself continuing to operate past the date on which its Boat Harbour effluent treatment facility was required to close. The Nova Scotia Court of Appeal quoted from correspondence from Pictou Landing First Nation counsel as follows:

> With the Boat Harbour treatment facility closed, odors and other nuisances emanating from that facility will be eliminated. However, there is reason to believe that some odors and contaminants, including Sulphur compounds and particulates, will be carried from the mill's stacks at Abercrombie Point to the

> reserve lands of the Pictou Landing First Nation and to other areas in and around Pictou County frequented by members of the Pictou Landing First Nation, including fishing areas within the Northumberland Strait.
>
> To the extent that the foregoing is true, extending the operational life of the mill beyond January 30, 2020 will result in continued contamination of the air to which Pictou Landing First Nation members are exposed beyond January 30, 2020. On the other hand, should the Province decide not to provide funding for the new effluent treatment facility, the mill will need to cease operations. For this reason, we take the position that the decision to provide funding to Northern Pulp triggers a separate duty to consult with Pictou Landing First Nation. [emphasis added].
>
> *Pictou Landing First Nation* at para 26 [DFA BOA, Tab 10].

73. The Court of Appeal agreed with Pictou Landing First Nation and ordered consultation on the basis that the funding agreements between the Province and Northern Pulp would increase the likelihood of the Mill's continued operation and consequent continued adverse impacts on Pictou Landing First Nation. Specifically, the Court found as follows:

> The Funding Agreements (1) reduce the likelihood of the Mill's closure, and (2) increase the likelihood of ministerial approvals for the Mill's continued operation. Together, these factors generate sufficient potential for adverse impact to satisfy the test. [...]
>
> There is a distinct potential that, without the Province's contribution, Northern Pulp would decline to pay the full amount required for the New ETF and would be content to sue the Province for the alleged breach of the Lease. Then the Mill would not obtain a new Industrial Approval after January 30, 2020, and would close, ending the discharge of contaminants that adversely impacts PLFN. Consequently, the Province's funding could contribute to maintaining the Mill's toxic discharges after January 30, 2020. [...]
>
> The Funding Agreements for the New ETF are meaningful only if followed by the Minister's approvals under Parts IV and V of the Environment Act. Without those approvals, the New ETF would not operate, the Mill would close and its toxic discharges would end on January 30, 2020. With the approvals, the discharges could continue to adversely impact PLFN after that date. [emphasis added].
>
> *Pictou Landing First Nation* at paras 131-134 [DFA BOA, Tab 10].

74. This is directly analogous to the current scenario. Without approval of its lease and licence expansion, Kelly Cove will be required to significantly reduce the size of its current operation in the Annapolis Basin, thus also reducing any ongoing and future impacts on

Aboriginal and treaty rights. In contrast, should its application be approved, any such impacts will continue in the long term and potentially indefinitely.

75. As detailed above, KMKNO has provided credible evidence of potential impacts on Aboriginal and treaty rights caused by the expanded Rattling Beach site. Many of these potential impacts are supported by the evidence of both Kelly Cove and DFA – particularly impacts on traditional fishing and harvesting activities conducted in the Annapolis Basin. Although the Intervenor acknowledges that Kelly Cove and DFA have provided evidence of mitigation measures aimed at reducing the site's impacts on the environment and other users of the Basin, such measures cannot entirely eliminate the risk. Indeed, despite these mitigation measures, both Kelly Cove and DFA witnesses testified that there have been issues at the Rattling Beach site that could affect the exercise of Aboriginal and treaty rights, including negative interactions with wildlife in the Basin and an ongoing sea lice outbreak at the site. DFA itself concedes in its brief that "[…] there will always be some underlying risk of adverse environmental impacts on [the species of concern to KMKNO] in the Annapolis Basin."

DFA closing submissions, para 71.

76. It is worth reiterating that the threshold to establish impacts on Aboriginal and treaty rights sufficient to trigger a duty to consult is low. Any potential impact requires consultation. The Supreme Court of Canada was clear in *Mikisew Cree*, for instance, that "taking up" lands within a First Nation's traditional territory is sufficient to trigger consultation if the "taking up" in question would have adverse impacts on hunting and trapping rights. Similarly, in this case approval of Kelly Cove's expansion application would result in the company's continued occupation of over 20 additional ha of the Annapolis Basin, in an area where Mi'kmaw communities continue to exercise their Aboriginal and treaty rights to fish and harvest and in a manner that may adversely affect those rights.

Carrier Sekani at para 47 [DFA BOA, Tab 11].

Mikisew Cree at paras 55-56 [Intervenor's BOA, Tab 7].

77. DFA cites *Carrier Sekani* for the proposition that the duty to consult cannot be triggered by Crown conduct that relates to an "ongoing or historical activity impeding First Nations' claimants' ability to exercise their s 35 constitutional rights." Respectfully, the

circumstances in *Carrier Sekani* are not analogous to the present case. The Crown conduct at issue in *Carrier Sekani* was an Energy Purchase Agreement ("**EPA**") between Rio Tinto Alcan Inc. ("**Alcan**") and BC Hydro, pursuant to which Alcan supplied and BC Hydro purchased excess energy from a dam on the Nechako River. The dam itself had been lawfully constructed in the 1950s, and excess power had been sold to BC Hydro since 1961. The First Nation's concerns related to the operation of the dam itself – however, there was no evidence that the EPA under consideration would have any impact on the future operation of the dam. In other words, whether or not the EPA was approved, the dam would continue to operate in an identical manner. The Court endorsed the following findings of fact:

> The Commission conducted a detailed review of the evidence on the impact the 2007 EPA could have on the river's water levels and concluded it would have none. This was because the levels of water on the river were entirely governed by the water licence and the 1987 agreement between the Province, Canada, and Alcan. The Commission rejected the argument that not approving the 2007 EPA could potentially raise water levels in the Nechako River, to the benefit of the fishery, on the basis of uncontradicted evidence that if Alcan could not sell its excess electricity to BC Hydro it would sell it elsewhere. The Commission concluded that with or without the 2007 EPA, "Alcan operates the Nechako Reservoir to optimize power generation." [emphasis added].

Carrier Sekani at paras 86, 93 [DFA BOA, Tab 11].

78. The circumstances in *Carrier Sekani* are fundamentally different from the present case. Here, the Board's decision will determine whether Kelly Cove is finally required to comply with its current 8.75 ha lease and licence, or whether its ongoing 29.08 ha operation is legalized and permitted to continue over the long term.

79. The logic employed by DFA to deny that consultation is triggered in this case suggests, ironically, that if Kelly Cove was currently operating the Rattling Beach site lawfully within its lease and licence boundaries and applied to expand its site in the normal course (i.e. prior to functionally expanding the site), the Crown would be required to consult. However, because Kelly Cove has already expanded the Rattling Beach site in violation of its lease and licence, no consultation is required. In the Dr. Heming's submission, it is absurd to suggest that the Crown may avoid consultation by tacitly allowing proponents to initiate projects without the approvals required by law, and then retroactively approving

those projects once they are already operating. This is "sharp dealing" at the very best and is not consistent with the honour of the Crown.

Haida Nation at para 19 [DFA BOA, Tab 6].

80. On this basis, Dr. Heming respectfully submits that Kelly Cove's lease and licence expansion application triggers the duty to consult.

v. If the Board finds that the duty to consult is triggered, it should deny Kelly Cove's application

81. Kelly Cove argues that if the Board determines the duty to consult was triggered, it should adjourn the hearing pursuant to s 29 of the *Regulations* to allow the Crown and the Mi'kmaq to complete the consultation process. This is contrary to KMKNO's request that the Board reject Kelly Cove's expansion application on the basis that no consultation has occurred.

Letter from Twila Gaudet (KMKNO) to the Board, dated August 26, 2021.

82. Dr. Heming acknowledges that the Board has the authority to adjourn the hearing, and that a similar procedure was used by the Nova Scotia Utility and Review Board ("**NSUARB**") in a case about refurbishment of the Tusket Main Dam. However, the Intervenor submits that this is not an appropriate case for an adjournment of this nature. Instead, if the Board finds that the duty to consult was triggered, it should deny the application.

83. In the normal course, when an industry proponent applies for approval of a project that would impact Aboriginal and treaty rights, consultation occurs before the project begins operating and adverse effects are experienced. For instance, in the *Nova Scotia (Utility and Review Board)* case cited by Kelly Cove, Nova Scotia Power applied to the NSUARB for approval of its refurbishment project prior to initiating construction activities that would impact Mi'kmaw fishing and archaeological rights. The NSUARB's decision to adjourn the hearing to allow for further consultation therefore ensured that the Mi'kmaq would not suffer any adverse effects to their rights prior to the completion of the consultation process.

Nova Scotia (Attorney General) v Nova Scotia (Utility and Review Board), 2019 NSCA 66 [Closing submissions of Kelly Cove Salmon Ltd., Tab 2].

84. In contrast, in this case Kelly Cove has already functionally completed its site expansion without the required amendments to its lease and licence. An adjournment of the hearing to allow for consultation would allow Kelly Cove to continue operating outside its lease and

licence boundaries, with all of the associated risks and impacts to the exercise of Aboriginal and treaty rights in the Annapolis Basin. Allowing an unlawful operation to continue affecting Mi'kmaw rights while consultation is ongoing is contrary to the purpose of consultation, which is to protect Aboriginal and treaty rights while furthering the goal of reconciliation between Indigenous peoples and the Crown. Reconciliation cannot be advanced if the starting point is to put industry's interests ahead of affected Mi'kmaw communities.

Carrier Sekani at para 34 [DFA BOA, Tab 11].

85. Dr. Heming therefore submits that the Board must deny Kelly Cove's application if it finds that the duty to consult is triggered.

B. The Board's enabling statute and regulations do not permit the *post-facto* approval of existing noncompliant aquaculture operations

i. Approval of Kelly Cove's application would undermine the *FCRA*'s objectives of incentivizing compliance and ensuring public confidence in the industry

86. As the Board knows, it is the final decision-maker on applications to expand the size of finfish aquaculture leases and licences, among other things. Neither the *FCRA* nor the *Regulations* set out any particular standard or test that the Board must apply in making its decisions. However, s 3 of the *Regulations* lists eight factors that the Board must take into consideration, as follows:

a) the optimum use of marine resources;

b) the contribution of the proposed operation to community and Provincial economic development;

c) fishery activities in the public waters surrounding the proposed aquacultural operation;

d) the oceanographic and biophysical characteristics of the public waters surrounding the proposed aquacultural operation;

e) the other users of the public waters surrounding the proposed aquacultural operation;

f) the public right of navigation;

g) the sustainability of wild salmon; and

h) the number and productivity of other aquaculture sites in the public waters surrounding the proposed aquacultural operation.

FCRA, ss 49 & 52(1).

Regulations, s 3.

87. In this Board's decision in the matter of the Grand Pass Oysters Ltd. application (NSARB 2020-001 to 003), the Board found that the first criterion, the "optimum use of marine resources," is the overarching principle it must apply in light of the other seven factors. Dr. Heming respectfully adds that the Board must interpret this principle in light of the objects and purposes of its statutory scheme.

88. As the Supreme Court of Canada directed in *Vavilov,* administrative tribunals interpreting and applying their statutory schemes must have regard to both (1) the overall rationale and purview of the statutory scheme, and (2) any more specific constraints imposed by the legislative scheme, such as statutory definitions or formulas that prescribe the exercise of discretion.

Canada (Minister of Citizenship and Immigration) v Vavilov, 2019 SCC 65 at para 108 [Intervenor's BOA, Tab 6].

89. This reflects the oft-cited modern approach to statutory interpretation, which is that "[...] the words of an Act are to be read in their entire context and in their grammatical and ordinary sense harmoniously with the scheme of the Act, the object of the Act, and the intention of Parliament."

Nova Scotia Real Estate Commission v Lorway, 2013 NSSC 291 at para 15, citing *Bell Express Vu Limited Partnership v Rex,* [2002] 2 SCR 559 [Intervenor's BOA, Tab 9].

90. Similarly, Nova Scotia's *Interpretation Act* directs that every provincial statute must be interpreted to ensure attainment of its objects. Subsection 9(5) of the *Interpretation Act* provides as follows:

> 9(5) Every enactment shall be deemed remedial and interpreted to insure [sic] attainment of its objects by considering among other matters:
>
> (a) the occasion and necessity for the enactment;
>
> (b) the circumstances existing at the time it was passed;
>
> (c) the mischief to be remedied;

(d) the object to be attained;

(e) the former law, including other enactments upon the same or similar subjects;

(f) the consequences of a particular interpretation; and

(g) the history of legislation on the subject.

Interpretation Act, RSNS 1989, c 235 [Intervenor's BOA, Tab 1].

91. The Courts have emphasized in particular that legislation that provides for environmental protections, such as the *FCRA*, must be interpreted liberally to avoid the possibility that short-term economic interests may undermine the objects and purposes of the statutory scheme. In *Atlantic Salmon Federation*, a case about environmental assessment of salmon aquaculture in Newfoundland and Labrador, the Court quoted approvingly from an earlier decision by the British Columbia Court of Appeal as follows:

> Environmental legislation is often broadly worded, but there is a real danger that bodies motivated by other agendas (including governments overwhelmed by short-term economic goals) will interpret it narrowly. The courts must not allow environmental legislation to be emasculated through unduly narrow interpretation.
>
> *Newfoundland and Labrador (Environment and Climate Change) v Atlantic Salmon Federation (Canada)*, 2018 NLCA 53 at paras 305-309, citing *Peace Valley Landowner Association v British Columbia (Minister of Environment)*, 2016 BCCA 377 [Intervenor's BOA, Tab 8].

92. The purposes of Part V of the *FCRA*, which governs aquaculture, are set out in s 43A. They include the following:

> 43A The purpose of this Part is to:
>
> [...]
>
> (b) ensure aquaculture is conducted under conditions and in accordance with controls that protect the environment;
>
> (c) provide a predictable and efficient regulatory environment for business and public confidence;
>
> [...]
>
> (f) ensure that regulations governing aquaculture are achievable, contain incentives for compliance, and are enforceable.

93. The *FCRA*'s focus on incentivizing compliance and ensuring public confidence in the regulation of aquaculture was echoed by former Minister of Fisheries and Aquaculture

Keith Colwell when introducing the Province's bill to amend the *FCRA* for second reading following the Doelle-Lahey Report. Minister Colwell stated as follows:

> Yesterday I introduced an amendment to the Fisheries and Coastal Resources Act that signals a more transparent, rigorous approach to regulating aquaculture in Nova Scotia. [...]
>
> Mr. Speaker, that we need stronger oversight and more proactive releases of information when it comes to aquaculture in Nova Scotia was clear from the advice that we received in the Doelle-Lahey report. This is the first step to make that reality and build trust between the public, government, and industry.

Nova Scotia, *Official Reports of Debates of the Legislative Assembly (Hansard)*, 62-2 (23 April 2015) at 4177 (Hon. K. Colwell) [Intervenor's BOA, Tab 2].

94. As noted above, both the Nova Scotia Legislature and the Supreme Court of Canada have clearly directed administrative tribunals like the Board to consider the objects and purposes of their enabling statutes when making decisions pursuant to their legislative schemes. The Board must therefore ensure that its decision in this case accords with the *FCRA*'s focus on incentivizing compliance and restoring public trust in regulation of the industry.

95. The phrase "optimum use of marine resources" is sufficiently broad and ambiguous to encompass these considerations. Neither the *FCRA* nor the *Regulations* define the term "optimum" in the context of aquaculture or the use of marine resources generally. However, the Collins dictionary defines "optimum" in the abstract as "[...] the best level or state that it could achieve." Similarly, the Cambridge English dictionary defines it as "being the best or most likely to bring success or advantage." Of course, what constitutes the "best" or the "most likely to bring success" is not an objective standard in the abstract – rather, it must be informed by both the legal and factual context.

> Collins Dictionary, "Definition of 'optimum'", online: < https://www.collinsdictionary.com/dictionary/english/optimum>.
>
> Cambridge Dictionary, "Meaning of optimum in English," online: < https://dictionary.cambridge.org/dictionary/english/optimum>.

96. Dr. Heming submits that the Board must interpret the term "optimum" as used in the *Regulations* in light of the objects and purposes of the *FCRA*. Specifically, a decision that incentivizes regulatory noncompliance and undermines public trust in the regulation of the industry cannot constitute the "optimum use of marine resources."

97. In this case, as reviewed in detail above, Kelly Cove has been operating the Rattling Beach site in serious violation of its lease and licence for the past 17 years. Although it has attempted to justify this long history of noncompliance, none of the explanations it has provided are supported by the evidence before the Board. Further, the evidence indicates that Kelly Cove continues to operate a number of other noncompliant sites, and that applications to legalize the operations at those sites will be referred to the Board in due course. The record before the Board contains several written submissions from public interest organizations and individuals expressing frustration and concern about Kelly Cove's ongoing noncompliant operations and the company's lack of accountability for its lease and licence violations.

98. Approval of Kelly Cove's application in these circumstances would clearly incentivize non-compliance by aquaculture operators and undermine public trust in the regulation of the industry, contrary to the *FCRA* and the *Regulations*. It would send the message to industry that they are not required to apply for the requisite approvals prior to dramatically expanding their operations. Rather, they can expand unilaterally, or with tacit approval from DFA, and simply ask the Board to rubber stamp their existing noncompliant operations after the fact. Similarly, it would suggest to the public that industry can simply take what it wants and assume that permission will be granted later – essentially the aquaculture industry's version of the well-known mantra "it's easier to beg for forgiveness than to ask for permission."

99. In Dr. Heming's submission, approval of Kelly Cove's lease and licence expansion application therefore cannot constitute the "optimum use of marine resources." Properly interpreted, the *FCRA* and the *Regulations* dictate that the Board must deny the application.

ii. Approval of Kelly Cove's application would undermine the rule of law

100. In addition, the Board must have due regard for the rule of law when making its decision. The Supreme Court of Canada has identified the rule of law as an unwritten constitutional principle. It is described as "a fundamental postulate of our constitutional structure" that lies "at the root of our system of government."

> *British Columbia v Imperial Tobacco Canada Ltd.*, [2005] 2 SCR 473 at para 57 (***"Imperial Tobacco"***) [Intervenor's BOA, Tab 5].

101. In *Imperial Tobacco*, the Supreme Court described the rule of law as embracing three principles:

(1) The law must be applied to all those who are captured by its terms, and thereby preclude the influence of arbitrary power;

(2) Legislation must exist to preserve normative order; and

(3) The relationship between the state and the individual must be regulated by law.

Imperial Tobacco at paras 58-59 [Intervenor's BOA, Tab 5].

102. Dr. Heming submits that the rule of law, as a constitutional principle, must be used to inform statutory interpretation. Specifically, where there is ambiguity in legislation, a court or tribunal should prefer the interpretation that upholds the rule of law. This conforms with the presumption that legislation is enacted to comply with constitutional norms.

Application under s 83.28 of the Criminal Code (Re), [2004] 2 SCR 248 at paras 34-35 [Intervenor's BOA, Tab 4].

103. In this case, as described above, there is inherent breadth and ambiguity in the phrase "the optimum use of marine resources," which the Board has declared to be the overarching principle guiding its decision-making. The Intervenor submits that the Board should prefer an interpretation of this key phrase that upholds the rule of law in Nova Scotia. Specifically, the Board must consider whether its interpretation and consequent decision would uphold the principle that the law must be applied to all who are captured by its terms.

104. The Intervenor submits that a finding that Kelly Cove's lease and licence expansion constitutes the "optimum use of marine resources" in these circumstances would undermine the rule of law. Particularly, it would establish that the law does not apply equally to Kelly Cove. It would legitimize Kelly Cove's nearly two-decade long history of operating over an area more than three times the size of its lease and licence, with five times as many cages and fish than would lawfully fit on the site. Further, it would allow Kelly Cove to avoid having to apply for its lease and licence expansion in the normal course – i.e. before having functionally expanded its site (or after having brought its noncompliant site into compliance). Presumably, it would also set a precedent for Kelly Cove's subsequent applications for lease and licence expansions at its other noncompliant sites.

105. In sum, the rule of law dictates that Kelly Cove's lease and licence expansion cannot constitute the "optimum use of marine resources." The Board must therefore deny the application.

C. The Board does not have sufficient evidence before it to determine that the Rattling Beach site will not have unacceptable impacts on wild salmon

i. The precautionary principle dictates that the Board must ensure the protection of wild salmon in the face of scientific uncertainty about the impacts of the Rattling Beach site

106. The precautionary principle is a principle of international law defined in the Rio Declaration on Environment and Development. As the Supreme Court of Canada confirmed in *Spraytech*, the precautionary principle asserts that protective and precautionary measures must be taken to protect the environment, species and ecosystems from serious or irreversible harm in the face of scientific uncertainty:

> "In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation."
>
> *114957 Canada Ltée (Spraytech, Société d'arrosage) v Hudson (Town)*, [2001] 2 SCR 241 at para 31 ("***Spraytech***") [Intervenor's BOA, Tab 3].

107. The Supreme Court further recognized that domestic legislation should be interpreted in a manner that reflects the values and principles enshrined in international law, including the precautionary principle. Dr. Heming submits that the precautionary principle must guide the manner in which the Board assesses and applies the various factors in s 3 of the Regulations, including the "sustainability of wild salmon" factor.

> *Spraytech* at paras 31-32 [Intervenor's BOA, Tab 3].

108. The Doelle-Lahey Report further supports the application of the precautionary principle in these circumstances. The authors described the importance of implementing a precautionary approach to the development of aquaculture as follows:

> We use the term "precautionary approach" deliberatively, because it signals an application of precaution that goes beyond the limited wording of the precautionary principle. We do not feel that the precautionary approach should be tied to some threshold of scientific knowledge or level of risk. Rather, it should be

> more generally followed with the specific actions taken to give it effect in particular situations linked to the degree of risk and uncertainty. Where there is risk and uncertainty, incremental development in combination with monitoring and research to gain a better understanding of impacts and risks should be the preferred approach. [...] As with each of the other guiding principles we have proposed, the precautionary approach should be applied in developing and applying each element of this regulatory framework. It is only in this way that a regulatory framework can be said to "embody" the precautionary approach. [emphasis added].
>
> Doelle-Lahey Report, p 38 [Kelly Cove closing submissions, Tab 1].

109. As detailed in Kelly Cove's closing submissions, the current *Regulations* were made in response to the Doelle-Lahey Report. The Report therefore constitutes a critical element of the context in which the *Regulations* must be interpreted. As the authors suggest, the precautionary approach must be applied by the Board when interpreting and making decisions pursuant to the *Regulations,* including when applying the "sustainability of wild salmon" factor.

> Kelly Cove closing submissions, paras 41-42.

110. Dr. Heming submits that a precautionary approach to the development of salmon aquaculture in the Annapolis Basin is particularly critical given the precarious state of wild salmon populations in the area. As reviewed above, the Southern Upland Atlantic salmon population is critically endangered and only continues to decline. The CSAS Report on Rattling Beach states:

> For the Southern Upland and Outer Bay of Fundy Atlantic salmon populations, maximum reproductive rates are very low placing populations at risk of becoming extirpated. Increases in mortality for these populations increases this risk.
>
> AQ#1039 Report on Consultation, Appendix A – Fisheries and Oceans Canada, CSAS Report, pp 23, 36, 45 [Exhibit 2021-001-13-C].

111. Adverse impacts on this precarious population could lead to extirpation, causing serious and irreversible harm. As DFO set out in its 2013 Recovery Potential Assessment for Southern Upland Atlantic salmon:

> Based on genetic evidence, regional geography and differences in life history characteristics [Southern Upland] Atlantic salmon is considered to be biologically unique and its extirpation would constitute an irreplaceable loss of Atlantic salmon biodiversity. [citations omitted] [emphasis added].

Carr Affidavit, Exhibit A, Tab 5, DFO Recovery Potential Assessment for Southern Upland Atlantic Salmon, 2013, p 4 [Exhibit 2021-001-06].

112. The following sections outline a number of issues with respect to Kelly Cove's application to expand the Rattling Beach site as it relates to the site's potential impacts on local wild salmon populations. Fundamentally, Dr. Heming submits that Kelly Cove has not established that its operation will not have unacceptable impacts on wild salmon. Given the degree of scientific uncertainty about the impacts of the Rattling Beach site on the biologically unique and endangered population of wild Atlantic salmon in the Annapolis Basin and its tributaries, the precautionary principle dictates that Kelly Cove's application must be rejected. In the alternative, should the Board see fit to approve this application, the approval should be subject to conditions that limit and monitor the impacts and risks, as explored below.

ii. The evidence is insufficient to establish that the Rattling Beach site will not have unacceptable adverse impacts on critically endangered wild salmon

113. The potential impacts of open net pen salmon farming on wild salmon populations, as outlined in the report submitted by Dr. Sutton and Mr. Carr on behalf of Dr. Heming, are well established in the literature. As reviewed above, these threats include escapes and genetic introgression and the transmission of diseases and parasites to wild populations. Kelly Cove had the opportunity to refute the Report and the body of evidence relied upon by the Intervenor, but ultimately chose to withdraw the Affidavit of Dr. Andrew Swanson.

Carr Affidavit, Exhibit A, p 4, 9-10.

114. While Kelly Cove has been operating the Rattling Beach site unlawfully at its current size and rate of production for nearly two decades, neither Kelly Cove nor DFA has produced any evidence to support their claim that the site has not and will not have unacceptable impacts on critically endangered wild salmon populations.

115. DFA presented a letter of advice from the federal DFO indicating the Rattling Beach site's potential impacts on three Atlantic salmon populations: Inner Bay of Fundy, Outer Bay of Fundy and Southern Upland. DFO's letter indicated that "[n]o critical habitat was identified in the predicted exposure zone" of the project – however, it is crucial to note that the studies that would be conducted to identify critical habitat have been shamefully slow to take place. In fact, as Mr. Carr testified, none of the three potentially impacted wild salmon

populations has been studied to identify critical habitat. As a result, it is impossible to say whether critical habitat exists in or around the Rattling Beach site.

> AQ#1039 Report on Consultation, Appendix A – Fisheries and Oceans Canada, Letter from DFO to Lynn Winfield, October 11, 2019, p 7 [Exhibit 2021-001-13-C].

116. The evidence demonstrates that this lack of adequate study and monitoring of wild salmon in the area is pervasive. The last region-wide survey was conducted in 2008/2009 with very few sampling sites. In 2018, juvenile salmon were found in the Annapolis system, demonstrating that wild fish continue to come back to spawn in this system. The CSAS Report on Rattling Beach indicates that Southern Upland salmon migration routes include the study area for the Rattling Beach site, and notes that uncertainty remains around species and habitat in the study area due to the lack of research. Despite this, Mr. Feindel testified that Nova Scotia does not have and does not plan to implement an ongoing river monitoring program like the one used in Maine to identify impacts on wild salmon caused by aquaculture.

> AQ#1039 Report on Consultation, Appendix A – Fisheries and Oceans Canada, CSAS Report, p 23, 36, 45 [Exhibit 2021-001-13-C].

117. Mr. Carr was asked on cross examination about DFO's 2020 "Stock Status Update of Atlantic Salmon" and he explained that the salmon count studies relied upon in that update were conducted in 2019 on the LaHave and St. Mary's rivers (referred to as "index rivers"). The counts on these two rivers were then simply extrapolated to assess the state of wild salmon across the Southern Upland population. Unlike the Annapolis Basin and its local rivers, the LaHave and St. Mary's do not have any salmon aquaculture sites in proximity to them, which suggests that salmon in the local Annapolis rivers face unique threats and stressors. In any event, the 2019 salmon counts indicated that the Southern Upland population remains in critical condition.

118. DFO's letter of advice to DFA states that "[…] it is unlikely that the residual negative effects [of the Rattling Beach site] will result in further serious harm to fish or fish habitat." Mr. Feindel testified that he understood this to mean that the proposed expansion was unlikely to increase impacts on wild fish populations; however, it is important to note that neither CSAS nor DFO itself were provided with comparative data about a legal operation

with three to four cages, as compared to Kelly Cove's current expanded operations with 20 cages. DFO therefore appears to have been comparing the impacts of Kelly Cove's current unlawful operation with the impacts of the exact same operation once legalized. In Dr. Heming's submission, this does not meaningfully account for any potentially reduced impacts on wild salmon if Kelly Cove's application is rejected and the company is required to come into compliance with its current 8.75 ha lease and licence boundary.

> AQ#1039 Report on Consultation, Appendix A – Fisheries and Oceans Canada, Letter from DFO to Lynn Winfield, October 11, 2019, p 3 [Exhibit 2021-001-13-C].

119. All parties acknowledge that wild Atlantic salmon are subject to a multitude of threats from anthropogenic causes; however, the critical state and biological uniqueness of the Southern Upland salmon population demands extra caution. The precautionary principle dictates that measures must be taken to reduced stressors absent evidence that the Rattling Beach site will not have unacceptable impacts on wild salmon migrating through the area.

120. Kelly Cove produced only one paper suggesting that other factors, specifically poaching at sea, may be a primary culprit of wild salmon population decline. However, Mr. Carr stated in cross-examination that the paper mischaracterized the results of his own research, which Mr. Carr noted raised red flags for him about the paper's conclusions. While Kelly Cove has raised concerns about other stressors, no studies have been provided relating to the cumulative effects of anthropogenic harms on wild salmon.

> Dadswell, "The Decline and Impending Collapse of the Atlantic Salmon (Salmo salar) Population in the North Atlantic Ocean: A Review of Possible Causes" [Exhibit 2021-001-18].

121. Assessment of cumulative effects assists in understanding how various stressors, such as aquaculture, poaching, acidification and climate change, may combine and interact. However, the CSAS Report on Rattling Beach confirms that cumulative effects were not assessed in its review of the project.

> AQ#1039 Report on Consultation, Appendix A – Fisheries and Oceans Canada, CSAS Report, p 33 [Exhibit 2021-001-13-C].

122. In any event, as the authors of the Doelle-Lahey Report emphasized, in light of the perilous state of wild Atlantic salmon in Nova Scotia any threat to wild populations must be addressed in a precautionary manner. The fact that other activities may also threaten salmon

cannot justify overlooking the threat posed by aquaculture. The Doelle-Lahey Report states as follows:

> It is crucial to keep in mind the threatened status of the wild Atlantic salmon population [...], all wild salmon populations in Nova Scotia are clearly in jeopardy. In our view, this calls for a precautionary protective approach to all human activities that potentially add to the difficulty facing the wild salmon population, including aquaculture. The fact that other activities also need to be better controlled if salmon populations are to be protected and have a chance to recover is a good argument for better management or regulation of those activities but not a good argument for developing or conducting aquaculture on the basis that the risk it poses to wild salmon populations is small or unimportant. If the cumulative adverse impact is significant, any human activity that contributes to the cumulative impact is of concern. [emphasis added].

Doelle-Lahey Report, p 13 [Kelly Cove closing submissions, Tab 1].

123. As Dr. Sutton and Mr. Carr indicate in their report, no evidence has been provided to allow Dr. Heming's experts or the Board to assess whether the Rattling Beach site has in fact impacted wild salmon or recovery efforts. The dearth of information is not a result of studies being withheld, but rather that the studies and monitoring simply have not been conducted. Both Kelly Cove and DFA have suggested that such monitoring would require DFO approval, but have not provided any reason why such approval could not be obtained for the purposes of monitoring and surveillance. As Mr. Carr testified, DFO approval for research purposes is regularly obtained by salmon researchers to study similarly perilous populations in other jurisdictions.

Carr Affidavit, Exhibit A, p 5-6 [Exhibit 2021-001-05].

124. DFA requires ongoing surveillance for sea lice and diseases of concern at aquaculture sites. Dr. Anthony Snyder's affidavit speaks to mandatory sea lice monitoring of farmed fish, and health surveillance monitoring by veterinarians. This type of ongoing proactive surveillance is essential because it provides baseline data and allows for the identification of trends and diseases at the early stages of an outbreak.

Affidavit of Dr. Anthony Snyder at paras 40-41 [Exhibit 2021-001-04].

125. In contrast, the absence of information on local wild salmon and particularly the failure to survey of local rivers for sea lice, escapees, genetic introgression, or pathogens means that there is no evidence upon which to base Kelly Cove's assertion that site has "little to no

impact on the wild salmon population". Dr. Heming submits that the evidence is insufficient to allow the Board to evaluate the impacts of this expansion application on wild salmon as required pursuant to s 3(g) of the *Regulations* – and as a result, the precautionary principle dictates that the application must be rejected.

Kelly Cove closing submissions, para 10.

iii. The evidence is clear that Kelly Cove's containment measures cannot eliminate risks to wild Atlantic salmon

126. The Doelle-Lahey Report recommends that salmon farms be required to institute a "comprehensive containment system to prevent escapes, such as is required in Maine" and there was consensus across all parties on this recommendation.

Doelle-Lahey Report, p ix, 110-114 [Kelly Cove closing submissions, Tab 1].

127. Containment is comprised of two components: (1) physical containment (i.e. prevention of escapes of farmed salmon into the freshwater and marine environments); and (2) containment of diseases and parasites (i.e. implementation of measures to prevent the spread of diseases and parasites between aquaculture facilities and wild fish). These components are examined in turn below.

Carr Affidavit, Exhibit A, Tab 11, p 5 [Exhibit 2021-001-05].

a) Kelly Cove's containment measures cannot eliminate escapes

128. As summarized in the Report of Dr. Sutton and Mr. Carr, escaped farmed salmon can negatively impact wild salmon and their recovery. Escapees are selectively bred for the purposes of commercial production and not for fitness and survival in the wild. When these captive salmon breed with wild salmon, it erodes genetic diversity, reduces productivity, and decreases resilience and abundance of the wild population. Available research has found escaped farmed salmon in rivers in all regions where salmon farming occurs, and estimates suggest that in some instances escapees may outnumber wild Atlantic salmon. In summary, "the viability and recovery of wild Atlantic salmon populations is threatened by the introduction of genetic material (i.e. genetic introgression) from farmed fish."

Carr Affidavit, Exhibit A, p 9 [Exhibit 2021-001-05].

129. Introgression may also impact on the ability of wild salmon to adapt to our ever-changing climate. The International Council for the Exploration of the Sea states that "long-term

consequences of introgression across river stocks can be expected to lead to reduced productivity and decreased resilience to future impacts such as climate change (i.e. less fish and more fragile stocks)." DFO has confirmed in 2013 that large-scale changes to the atmospheric and oceanographic conditions in the range of wild Atlantic salmon have already been observed.

Carr Affidavit, Exhibit A, Tab 8, International Council for the Exploration of the Sea Report 2016, p 3; Tab 5, DFO Recovery Potential Assessment for Southern Upland Atlantic Salmon, 2013, p 40 [Exhibit 2021-001-06].

130. Even the most stringent containment models, such as the one in Maine, do not eliminate escapes. The US NASCO Implementation Plan for 2019-2024 indicates that "Since fully implementing [containment management plans], no reportable events have occurred." However, escaped fish continue to be captured through Maine's surveillance and monitoring programs: "four salmon captured in 2012 and three in 2016 were positively identified as coming from a commercial site in Maine."

NASCO Implementation Plan 2019-2024, p 14-15 [Exhibit 2021-001-16].

131. Importantly, the physical structure, policies and practices of the site are only a portion of the Maine model, with monitoring and tracing being a key mechanism to facilitate evaluation and continuous improvement. Maine conducts ongoing monitoring of adult salmon at traps on five rivers to screen for the potential presence of aquaculture escapees.

NASCO Implementation Plan 2019-2024, p 15 [Exhibit 2021-001-16].

132. Without ongoing monitoring, authorities in Maine would not have captured the escapees found in 2012 or 2016 because there were no reported escape events to trigger a reactive monitoring action in those years. As Mr. Feindel testified, Nova Scotia does not have proactive or reactive monitoring programs on the rivers in proximity to aquaculture sites. While Mr. Feindel suggested that reactive monitoring (after an escape event has been reported) could be instituted, there is currently no requirement for proponents or the Province to do so.

133. In addition, traceability programs are a key component of the containment model in Maine, allowing escapees to be traced back to their site of origin. A visual marker, such as a tag or dye mark, would mean that an amateur naturalist or angler fishing for other species might

spot an escaped salmon in a river and advise the authorities. Mr. Nickerson testified that Kelly Cove has committed to implementing a traceability program by 2023 that relies on genetic markers. Unlike visual markers, genetic markers require that salmon are captured and samples sent to the lab for testing to confirm whether they are escapees and determine their farm of origin. Despite these hurdles, the use of genetic markers may still be of limited assistance in identifying aquaculture escapees. However, instituting these traceability measures remains voluntary and there is currently no legal mechanism available to hold Kelly Cove accountable to its commitment.

134. In addition, even the most robust traceability program is only as good as the monitoring being done to capture and identify escapees. Without ongoing proactive fish surveys and surveillance to find these escapees in rivers, traceability exists in name only. While Dr. Snyder expressed skepticism about implementing an ongoing monitoring program, he indicated in oral testimony that fish may have to be killed to perform the testing (as required to test for certain pathogens and diseases). However, Mr. Carr explained that sea lice counts and tissue samples to perform genetic tracing can be obtained without harming the fish.

135. Without salmon monitoring in local rivers, there is no way to validate whether the newly implemented containment protocols at the Rattling Beach site have been effective because there is no mechanism to locate and trace any escapees from the site. It cannot be said that escapees are not present in the rivers if we do not monitor for them; the best we can say is that we have not looked.

b) Kelly Cove's containment measures cannot eliminate the transmission of sea lice, pathogens and disease

136. Containment also refers to the containment of diseases and parasites, including sea lice. Mr. Nickerson testified that the Rattling Beach site saw elevated sea lice counts in 2014 and at that time the outbreak was managed with an in-feed treatment. In 2018, antibiotics were required to treat an outbreak of enteric redmouth disease (ERM). At the time of the hearing, the site was under intensive monitoring due to elevated sea lice counts that exceeded the action threshold. In addition, the Victoria Beach site, also located in the Annapolis Basin,

was undergoing mechanical treatment after in-feed treatment failed to bring sea lice numbers back within the acceptable range.

137. The current outbreak at Kelly Cove's sites in the Annapolis Basin has raised concerns for Dr. Heming about the future implication of climate change and global warming on sea lice at the sites and within the Basin. Further, while in feed treatments proved effective in the past, the use of mechanical treatments raises concerns about sea lice resistance to in feed medication. Mr. Nickerson testified that multiple mechanical treatments exist, including the use of freshwater, hydrogen peroxide and thermal (or hot water). However, the process may not be as simple is it appears. Mr. Carr testified that sea lice are not immediately killed when they come into contact with freshwater, but rather can survive up to a week on wild salmon as they swim upstream.

> Carr Affidavit, Exhibit A, Tab 14, Shephard and Gargan, 2017, p 181-182; Tab 1, Aquaculture Stewardship Council Salmon Standard Version 1.3, 2019, p 47 [Exhibit 2021-001-05].

138. As Mr. Carr testified, in the 18-22 month life cycle of open net pen salmon, adult wild salmon returning to the rivers to spawn in the fall interact with captive salmon, resulting in the introduction of sea lice to the farmed fish. The lice proliferate in the pens given the large number of prey (i.e. salmon) in close proximity. The primary threat to wild salmon arises in the spring of the following year when smolts leave the rivers and head out to sea travelling past the two aquaculture sites in the Annapolis Basin. While this risk may be less than in some other configurations and jurisdictions, it is a risk, nevertheless. In Maine, for instance, a 2017 study of wild salmon found sea lice on 18% of salmon it observed – and this was after the implementation of the Maine containment management program.

> NASCO Implementation Plan 2019-2024, p 14 [Exhibit 2021-001-16].

139. Mr. Carr and Dr. Sutton cite numerous studies in their report, including studies within Atlantic Canada and several larger literature reviews that compile research from around the world including Canada, in coming to the conclusion that increased abundance of sea lice on aquaculture farms has an adverse effect on wild Atlantic salmon. In addition to the research cited, Mr. Carr and Dr. Sutton rely on their own research (much of which has been conducted in Atlantic Canada) and their years of experience in the field. As their report highlights, there has been inadequate study of the impacts of aquaculture, including sea lice

and pathogens, on the Southern Upland population and specifically the wild salmon in the Annapolis system.

Carr Affidavit, Exhibit A, p 9, 11-14, and Tabs 4, 6, 15, 17 [Exhibit 2021-001-05].

140. While the containment management systems put in place are important and necessary, without adequate monitoring the impact of the Rattling Beach site upon the endangered local salmon population simply cannot be adequately assessed and mitigated. In the face of such uncertainty, Dr. Heming submits that the precautionary principle must prevail and the application must be rejected.

D. If the Board approves Kelly Cove's application it should impose conditions on its approval

141. In the alternative, if the Board sees fit to approve Kelly Cove's application, it should impose conditions on its approval. Pursuant to s 52(1)(b) of the *FCRA,* the Board may issue a licence or lease subject to any conditions it considers appropriate. Dr. Heming submits that the following conditions are both appropriate and necessary in the circumstances:

(1) **Prohibition against an increase in the number of cages and production levels on the site:** Throughout the proceedings Kelly Cove has been adamant that this application represents no change in equipment or production levels at the Rattling Beach site. However, it is unclear whether Kelly Cove could in fact fit additional cages on a 29.08 ha site. Further, as Dr. Snyder testified in cross-examination, there is no regulatory prohibition against stocking fish in excess of the current stocking density at the Rattling Beach site. The Intervenor notes that increasing the number of cages or stocking levels on the site would not require a further application to the Board, since the *FCRA* only requires the Board to hear applications for expansions of lease or licence areas. Therefore, any approval of Kelly Cove's application should be subject to a condition that Kelly Cove be prohibited from increasing the number of cages or production levels at the Rattling Beach site.

FCRA, s 49(c).

(2) **Implementation of traceability by 2023**: Kelly Cove has cited its commitment to genetic marking of fish stocked at the Rattling Beach site by 2023 in order to support its request that the Board approve its application. Dr. Heming supports this commitment, but

notes that there is currently no legal requirement holding Kelly Cove accountable for implementing this traceability program. If the Board decides to approve Kelly Cove's expansion application, it should require that the Rattling Beach site stock only fish with genetic markers beginning in 2023.

(3) **Proactive monitoring to obtain baseline data and monitor trends:** As recommended by the Doelle-Lahey report, aquaculture developments should be coupled with further monitoring and research. Dr. Heming therefore submits that any approval of Kelly Cove's application should be contingent upon Kelly Cove obtaining approval from DFO to produce, commission and/or fund annual monitoring and surveillance of wild Atlantic salmon in three affected rivers – specifically the Annapolis, Bear and Round Hill. Surveys on these rivers must include sea lice counts and collecting small tissue samples from a combination of adults (identifying direct escapees from farms) and juveniles in the river to assess for introgression. This would require non-lethal biological sampling (collecting the small piece of tissue Mr. Carr discussed) for genetic screening. The results of this surveillance must be made available to the public so that Dr. Heming and other local residents can know and understand the state of local stocks and impacts of the Rattling Beach site.

Doelle-Lahey Report, p 38 [Kelly Cove closing submissions, Tab 1].

Carr Affidavit, Exhibit A, p 7 and Tabs 11 & 12 [Exhibit 2021-001-05].

(4) **Reactive monitoring:** In addition to annual proactive surveillance, when a breach of containment occurs or is suspected, targeted monitoring should be conducted to locate and re-capture any escapees. To that end, any approval of Kelly Cove's application should be contingent upon the company obtaining approval from DFO to perform reactive monitoring.

Carr Affidavit, Exhibit A, p 7 [Exhibit 2021-001-05].

Conclusion

142. Dr. Heming submits that the Board must reject Kelly Cove's application to expand its lease and licence boundaries at the Rattling Beach site, for the following reasons:

(1) The application triggers a duty to consult with the Mi'kmaq of Nova Scotia, which has not been fulfilled;

(2) The retroactive approval of existing noncompliant operations is contrary to the *FCRA* and the *Regulations;* and

(3) The evidence before the Board is insufficient to establish that the site will not have unacceptable adverse impacts on critically endangered wild salmon.

143. If the Board accepts Dr. Heming's submissions on any one of these three items, Dr. Heming respectfully submits that it must deny Kelly Cove's application. In the alternative, should the Board decide to approve Kelly Cove's application, it should do so subject to the conditions enumerated above.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

Sarah McDonald
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Barrister & Solicitor