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 KELLY COVE SALMON LTD
December 2, 2021

Robert Grant, QC & Sara Nicholson
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Kelly Cove Salmon Ltd

Alison Campbell
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Counsel on behalf of the Department
of Fisheries and Aquaculture

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Counsel on behalf of the Intervenor,
Gregory Heming

OVERVIEW

1. The Applicant, Kelly Cove Salmon Ltd. ("**Kelly Cove**"), makes the following closing submissions in support of its application seeking a boundary amendment to its Marine Finfish License and Lease AQ#1039 for its Rattling Beach Farm in Digby, NS (the "**Application**").

2. The parties in this Application, Kelly Cove, Nova Scotia Department of Fisheries and Aquaculture ("**DFA**") and the Intervenor Gregory Heming, appeared before the Nova Scotia Aquaculture Review Board (the "**Board**") on November 15 – 18, 2021.

3. Kelly Cove is seeking to amend the lease boundary around its Rattling Beach Farm, AQ#1039. The Farm operations and fish production have not changed since 2004.

4. Kelly Cove is not seeking to increase the size of the grid and mooring system at the Farm nor increase the number of pens. Kelly Cove is also not seeking to increase production of salmon at the Farm.

5. Kelly Cove is only seeking to amend the invisible line which surrounds the grid and mooring system at the Farm to ensure all of its infrastructure is within the lease boundary as required under the new regulatory regime.

6. As further set out below, the Board must consider eight factors in Section 3 of the *Aquaculture License and Lease Regulations* to decide whether the Farm is "*the optimum use of marine resources*" and grant the Application.

7. Only one of the eight factors is contested – factor 3(g), the sustainability of wild Atlantic salmon.

8. The impact of marine finfish aquaculture on wild Atlantic salmon is a divisive issue for some elements of the population who oppose marine finfish aquaculture, generally, on ideological grounds. However, that issue was top of mind for the Provincially appointed independent panel, comprised of Meinhard Doelle and William Lahey. They were tasked to develop a regulatory framework for the aquaculture industry. The Panel's recommendations did not lead to a moratorium but rather a regulatory overhaul, including the implementation of this Board, as an independent decision maker.

9. The Application is not an inquiry as to whether or not marine salmon aquaculture is incompatible with wild salmon in all circumstances. The application process is focussed upon the local circumstances regarding the proposed aquaculture operation or the adjudicative decision facing the Board. The Board must consider all of the factors set out in Section 3 of the *Aquaculture License and Lease Regulations* and as part of that exercise take into consideration whether the Rattling Beach Farm impacts the sustainability of wild Atlantic salmon.

10. It is respectfully submitted that the evidence supports a finding that the Farm likely has little to no impact on the wild salmon population due to historical endangered population in the Annapolis Basin and surrounding rivers coupled with the Farm's strong history of environmental monitoring results, disease and pathogen management, and containment management. Moreover, the Application before the Board to amend the lease boundaries will not alter or further the impact, if any, on the wild Atlantic salmon population.

11. The Farm has successfully operated in the Annapolis Basin in tandem with other commercial and recreational fishers and users for over 25 years. The Farm provides employment and business opportunities to the local Digby community as well as the Province. Its operations, in conjunction with the Victoria Beach Farm, represent approximately 30% of the landings over the Digby Wharf. Kelly Cove's parent company, Cooke Aquaculture Inc, employs 205 full-time employees in Nova Scotia with an annual payroll of $10 million – 10% of which are jobs for the Rattling Beach Farm.

12. The Rattling Beach Farm is well accepted and well integrated into the surrounding Digby community. This is evident not only by the lack of intervention of any persons living in close proximity to the Farm but also by the genuine support for the amendment from the many members of the community who appear in the video introduced as part of Jeffrey Nickerson's evidence.

13. There is no evidence that the Rattling Beach Farm will impact the Intervenor's re-wilding project at his homestead, approximately 15 km from the Farm.

14. Accordingly, it is respectfully submitted that the Board should decide in favor of Kelly Cove's Application for a lease boundary amendment such that the Minister of DFA may

amend the aquaculture licence and aquaculture lease AQ#1039 pursuant to section 52 of the Act.

EVIDENCE BEFORE THE BOARD

15. As the Board is aware, in advance of the hearing, the parties filed written submissions, witness lists and affidavit evidence.

16. Kelly Cove filed the following:

    (a) Written submissions and witness list dated April 26, 2021;

    (b) affidavit of Jeffrey Nickerson affirmed on April 26, 2021 (Exhibit #2021-001-07) which included a video addressing Kelly Cove's operations on an USB (Exhibit #2021-001-07-D);

    (c) supplemental affidavit of Jeffrey Nickerson affirmed on May 3, 2021 (Exhibit #2021-001-08);

    (d) affidavit of Andrew Swanson, PhD affirmed on May 3, 2021, enclosing the rebuttal report authored by Dr. Swanson and Dr. Grant (Exhibit #2021-001-09) which was withdrawn from the record on November 18, 2021;

    (e) Response to the Intervenor's information request dated April 19, 2021 (Exhibit #2021-001-15; and

    (f) Amended opening statement of Jeffery Nickerson dated November 12, 2021 (Exhibit #2021-001-07-A).

17. The DFA filed the following:

    (a) Referral Letter from the Minister of DFA (Exhibit #2021-001-13-D);

    (b) Kelly Cove's Application Package (Exhibit #2021-001-13);

    (c) DFA Report on Network Consultations (Exhibit #2021-001-13-C);

    (d) DFA Report of Performance Review (Exhibit #2021-001-13-B);

    (e) Baseline videos of the Rattling Beach Farm (Exhibit #2021-001-13-A);

    (f) affidavit of Jessica Feindel affirmed April 22, 2021 (Exhibit #2021-001-03);

    (g) affidavit of Dr. Anthony Snyder affirmed April 23, 2021 (Exhibit #2021-001-04);

    (h) affidavit of Robert Ceschiutti affirmed May 5, 2021 (Exhibit #2021-001-10); and

    (i) affidavit of Nathaniel Feindel affirmed May 5, 2021 (Exhibit #2021-001-11).

18. The Intervenor filed as follows:

(a) affidavit of Simon Ryder-Burbidge of the Ecology Action Center and the Healthy Bays Network affirmed April 22, 2021 (Exhibit #2021-001-01);

(b) affidavit of Ronald Neufeld affirmed April 22, 2021 (Exhibit #2021-001-02);

(c) affidavit of Jonathan Carr affirmed on April 23, 2021, enclosing the report authored by Mr. Carr and Dr. Sutton both of the Atlantic Salmon Federation ("**ASF**") (Exhibit #2021-001-05); and

(d) affidavit of Jonathan Carr affirmed on May 3, 2021, enclosing the rebuttal report authored by Mr. Carr and Dr. Sutton, again both of the ASF (Exhibit #2021-001-06).

19. At the hearing, on behalf of the parties, the Board heard testimony from the following people:

(a) Jeffrey Nickerson, Business Development Manager for Kelly Cove;

(b) Jennifer Wiper, Manager of Compliance and Certification for Cooke Aquaculture Inc on behalf of Kelly Cove;

(c) Nathaniel Feindel, DFA Manager of Aquaculture Development and Marine Plant Harvesting;

(d) Jessica Feindel, DFA Manager of Aquaculture Operations;

(e) Dr. Anthony Snyder, DFA Aquatic Health Veterinarian;

(f) Robert Ceschiutti, DFA Manager of Licensing and Leasing; and

(g) Jonathan Carr of the ASF on behalf of the Intervenor.

20. Notably, the Board did not receive affidavit evidence nor hear oral testimony from the Intervenor, Mr. Heming.[1]

21. The following exhibits were also entered into the record at the hearing:

(a) NASCO Implementation Plan for the period of 2019-2024 (Exhibit #2021-001-16);

(b) DFA Veterinarian Clinical Visits Records for Victoria Beach Farm, obtained via FOIPOP by Ron Neufeld (Exhibit #2021-001-17); and

[1] Mr. Heming was not included on the Intervenor's Witness List filed with the Board.

(c) Article: The Decline and Impending Collapse of the Atlantic Salmon (*Salmo salar*) Population in the North Atlantic Ocean: A Review of Possible Causes, July 2021 (Exhibit #2021-001-18).

22. The record for this Application also includes the public written submissions of:

(a) Andre Thiffault dated March 9, 2021;

(b) Ronald Neufeld dated April 24, 2021;

(c) Derek Purcell on behalf of Healthy Bays Network dated April 25, 2021;

(d) Simon Ryder-Burbidge on behalf of the Ecology Action Centre dated April 25, 2021;

(e) Wendy Watson on behalf of the Association for the Preservation of the Eastern Shore dated August 9, 2021; and

(f) Twila Gaudet, Director of Consultation on behalf of Kwilmu'kw Maw-klusuaqn Negotiation Office ("**KMKNO**") dated November 1, 2021.

23. During the public participation segment, the Board heard from Tom Smith on behalf of the Aquaculture Association of Nova Scotia. A Gwen Wilson requested to make an oral statement but did not attend the hearing and make an oral statement.

HISTORY OF THE RATTLING BEACH FARM, AQ#1039

24. Atlantic salmon have been successfully farmed at the Rattling Beach Farm since 1994.

25. Kelly Cove currently holds a license and lease to operate a salmon farm at Rattling Beach under AQ#1039 until April 27, 2026 and April 27, 2036, respectively.

Report on Performance Review, Exhibit #2021-001-13-B

26. During oral testimony, the Board heard evidence from Jeffrey Nickerson, Business Development Manager for Kelly Cove, who has worked in the aquaculture industry, including the Farm, since the early 1990s. He was originally involved, as a co-owner of Bayside Seaside Farms, with the early operations of the Farm and then again later in his career as a manager with Kelly Cove.

27. Mr. Nickerson testified with respect to the evolution of the Farm and the aquaculture industry generally since the 1990s until present day, including the evolution of GPS technology to determine the location of lease boundaries in the marine environment.

28. Initially, in 1993, an experimental lease and license was issued by the Province for the Rattling Beach Farm. It was later cancelled and re-issued in 1994 to co-owners Bayside Sea Farm and Rattling Beach Farm Ltd. to share the leased area to determine if Atlantic salmon could be successfully farmed in the Annapolis Basin. The Farm was successfully stocked with salmon in 1994 and 1995. At that time, Mr. Nickerson was a co-owner of Bayside Sea Farm.

29. In 2004, Kelly Cove took over the lease and license of the Farm, namely AQ#1039, from the operators. The same year, Mr. Nickerson was hired by Kelly Cove as the site manager for Kelly Cove's Saddle Island Marine Farm.

Neufeld Affidavit, Exhibit A, Assignment of Commercial License and Lease dated June 10, 2004
Nickerson Affidavit, Exhibit I

30. Kelly Cove installed a modern grid system and 20 pens on the Farm. Mr. Nickerson explained that the majority of the 20 pens were within the lease boundary. However, as was the practice at that time, the underwater moorings and anchors extended past the lease boundaries. The Province was aware that some of the pens as well as the moorings and anchors extended past the lease boundaries. This was the case for many aquaculture farms in Nova Scotia, not just Kelly Cove's Farm.

31. Mr. Nickerson further explained that the GPS technology at that time was in its primitive stage which made it difficult to determine the exact GPS coordinates of the lease boundary on the water. By way of example, he explained that in 1994, Province's GPS coordinates for the lease boundary placed the corner marker of the Farm in the Digby Ferry's parking lot.

32. In 2008, Mr. Nickerson testified, the Province and the aquaculture industry decided that a process should be started to bring all older, pre-2008 aquaculture farms into compliance with the regulations by amending the boundaries to incorporate the moorings and anchors. By that time, aquaculture farm leases and licenses issued after 2008 were compliant with the regulations, i.e. the entire operations were within the boundaries.

33. As a result, Kelly Cove applied for three boundary amendments for its farms in Shelburne Harbour. It was advised by the Province to wait until the Shelburne Harbour amendments were completed before they applied for others. The Province approved Kelly Cove's Shelburne Harbour boundary amendments in 2011.

34. Kelly Cove was later instructed by the Province to wait until 2012, and then instructed again to wait until 2013, to apply for additional boundary amendments for its remaining farms, including Rattling Beach, the subject of this Application.

35. In 2013, the Province issued a moratorium on applications of any kind as it introduced a regulatory review of the aquaculture industry.

Independent Aquaculture Regulatory Review in 2013

36. In April 2013, the Province appointed a two-person independent panel to lead the development of a regulatory framework for the aquaculture industry, comprised of Meinhard Doelle and William Lahey of the Schulich School of Law Dalhousie University (the "**Panel**").

37. In 2014, the Panel released the independent aquaculture regulatory review for Nova Scotia titled "A new regulatory framework for low-impact/high-value aquaculture in Nova Scotia", commonly referred to as the "**Doelle-Lahey Report**" (**Tab 1**).

38. As detailed in the Doelle-Lahey Report, throughout the review, the Panel met with multiple advisors, stakeholders, and other parties interested in the review, including the ASF, the Nova Scotia Aquaculture Association, the Ecology Action Centre, Nova Scotia Fisheries Sector Council, Union of Nova Scotia Municipalities, Nova Scotia Salmon Association, Coastal Coalition of Nova Scotia.

39. Multiple participants, including the ASF and Ecology Action Centre, advocated for a moratorium on the open-pen marine finish aquaculture industry, specifically with respect to Atlantic salmon, in order to protect the near endangered stocks of wild Atlantic Salmon.

40. Ultimately, the Doelle-Lahey Report did not recommend a moratorium but rather a fundamental overhaul of the legislation and regulations governing the aquaculture industry to, in part, to address the sustainability of the low stocks of wild Atlantic Salmon in Nova Scotia.

Regulatory Overhaul of Aquaculture Industry in 2015

41. In 2015, following the Doelle-Lahey Report, the *Fisheries and Coastal Resources Act* ("**Act**") was amended and the *Aquaculture License and Lease Regulations* as well as the *Aquaculture Management Regulations* were published.

42. One major change to the aquaculture industry flowing from the Doelle-Leahy Report, and the legislative amendments which followed, was the establishment of this Board as an independent decision-making body with a mandate to decide on aquaculture applications and adjudicative amendments with respect to marine aquaculture farms. The *Aquaculture License and Lease Regulations* address the process, in part, for an operator to apply for an adjudicative amendment before the Board to amend its current lease and license boundaries.

43. The *Aquaculture Management Regulations,* as the name indicates, address the aquaculture license holder's requirements to operate a farm. In order to operate a farm, an operator is required to submit a Farm Management Plan ("**FMP**") to DFA for approval and must include information regarding fish health management, environmental monitoring, farm operations, and containment management.

Kelly Cove Advised to Apply for Boundary Amendment in 2016

44. Shortly after the regulatory overhaul, on May 31, 2016, the Nova Scotia Department of Environment, Inspection, Compliance and Enforcement Division ("**NSE**") wrote to Kelly Cove with respect to AQ#1039 and advised that they had two options to bring the Farm into compliance with the Act, as amended, and the new regulations, more specifically, to ensure that the entire farm operations were within the lease boundary.

45. NSE advised Kelly Cove that it had the following 2 options:

> 1) License holder shall submit a scheduled re-alignment plan on or before October 26, 2016 to Nova Scotia Environment. The scheduled re-alignment plans must receive approval from NSE and will be required to provide the detailed steps the license holder plans to take to move all equipment and produce back within the lease boundaries and must also provide the proposed schedule for completion of these tasks; or

> 2) License holder shall submit an application for an adjudicative or administrative amendment on or before October 26, 2016 to DFA's Aquaculture Division. The format for these applications and review process is stipulated in the new *Aquaculture License and Lease Regulations*. DFA should be contacted for specific questions about these processes.

NSE Letter to Michael Szemerda, Report of the Performance Review, Appendix A, Exhibit #2021-001-13-B

Kelly Cove Applied for Boundary Amendment in 2016

46. In response, on October 26, 2016, Kelly Cove submitted its application for an adjudicative amendment with respect to AQ#1039, including its Development Plan.

47. On October 31, 2016 DFA confirmed receipt of Kelly Cove's request for amendment and supporting documentation.

Affidavit of Nathaniel Feindel, Exhibit E

48. On August 17, 2017, Kelly Cove was advised by DFA that its Development Plan submitted for the boundary amendment would have to be revised and that a Scoping Report must also be submitted. Mr. Nickerson explained that the Application Package was amended because DFA requested additional information, which was provided, and because DFA changed the format for the application, due to infancy of the process.

Affidavit of Nathaniel Feindel, Exhibit F

49. On November 22, 2017, Kelly Cove submitted its revised Application Package, including the Development Plan along with its Baseline Assessment Report Addendum, Boundary Amendment Addendum and its Scoping Report.

50. On December 4, 2017, DFA confirmed receipt of Kelly Cove's request for an aquaculture boundary amendment with respect to AQ#1039 and advised that the Adjudicated Application will proceed to the internal review stage of the renewal process.

Affidavit of Nathaniel Feindel, Exhibit G

Kelly Cove's Boundary Amendment Referred to the Board in 2021

51. On February 5, 2021, DFA submitted the revised Application Package to the Board to review in this proceeding, namely Exhibit #2021-001-013.

52. As set out in his affidavit and in testimony, Nathaniel Feindel, Manager of Aquaculture Development and Marine Plant Harvesting, and a member of the DFA Review Team responsible for this Application, explained that DFA's internal review of the Application took considerable time partly due to the time required to complete the Network Consultations as required under section 14 of the *Aquaculture License and Lease Regulations*.

53. As detailed in DFA's Report on the Outcomes of Consultations with respect to the Application, DFA consulted with:

(a) Department of Fisheries and Oceans Canada;

(b) Canadian Food Inspection Agency;

(c) Transport Canada;

(d) Environment and Climate Change Canada – Canadian Shellfish and Sanitation Program;

(e) Environment and Climate Change Canada – Canadian Wildlife Service;

(f) Nova Scotia Department of Environment;

(g) Nova Scotia Department of Agriculture;

(h) Nova Scotia Municipal Affairs;

(i) Nova Scotia Communities, Culture and Heritage;

(j) Nova Scotia Department of Lands and Forestry (formerly the Department of Natural Resources); and

(k) Nova Scotia Department of Fisheries and Aquaculture – Inland Fisheries.

54. Mr. Feindel testified that the consultation process involved an ongoing dialogue with the various network partners, in particular with the Federal Department of Fisheries and Oceans ("**DFO**"). There was a series of communications between DFA and DFO beginning in March 2018 until December 2020, contained in Appendix A of the Consultation Report, resulting in DFO's Initial Letter of Advice dated October 11, 2019 attaching the Canadian Science Advisory Secretariat report dated August 2019 (the "**CSAS Report**") and DFO's Addendum Letter of Advice dated December 1, 2020.

55. On February 5, 2021, the Honourable Keith Caldwell, then Minister of DFA, referred the Application, pursuant to section 49(c) of the Act for a decision before the Board for adjudicative amendment.

Board Heard Application in November 2021

56. The hearing of the Application was originally scheduled to commence in April 2021, however, was adjourned due to the COVID-19 pandemic. It was rescheduled for August 2021 and was again adjourned due to unforeseen personal circumstances of a Board member, and ultimately commenced on November 15, 2021.

DUTY TO CONSULT

57. In advance of the hearing, the issue of whether the Crown had a duty to consult with the Mi'kmaq on the Application was put before the Board.

58. The Supreme Court of Canada has confirmed that the Crown has a duty to consult with First Nations when it considers conduct that might adversely impact potential or established Aboriginal or Treaty Rights.[2]

59. The duty to consult first arose as a legal issue in this Application on April 1, 2021 when KMKNO wrote to DFA and requested consultation with the Mi'kmaq on the Application.

Affidavit of Robert Ceschiutti Affidavit, Exhibit C

60. In advance of the hearing, the parties all agreed that the Board is a tribunal with the jurisdiction to consider whether:

> (1) the Crown had a duty to consult the Mi'kmaq with respect to the Application; and
>
> (2) if, so, whether the Crown fulfilled its duty in this matter.

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[2] See: *Haida Nation v. British Columbia (Minister of Forests)*, 2004 SCC 73.

61. On April 26, 2021 DFA responded and stated that the duty to consult was not triggered by the Application because "*no new adverse impacts to established or credibly asserted Aboriginal or treaty rights are anticipated.*"

Affidavit of Robert Ceschiutti Affidavit, Exhibit D

62. On August 26, 2021, KMKNO wrote to the Board, stating: "*We respectfully request that the Board carefully consider our continued opposition to approving the boundary amendment*."

63. In response, Kelly Cove, DFA and the Intervenor all filed written submissions with the Board with respect to the duty to consult. The Board requested further submissions from KMKNO by October 15, 2021. Following receipt of the same, on October 22, 2021, the Board determined that it would accept correspondence from KMKNO to be put on the record with respect to the duty to consult (by November 1, 2021) and provided KMKNO the opportunity to make a sworn statement at the hearing.[3]

64. On November 1, 2021, KMKNO submitted its letter which was included in the filed written submissions. Representatives from KMKNO did not make an oral statement at the hearing though they were present in the hearing room.

65. As stated at the close of the hearing of evidence in this matter, Kelly Cove does not take a position on whether the Crown had a duty to consult in this Application, and if so, whether the Crown fulfilled its duty.

66. In the event that the Board determines that (1) the Crown had a duty to consult the Mi'kmaq with respect to the Application and (2) the Crown did not fulfil its duty in this matter, Kelly Cove submits that the Board should adjourn the decision on the merits of the Application pursuant to Section 29 of the *Aquaculture License and Lease Regulations* to provide the Crown and the Mi'kmaq the opportunity to undergo consultation with respect to the Application.

67. Section 29 states as follows:

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[3] Refer to: NSARB-2021-011-CORR-025.

Adjourning and reconvening adjudicative hearing

29 (1) The Review Board may adjourn an adjudicative hearing and reconvene the adjudicative hearing at any time and at any place the Review Board considers appropriate.

(2) The Review Board must provide reasonable notice of the time and place of a reconvened hearing to the parties to the hearing and to the public.

68. A similar procedure was upheld by the Nova Scotia Court of Appeal in ***Nova Scotia (Attorney General) v Nova Scotia (Utility and Review Board)***, 2019 NSCA 66 (**Tab 2**).

69. In that matter, the Court of Appeal upheld the Nova Scotia Utility and Review Board*'s* ("**UARB**") decision that it had the jurisdiction to consider whether the Crown had a duty to consult with the Mi'kmaq, and whether the Crown fulfilled its duty. The UARB adjourned the hearing on its merits, pursuant to section 20 of the *Utility and Review Board Act* (analogous to section 29 of the *Aquaculture License and Lease Regulations*) for three months to provide the Crown and the Mi'kmaq the opportunity to consult.

70. Kelly Cove respectfully submits that the same procedure should be adopted in this matter, in the event that the Board determines that the Crown had a duty to consult and did not fulfil that duty in advance of the hearing of the Application. Following consultation, if required, the Board may reconvene and issue its decision on the merits.

SECTION 3 FACTORS

71. The *Aquaculture Licence and Lease Regulations* made pursuant to the Act frame and direct the factors that the Board must take into consideration in its decision-making process.

72. Section 3 of the *Aquaculture Licence and Lease Regulations* expressly provides that the Board must consider eight factors in making its decision with respect to the Application. It states as follows:

Factors to be considered in decisions related to marine aquacultural sites

3 In making decisions related to marine aquacultural sites, the Review Board or Administrator must take all of the following factors into consideration:

(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;

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

73. Each of the Section 3 Factors will be addressed in turn below.

74. Based on the affidavit evidence and the *viva voce* evidence, we submit that only <u>one</u> of the above noted factors is contested in this matter - the sustainability of wild salmon. The evidence in this hearing supports a finding in favor of the Application on each of the Sector 3 Factors, including the sustainability of wild salmon.

(a) The optimum use of marine resources

75. The Board previously held that the "*first criteria "the optimum use of marine resources" is essentially a finding that the Board must make, after reviewing all of the other Section 3 factors*".[4]

76. As further set out below, it is respectfully submitted that the Rattling Beach Farm is the optimum use of marine resources in the Annapolis Basin. Accordingly, the Board should grant the Application for a lease boundary amendment.

[4] In the matter of Grand Pass Oysters Ltd., November 17, 2020, NSARB 2020-001-003 at page 3.

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

77. The Farm is a significant contributor to the local Digby and Provincial economy. It has been in operation over 25 years, employs many people and contracts with multiple local companies. Section 2 of the Development Plan addresses the contribution to the economy.

Section 2 of the Development Plan, Tab 2 of Application Package, Exhibit #2021-001-13

78. Kelly Cove is the Canadian farming division of Cooke Aquaculture Inc. based in Black's Harbour, New Brunswick. Cooke employs 205 full time, year-round Nova Scotians and has an annual Nova Scotia payroll of $10 million. In addition, Cooke's operations create another 240 indirect jobs for the Province in the local supply of goods and services and additional spin offs.

79. As testified by Mr. Nickerson, the Farm represents 10% of Cooke's jobs in Nova Scotia. The majority of positions in Nova Scotia are full time and include feed and maintenance technicians, fish health and environmental management professionals, technical support and administrative positions. Kelly Cove's operations in the Annapolis Basin represent approximately 30% of the value brought over the Digby wharf.

Nickerson's Opening Statement, Exhibit #2021-001-07-A

80. Kelly Cove employs and contracts with a variety of suppliers including divers, mechanics, boat repair facilities, hardware providers, welders, heavy equipment operators, crane operators, marine suppliers, distribution companies, environmental consultants, electricians, boat brokers, boat builders, engine suppliers, hotels, restaurants and ferries.

81. It also employs people at the feed manufacturing facility in Truro which supplies its Nova Scotia and New Brunswick farm operations.

82. Mr. Nickerson testified that Kelly Cove contracts with three hatcheries in Nova Scotia for the supply of Atlantic salmon smolts and Rainbow/Steelhead trout (1 of the 3 supplies only trout), as well as works with the Millbrook First Nation Fish Hatchery.

83. On November 20, 2017, the Vice-President of Finance of Cooke confirmed that Kelly Cove has the financial capacity and wherewithal to continue to continue to farm in a sustainable manner.

Financial Viability Letter, Appendix B of Development Plan, Application Package, Exhibit #2021-001-13

84. No concerns were raised by the attendees at the March 30, 2017 open house that the boundary amendment would directly or substantially impact the local economy in an adverse way.

Affidavit of Nathanial Feindel, para 45, Exhibit #2021-001-11

(c) Fishery activities in the public waters surrounding the proposed aquacultural operation

85. The Rattling Beach Farm has successfully operated in the Annapolis Basin in tandem with other fisheries including scallop, lobster, clam, rockweed, periwinkles, herring, groundfish, pollock and cod.

86. Section 3 of the Development Plan addresses the fishery activities surrounding the Farm.

Section 3 of the Development Plan, Tab 2 of Application Package, Exhibit #2021-001-13

87. Mr. Nickerson testified that in the early 1990s the lobster industry in the Annapolis Basin was practically non-existent. The bottom of the Annapolis Basin, comprised of sand and gravel, is not typical lobster habitat. Since the Farm has been operating, the lobster fishery has grown significantly in the Basin in particular, near the Farm. The lobster fishers place their gear next to the pens on the Farm, within the moorings, and within the proposed amended boundary.

88. Similarly, the scallop fishers drag for scallops near the pens at the Farm, within the proposed amended boundary.

89. The local First Nations hold commercial licenses in the area. Mr. Nickerson testified that Kelly Cove welcomes all fishers to fish within the Farm's moorings, in the proposed boundary area, as the lobster and scallop fishers have done in the past.

90. Mr. Nickerson further testified that Kelly Cove has a good relationship with the local fishers, based on mutual respect. They have been working together for over 27 years in the Annapolis Basin and communicate about and share the Digby Wharf.

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

91. The Farm is located near the channel at the entrance to the Annapolis Basin on the Fundy shore of Nova Scotia.

92. Section 4 of the Development Plan addresses the oceanographic and biophysical characteristics of the public waters surrounding the Farm, including the wind conditions, waves, tides, currents, temperature, oxygen, bathymetry, baseline monitoring and site design.

Section 4 of the Development Plan, Tab 2 of Application Package, Exhibit #2021-001-13

Oceanographic Characteristics: wind, waves, tides, currents, temperature, site design

93. Kelly Cove monitors the oceanographic characteristics of the surrounding waters including the wind, water temperature and salinity.

94. The data is used, in part, to ensure that the Farm's grid and anchoring system can withstand the environment. The grid and anchoring system is engineered and designed with a safety factor of 5:1; meaning, as explained by Mr. Nickerson, if the engineered modeling requires a component of the grid and anchoring system to have a breaking strength of 10lbs, then Kelly Cove would install a component with 5 times that strength.

95. The Farm cannot be stocked with fish until the engineer's approval is obtained. The grid and anchoring system at the Farm has historically been successful. The data is also provided to DFA to review.

Affidavit of Nathaniel Feindel, para 63

96. The water temperature and oxygen levels are monitored in real time in the pens, at different locations on the Farm. The fish health team and the remote feeders in Bridgewater rely on this data. There is a weather station at Rattling Beach to monitor the wind speeds.

97. In DFA's view, the water temperature and salinity are within acceptable range for culturing Atlantic salmon. The bathymetric tidal and water current conditions at the Farm are expected to be sufficient to support the proposed infrastructure and level of production.

Affidavit of Nathaniel Feindel, para 72
Affidavit of Dr. Snyder, para 22-23

98. Kelly Cove monitors the water temperature continuously in real time and has protocols in place in the event of extreme low water temperatures below the lethal temperature for Atlantic salmon (-0.7 degrees Celsius) to reduce negative impact on the fish, known as a superchill event.

99. Mr. Nickerson and Dr. Snyder both explained that Kelly Cove monitors the water temperature in real time and ceases feeding during a potential cold-water period to prevent the fishing from visiting the cooler upper layer of water.

Affidavit of Dr. Snyder, para 25

Biophysical Characteristics: oxygen, bathymetry, baseline monitoring

100. As discussed above, an operator must submit an FMP to DFA for approval. As required under sections 6 and 10 to 13 of the *Aquaculture Management Regulations,* the FMP must, in part, address and provide procedures with respect to environmental monitoring at the Farm to ensure that the state of environmental conditions prevail overtime.

101. Kelly Cove submitted its Farm Management Plan ("**FMP**") and received DFA approval for a site biomass of 3,504,000kg, comprised of 660,000 fish total in 20 pens.

102. As explained by Jessica Feindel, DFA Manager of Aquaculture Operations, the Environmental Monitoring Program ("**EMP**") monitors marine finfish operations and examines the relationship between the operation and surrounding marine environment. DFDA's EMP Framework is attached as Exhibit C to Ms. Feindel's affidavit.[5]

[5] Affidavit of Jessica Feindel, Exhibit #2021-001-03.

103. Site specific data is used to identify how each aquaculture farm interacts with its surrounding marine environment. The objective of the EMP is to ensure that the marine environment where aquaculture operate maintain oxic conditions in the benthic environment (i.e. ensure oxygen is present in the lowest ecological zone in the water including the sediments at the seafloor).

104. Ms. Feindel further explained that hypoxic and anoxic sediment conditions result when the biochemical oxygen demand (BOD) is greater than the incoming supply of oxygen and has the potential to negatively impact the fish habitat by decreasing the abundance and diversity of faunal populations.

See also: Affidavit of Jessica Feindel, paras 15-24, Exhibit 2021-001-03

105. The EMP is a risk-based program to monitor the impact of organic deposition on the sea floor (e.g. the fecal matter and waste feed from the Farm).

106. The EMP framework includes qualitative and quantitative indicators to monitor the benthic environment, e.g. visual indicators such as the colour of the sea bottom and sulfide concentration levels, respectively. The monitoring takes place between July 1 and October 31, annually, when the water is warmest and fish growth rates and feed rates are the highest at the Farm.

107. At paragraph 35 of her affidavit, Ms. Feindel set out the oxic classification related to the sulfide concentrations as follows:

(a) Oxic A: 0-749 µM sulfide;

(b) Oxic B: 750-1499 µM sulfide;

(c) Hypoxic A: 1500-2999 µM sulfide;

(d) Hypoxic B: 3000-5999 µM sulfide; and

(e) Anoxic: 6000+ µM sulfide.

108. Ms. Feindel testified that DFA's oxic classification is more conservative than DFO's which sets the compliance threshold at 3000 µM sulfide.

109. Data samples are collected under the pens and at the reference station approximately 100-300 metres away from the lease boundaries of the Farm. Data samples were originally collected by DFA from 2002 – 2009, after which data collection and analysis became the responsibility of the operators.

Affidavit of Jessica Feindel, para 15, Exhibit 2021-001-03

110. Kelly Cove employs a third party, SIMCorp, to conduct the sampling and testing, and submit the results to DFA. SIMCorp collects samples of the sea floor bottom and analyzes the samples for sulfides.

111. SIMCorp also completed the Baseline Assessment Reports and videos enclosed in the Application Package demonstrating a healthy oxic environment at the Farm.

Baseline Assessment Reports, Tab 2A and 3 of Application Package, Exhibit #2021-001-13

112. The EMP History for the Farm since 2004 is set out in Exhibit D to Ms. Feindel's affidavit.[6]

113. From 2004 - 2020, the Farm has only had two hypoxic classifications – in 2011 and 2017.

114. Ms. Feindel was not concerned that the Farm had two hypoxic events in the past 10 years. She explained that it demonstrates the strength of the EMP program because the Farm returned to oxic conditions following Kelly Cove's implementation of its mitigation plan.

115. In 2011, Mr. Nickerson explained that the nets were manufactured using nylon twine and had more and larger biofouling growth accumulated on the nets during the grow-out period. Kelly Cove used divers to wash the nets and the organic debris gathered on the sea floor, resulting in the hypoxic condition. Subsequently, Kelly Cove has significantly invested in its netting material using HDPE nets and more robust net washing procedures including employing ROVs (i.e. remotely operated underwater vehicles) to wash the nets every 12-21 days to ensure the organic debris is frequently "dusted off" to prevent organic build up on the sea floor.

[6] Affidavit of Jessica Feindel, Exhibit #2021-001-03.

116. With respect to 2017, Ms. Feindel explained that the cause of the hypoxic event was due to the accumulation of waste feed. Mr. Nickerson further explained that the feed hose broke. In response, Kelly Cove implemented a mitigation plan which included a review of staff training, equipment and practices related to feeding. The Farm returned to oxic conditions the following year.

117. More recently, in the summer of 2021, DFA audited the Farm and collected and analyzed samples along with SIMCorp. The audit reviewed the field sampling protocol as well as the analytical results. Field sampling component passed the audit. The analytical results led to two different results: SIMCorp reporting oxic and DFA reporting a hypoxic A.

118. Ms. Feindel explained it is not uncommon that the analytical results may differ because organic matter does not fall uniformly to the sea floor like a blanket. She had no concerns with the Farm's EMP performance this summer. The qualitative indicators were not out of the ordinary and showed no evidence of excess organic matter, such as feed pellets, on the ocean floor.

119. DFA relied on the higher reading, in terms of mitigation requirements, of hypoxic A, to be conservative, and Kelly Cove submitted a mitigation plan as required under the regulations. The Farm was ultimately classified as oxic based on the results obtained by SIMCorp.

120. In Ms. Feindel's view, she was satisfied that the Farm's maximum biomass of 3,504,000kg was reasonable based on the historical review of the EMP data. The hydrodynamic conditions (current speed and direction) at the Farm are key factors in influencing the capacity of the Farm to resist degradation caused by the deposition of BOD matter.

Affidavit of Jessica Feindel, para 43, Exhibit #2021-001-03

121. As explained by Ms. Feindel, and as required under the Federal *Aquaculture Activities Regulations*, despite the modeling which predicted that based on its biomass the Farm would exceed the 3,000µM sulfide threshold, the historical EMP data demonstrates that the 3,000 µM sulfide threshold has never been exceeded.

122. In Dr. Snyder's view, there is no concern from a fish health perspective to raising Atlantic salmon at the Farm because of the water flow and oxygenation levels for the fish. It is a

suitable operation from an animal health perspective. Similarly, in the view of Mr. Feindel, there was no concern that the oceanographic characteristics of the area were not suitable for aquaculture.

123. Of note, Ms. Feindel concluded her testimony and said, “In my opinion, this is one of the best EMP sites in Nova Scotia.”

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

124. As with the commercial fishery, the Farm has successfully operated in the Annapolis Basin along with a multitude of other users, including pleasure crafts, commercial vessels, recreational fishers, eco-tourism (such as canoe and kayakers), and the Digby Ferry to New Brunswick. The others users of the public waters are addressed in Section 5 of the Development Plan.

Section 5 of the Development Plan, Tab 2 of Application Package, Exhibit #2021-001-13

125. As Mr. Nickerson explained, the water current near the Farm is strong, so there are very few kayakers in the area. On occasion, his team has had to help bring stranded kayakers back to shore.

126. There are no adjacent property owners to the Farm. It is located offshore Highway 303. The nearest properties are across the water. There are very few agriculture lands near the Farm.

127. While it is referred to as Rattling Beach, the “beach” adjacent to the Farm is rocky, on a steep cliff running from the highway to the sea bottom, and underwater daily at high tide.

128. The Nova Scotia Communities, Culture and Heritage is not aware of any archeological sites near the Farm and reported that aquaculture farms cause minimal damage to submerged archeological resources because only the anchors are in contact with the sea floor.

Section 5.1.8 of Development Plan, Tab 2 of Application Package, Exhibit #2021-001-13

129. There were no comments or complaints regarding other users of the Annapolis Basin at the public engagement session in March 2017.

Affidavit of Nathaniel Feindel, para 77, Exhibit #2021-001-11

(f) The public right of navigation

130. The Farm, its pens and moorings, have been in the same location since 2004. It has not and does not pose an issue with the public right of navigation (see Section 6 of the Development Plan).

Section 6 of the Development Plan, Tab 2 of Application Package, Exhibit #2021-001-13

131. The proposed boundary amendment to incorporate the underwater moorings and anchors was submitted to and approved by Transport Canada in 2017. The proposed amended boundaries did not impede navigation. Transport Canada reported there had been no issues with the current Farm location and no issues with the proposed alteration to its boundaries to accommodate the existing infrastructure.

Affidavit of Nathaniel Feindel, para. 91-94, Exhibit 2021-001-11

132. Initially, the operators of Digby Ferry raised concern because the proposed amendment was classified as an “expansion”. They were concerned that the Farm was increasing in size; however, all concerns were alleviated after it was clarified that the Farm was not increasing in size – the Application was only seeking to change the invisible boundary lines surrounding the existing Farm operation.

133. If the Application is granted, the footprint of the Farm will not change. Rather, the proposed boundary amendment will ensure that the leased boundaries incorporate all of the aquaculture related gear, including all of the underwater moorings and anchors.

(g) The sustainability of wild salmon

134. This Application is not a referendum on marine salmon aquaculture in Nova Scotia.

135. Notably, section 43A of the Act provides, in part, as follows:

> *Purpose of Part*
>
> *43A The purpose of this Part is to*
>
> *(a) recognize that aquaculture is a legitimate and valuable use of the Province's coastal resources;*
>
> *…*

136. The evidence before the Board strongly supports the conclusion that neither the Rattling Beach Farm nor the proposed amendment to the lease boundaries at Rattling Beach will pose a risk to wild salmon or to the sustainability of wild salmon.

137. Kelly Cove submits the evidence supports the following conclusions:

(a) There is no population of wild salmon likely to come into close enough proximity to the Rattling Beach Farm to be affected by it;

(b) The infrastructure, procedures and training for the Rattling Beach Farm operation are effective in keeping farmed fish within its pens from introduction to harvesting, thereby mitigating risk of introgression with wild salmon, if they are present;

(c) Salmon sea lice are historically not a problem at Rattling Beach and there is an array of treatments and management tools available to address potential infestations;

(d) Given that the cycle for farmed salmon at this Farm coincides with that of wild salmon (if they are present), the risk associated with sea lice is exceedingly low;

(e) Farmed fish are vaccinated and healthy when they are introduced to the Farm and are carefully monitored by veterinarians throughout their growth for prevention and treatment of disease. The risk of transmittal of disease to wild salmon, if they are present, is exceedingly low.

138. Kelly Cove Salmon addressed the sustainability of wild salmon in its November 2017 Application Package.

Application Package, Exhibit #2021-001-13, pages 104-108 and 362-373

Wild Atlantic Salmon Decline Pre-dated the Farm

139. In evaluating what, if any, risk the boundary amendment proposes to wild Atlantic salmon, it is necessary to consider the population of wild salmon and the potential for interaction between wild salmon and the fish farm.

140. Generally, wild salmon have been severely depleted from the rivers flowing into the Annapolis Basin for an extended period of time. The wild Atlantic salmon population has had exceeding low stocks, with some species listed as endangered, prior to the first establishment of salmon aquaculture in the Annapolis Basin in 1994.

141. The Doelle-Lahey Report concluded that the wild Atlantic salmon population faced a range of threats to its survival and recovery but that there was no research showing that the continuing decline of the wild Atlantic Salmon population was significantly caused by salmon farming. Rather, it was a combined effect of more fundamental factors such as loss of habitat, acid rain, legacy of the historical fishing and low population numbers.

142. The Doelle-Lahey Report concluded that the aquaculture regulatory framework should not prohibit to marine based finfish aquaculture, despite being urged to recommend a permanent moratorium.

143. Similarly, at the hearing, Dr. Snyder explained that there are multiple human events impacting the wild Atlantic salmon population including hydroelectric activity, climate change, agriculture and dams.

144. As acknowledged by Jonathan Carr, the wild salmon expert called on behalf of the Intervenor, the population of wild salmon in rivers feeding into the Annapolis Basin by 1994 had become so perilously low that the population was not sustainable. The incidence of wild salmon continued to decrease thereafter. Mr. Carr acknowledged a DFO study of Atlantic salmon in 1998 which addressed the plight of the Southern Upland Salmon strain in the Annapolis Basin and concluded that there was little chance that the stock would recover.

145. Mr. Carr also agreed and recognized that there are many reasons for the condition of the wild Atlantic salmon stock in rivers feeding into Annapolis Basin including the presence of fish constraints, the acidity of the water, agricultural practices not conducive to good

salmon habitat, the presence of the tidal power plant presenting a barrier to migration and the incidence of acid rain the effect of which is compounded by an already acidic soil condition in the area.

146. As set out in Exhibit 18, the article reviewing scientific literature on the decline of Atlantic salmon concludes, at page 28, that "no study has demonstrated a catastrophic effect of salmonid farming on wild Atlantic salmon that would lead to the decline and potential collapse of stocks across the North Atlantic." Instead, the authors submit that IUU fishing (i.e. illegal, unreported and unregulated) which has been implicated in the decline and collapse of fish stocks worldwide should be investigated.

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

The Farm is not in an area considered Critical Habitat for Wild Atlantic Salmon

147. In its Letter of Advice, using the precautionary approach, DFO concluded that any residual risk from the Farm to fish and fish habitat was acceptable and no additional risk treatment was needed.

148. DFO further advised that the Farm was not in an area considered to be critical habitat and there was no critical habitat in the predicted exposure zone. The Farm is unlikely to have any residual risk on fish and fish habitat as a risk is below the threshold of unacceptable impact.

Containment Management

149. The Doelle-Lahey Report recommended that specific attention for the protection of wild Atlantic salmon should deal extensively with the prevention of escapes from the aquaculture farms. It recommended that the approach in Nova Scotia should be similar to the one Maine, with respect to containment management systems.

Doelle-Lahey Report, pages 110-114, Tab 1

150. Mr. Feindel testified that DFA's containment management is modeled after Maine and the NASCO report. Since Maine implemented its containment management program, the

NASCO report indicated that the number of escapees significantly decreased from 2000 to 2018.

See: Figure 4.3, NASCO Report, p 15, Exhibit #2021-001-16

151. Under section 15 of the *Aquaculture Management Regulations,* Kelly Cove must include containment management measures in its FMP, including, in part, operating procedures that limit the risk of a breach, processes for installing and maintaining infrastructure in place to limit the risk of a breach, responses to breaches, scheduled reporting of initial farm stocking, inventory levels during production, and proof of a professional engineer's approval of the design of the structures in place for containment management.

152. DFA has approved Kelly Cove's FMP which includes the engineer approved containment management plan, infrastructure inspection schedules, standard operating procedure (SOPs) for breach response, and management plans for severe weather.

153. The Farm's grid and anchoring system was engineered approved and designed with a safety factor of 5:1. Kelly Cove has replaced the pens at the Farm with sapphire ultra core stainless steel nets. Mr. Nickerson explained that Kelly Cove tracks its Farm's infrastructure from "cradle to grave" in the event that any issues arise.

154. Kelly Cove staff inspect the Farm daily and record the results weekly. Twice a year, the underwater mooring system is inspected by the divers.

155. In the event that a breach occurs, Kelly Cove must report it to DFA as it did promptly on the one occasion of a suspected breach in December 2018. At that time, a small hole was detected in the net. Kelly Cove deployed its divers to immediately repair the net and inspect the surrounding waters for escaped fish but none were located. There was no hole detected in the secondary net. When the fish were ultimately harvested, there was no significant deviation in the fish population. The cause of the breach was unknown.

156. In addition to the sapphire netting, Kelly Cove relies on secondary containment measures including an above water bird net and an underwater predator net to provide another level of containment in the event of a breach on the main net.

157. In his expert report, Mr. Carr identified the potential for farmed salmon to escape and interbreed with wild populations leading to genetic diversity, reduced productivity,

decreased resilience and declining abundance. The risk associated with this concern is significantly reduced, however, by robust infrastructure to address containment of the farmed salmon coupled with a code of containment which has proven to be highly effective. The risk of introgression is exceedingly low.

Affidavit of Jonathan Carr, Exhibit #2021-001-05

158. In his evidence, Mr. Carr indicated that he was satisfied with Kelly Cove's containment measures and complemented its code of containment. He acknowledged that Kelly Cove had taken actions to comply with what has been asked by the regulatory authority. He had no other recommendations to make regarding the containment measures adopted by Kelly Cove.

159. Mr. Carr also acknowledged that the containment measures undertaken by Kelly Cove are consistent with those which had been undertaken in Maine which had been highly effective. The program in Maine also required a great degree of capital investment on the part of the operators. Mr. Carr confirmed that Cooke Aquaculture, the parent company of Kelly Cove, was the owner and operator of a large percentage of the salmon farms in Maine. The attention to containment measures in that state has had a measurable and significant effect on reduction of the escape from those facilities.

160. Mr. Carr had no recommendations as to what further steps Kelly Cove should undertake in order to reinforce containment in the Rattling Beach Farm.

Escapee Monitoring

161. Mr. Carr did suggest, however, that Kelly Cove and/or DFA should be doing additional monitoring and/or sampling of the wild salmon population outside the Farm's lease boundaries including disease and escapee surveillance in the adjacent rivers.

162. We submit that Mr. Carr's suggestion that there should be monitoring of rivers for escaped salmon is both unnecessary and problematic.

163. Mr. Feindel and Dr. Snyder both testified that neither the Province of Nova Scotia nor Kelly Cove have the authority to monitor salmon in local rivers. The authority and jurisdiction for such activities rests with DFO.

164. Dr. Snyder testified that while at first blush it might appear attractive to undertake such monitoring, the risks and benefits of doing so need to be analyzed to determine if they are worthwhile. Monitoring the fish may require killing or placing stress on them in the course of collecting them. There is a question of what is an appropriate sample size and potential for disease spread in handling wild fish which had not been vaccinated. Dr. Snyder expressed the opinion that in weighing the risks and benefits of a sampling program, he considered that the risks exceed the benefits at this time.

165. DFA is currently working a program to track potential escapees. The Minister has established a committee to address containment and traceability of farmed finfish in Nova Scotia.

166. Mr. Carr indicated that he served on the Minister's committee as did Kelly Cove. Mr. Carr was also aware that Kelly Cove committed to a genetic marker traceability program for its farmed salmon which would enable identification of salmon found in the wild had originated from Kelly Cove. As stated by Mr. Nickerson, the genetically marked fish will be placed in the farms in the Spring of 2023 and are currently spawning in the company's fish hatchery. The Program is intended to be auditable.

Sea Lice

167. Sea lice are a natural occurring parasite in the marine environment. They are ubiquitous and are found on wild salmon. There are a variety of different species of sea lice. *Lepeophtheirus salmonis*, commonly referred to as “leps” is the lice species of concern with respect to salmon. *Caligus* common is not a lice species of concern. Traditionally, there are low infection rates of sea lice in Nova Scotia.

Affidavit of Dr. Snyder, paras 40-43, Exhibit #2021-001-3

168. Sea lice do not live in fresh water. The smolts stocked into the Farm from the fresh water hatchery are sea lice free. Further, it is important to note that Kelly Cove must obtain a Certificate of Health Transfer from DFA prior to transporting live fish or eggs originating from outside of Atlantic Canada into Atlantic Canada as well as before stocking the Farm.

169. After stocking, pursuant to the *Aquaculture Management Regulations* and its FMP, Kelly Cove must monitor sea lice levels <u>weekly</u> from April 1 to January 15. The monitoring is conducted by random counting and staging sea lice parasites on the skin of the farmed

fish. The count results are recorded and submitted to a third party, the Atlantic Veterinarian College, into the iTrends database for review by DFA.

170. Kelly Cove's FMP, approved by DFA, sets out the action threshold for sea lice as follows:

(a) April, May and June: 0.5 female adult louse per fish;

(b) July – September: 1 adult female louse per fish; and

(c) October – December: 0.5 female adult louse per fish.

171. As explained by Dr. Snyder, the action thresholds are low compared to other jurisdictions. The threshold varies over the year dependant on the water temperature. The action thresholds for sea lice and disease are designed to protect the wild salmon. Specifically, monitoring the Farms ensures that it is not negatively impacting the fish habitat beyond its boundaries. Simply, if the fish are healthy on the Farm, they cannot pass anything to the wild Atlantic salmon population, if any in the area.

172. Dr. Snyder stated that the robust monitoring program enables Kelly Cove and DFA to act quickly and implement mitigation treatment protocols, if needed. DFA maintains authority to remove fish from a farm if necessary.

173. When the action threshold is met, the fish health team, including a veterinarian, assess which intervention treatment should be employed. Kelly Cove relies on a variety of intervention treatments including:

(a) mechanical treatments such as fresh water, warm bath water or high-pressure water (hydolicer) to remove the lice from the fish as well as the use of Lumpfish as a cleaner fish in the pens;[7]

(b) in feed treatments, all of which need to be approved by Heath Canada for use; and

(c) harvesting.

174. Dr. Snyder further explained that, in addition to the monitoring program, Nova Scotia uses a multi-factorial approach to address finfish pests including controlling stock and density,

[7] Note: The use of Lumpfish is not yet approved by DFA in NS. Kelly Cove utilizes Lumpfish in NFLD.

insuring proper space between the farms and good husbandry. The three-month fallow period between harvest and re-stocking the Farm also mitigates against sea lice as there is no host in the pen.

Affidavit of Dr. Snyder, paras 40, Exhibit #2021-001-3

175. To date, Kelly Cove has not had to employ sea lice intervention treatment at the Rattling Beach Farm.

176. Mr. Nickerson stated in his direct evidence, however, shortly before the hearing, Kelly Cove's Victoria Beach Farm experienced an increase in sea lice among the farmed fish. Kelly Cove notified DFA and consulted with its veterinary staff to implement a treatment plan to address the sea lice. The treatment plan began with enhanced monitoring, followed by an infeed treatment. At the time of the hearing, Kelly Cove was about to use its $15 million treatment vessel to utilize a warm water bath to remove the sea lice from the fish at Victoria Beach. The lice would be removed, collected and disposed of at an on-land compost facility.

177. The Rattling Beach Farm has been generally free of sea lice infestations throughout its operations. In light of last month at the Victoria Beach Farm, Kelly Cove has also increased its monitoring for sea lice at Rattling Beach. Both farms are nearing the end of this cycle of grow out and the fish will soon be harvested.

178. As outlined in the evidence, sea lice have not a problem in the Annapolis Basin fish farming operations. If an action threshold is exceeded, Kelly Cove has an effective and proven array of treatments to deal with the sea lice population.

179. Kelly Cove submits that the evidence supports a conclusion that the risk to wild salmon populations of sea lice infestations due to transmission from a potential sea lice infestation at the Rattling Beach Farm is negligible.

180. In his report, Mr. Carr identifies the potential for sea lice to proliferate in salmon farms and be transmitted to wild fish. He cites a number of papers in making general statements such as:

> *When farmed salmon are stocked into open net pens they pick up sea lice from the environment which leads to frequent infestations and outbreaks*

> *within the farm. This increases the abundance of sea lice in the local area which has been demonstrated to increase the abundance of lice on wild salmon and to increase mortality (especially of smolts) in wild populations."*
>
> *"Smolt mortality attributable to salmon lice has been demonstrated to result in a significant reduction in adult returns."*
>
> Affidavit of Jonathan Carr, p 9, Exhibit #2021-001-05

181. Many of the studies cited by Mr. Carr refer to other jurisdictions or locations where the environmental conditions are different from those at the Rattling Beach Farm.

182. In Nova Scotia, smolts are introduced into the pens at the Farm in the spring, the same time when the wild smolts, if they are present, would be leaving the rivers for the sea. Mr. Carr acknowledged that smolts, having come directly from the freshwater environment of a controlled hatchery, would not have any sea lice when being introduced into the pens.

183. Lice infestation are most dangerous to salmon when they are at the smolt phase as smaller animals are less able to tolerate salmon lice than more mature salmon. Mr. Carr acknowledged in cross-examination, the oceanography of the Rattling Beach Farm shows very strong currents. Wild smolts leaving Annapolis Basin would be expected to move quickly into the Bay of Fundy on a falling tide. Their exposure time to being in proximity with the Rattling Beach pens would therefore be brief.

184. The climate and oceanographic conditions in Annapolis Basin require farmed salmon to be raised over the same cycle as wild salmon. That is, the smolts are introduced to the cages in the Spring just as wild smolts would be leaving the rivers for the ocean. The farmed salmon are in the pens for 18 to 22 months before they are harvested.

185. For farmed salmon, the most likely time for there to be an increase in lice is in late fall of their second year. This time of year does not present particular concern to the wild salmon population as at this time in its cycle, wild salmon, if they are present, are returning from the ocean. They will likely already have some sea lice of their own from the marine environment but as soon as they reach the fresh water of their natal river the sea lice, which do not tolerate freshwater, will rapidly drop off. Sea lice do not pose a particular health concern for adult salmon.

186. Mr. Carr acknowledged that to evaluate the risks posed by sea lice infestation of wild salmon it is necessary to know the particular environmental conditions of the salmon farm. The environmental conditions for farmed salmon operations in Europe are different from those in Nova Scotia.

187. The studies from Norway, for instance, reflect an entirely different environment. The water temperature in Norway is highly influenced by the Gulf Stream and is much warmer than that of Nova Scotia. The fjords are also deeper than the Annapolis Basin so the water temperature is generally warmer than the Annapolis Basin. Salmon farms in Norway are significantly larger than those of Nova Scotia. Some have pens with over 200,000 fish in a single pen. Many farms in Norway are larger than the entire finfish aquaculture industry in Nova Scotia.

188. Because of the warmer waters, fish farms in Norway may introduce smolts into the cages throughout the year. Unlike the situation in the Annapolis Basin, there can be multiple fish farms with different year classes of farmed fish in each farm. These fish farms are often in close proximity to one another.

189. In Norway and elsewhere many of the fish farms are located close to the mouths of rivers so that smolts have to navigate an intricate passage out to sea. In contrast, the Rattling Beach Farm which is located six kilometers from the mouths of Acacia Brook and Bear River, the nearest identified wild salmon rivers.

Development Plan, page 104, Tab 2 of Application Package, Exhibit #2021-001-13

190. As a consequence of the arrangement and cycle of fish farms in Norway, the wild smolts in their journey to sea may be required to pass by multiple large salmon operations containing mature salmon of different year classes, some of which may have lice issues. This is at precisely the moment when wild salmon have the greatest ability to being compromised by sea lice.

191. Mr. Carr acknowledged that was “likely a low chance" of wild smolts being infested with sea lice emanating from aquaculture operations at Rattling Beach given the cycles of operations and the pattern of sea lice to be less active and prevalent in colder spring waters than in the warmer water of fall.

192. In view of the historic low rate of infections for sea lice in Nova Scotia, the careful monitoring for lice in the Farm, and the array of intervention treatments available in order to quickly control an increase in lice counts, it is submitted that the risk of lice infections amongst wild salmon as a result of the Rattling Beach Farm is not significant.

Disease Monitoring

193. Under the *Aquaculture Management Regulations*, a minimum of six provincial surveillance veterinarian visits take place per calendar year at the Farm. On average, the visit occurs every six weeks to inspect for pathogens of concern. The provincial veterinarian targets fish that appear to be doing poorly for testing, known as “moribunds”, as they can be used to identify any issues prior to wide spread infection.

194. Dr. Synder explained that the sea lice counts are done on random fish (as opposed to the moribunds) as they represent the entire population whereas moribunds are poor performers and may be indicators of a health issue.

195. In addition, provincial clinical veterinarian visits take place on an as needed basis, similar as when a pet owner calls their veterinarian. Kelly Cove also has its own fish health team and veterinarian which carefully monitors the health of its farmed fish.

196. From a fish health perspective, in Dr. Snyder’s view, DFA has a robust program to protect fish health which includes routine monitoring for known parasites and endemic pathogens that have co-evolved with wild Atlantic salmon. As mentioned above, Kelly Cove must obtain a Certificate of Health prior to stocking the Farm.

197. Kelly Cove institutes an “all-in all-out production strategy” at the Farm. This is an important component for biosecurity to maintain fish health. After harvest, the Farm is fallowed for a 3-month period to reduce to the risk of pathogens, sea lice and disease as there is no host (i.e. farmed salmon) in the pens. Kelly Cove also has a variety of biosecurity protocols in place including foot baths used when entering and exiting the site vessel.

198. In his expert report, Mr. Carr states that diseases and pathogens proliferate in salmon farms and are transmitted to wild fish.

Affidavit of Jonathan Carr, Exhibit #2021-001-05

199. Kelly Cove submits that the evidence does not support a conclusion that disease and pathogen transmission from the Farm to the wild population represents a risk in light of the manner in which it operates and the regulatory regime under which it operates.

200. Farmed fish are vaccinated and healthy when they are introduced into the cages. Smolts may not been removed from the hatchery and introduced into the farm without a Certificate of Health for Transfer (COHFT). This is a risk-based tool under which diagnostic samples are taken from representative fish. Kelly Cove needs to apply for a permit in order to transfer the fish to another location.

201. Dr. Snyder testified that it was not reasonable to conclude that would likely be a negative impact on wild salmon as a result of the Rattling Beach Farm. He referred to the “disease triad" referring to the host animal, the pathogen and the environment and did not consider there to be a substantial risk of transmittal of disease from a well monitored and well-maintained fish farm to a wild population of salmon. The surveillance of the Farm population for disease effectively mitigates this risk.

Sterile Fish

202. Mr. Carr recommended the use of sterile fish at the Farm in order to avoid genetic introgression of escaped fish with the wild population.

203. Kelly Cove submits that the risk of genetic introgression has been reduced sufficiently through containment measures not to pose any significant risk to wild salmon. Notably, Dr. Snyder did not concur with the recommendation to use sterile fish for fish farming purposes. Sterile fish are more susceptible to disease, a factor which caused Norway to halt the use of sterile fish before the practice was evaluated further.

204. Mr. Carr also recommended that Kelly Cove implement the North Atlantic Salmon Conservation Organizations Best Management Practices or the Aquaculture Stewardship Council Salmon Standard for Application to Rattling Beach Farm. He acknowledged however, that he was unable to state how those standards compared to the Best Aquaculture Practices standard (i.e. the BAP standard) certificate held by Kelly Cove.

205. Moreover, Jennifer Wiper, Manager of Compliance and Certification for Cooke Aquaculture Inc who is responsible for the compliance with the BAP standard on behalf of

Kelly Cove was called as a witness and no questions were directed to her to suggest that the BAP standard is inadequate in any respect.

206. Kelly Cove submits that the concerns raised by Mr. Carr in his report are based upon literature that largely does not consider the environmental circumstances of the Rattling Beach Farm. His concerns have been addressed in the design of the Rattling Beach Farm, its infrastructure, its practices and procedures and by operating within the regulatory regime governing aquaculture in the Province of Nova Scotia. The risks which Mr. Carr refers to have all been identified by Kelly Cove and appropriate mitigation measures are in place to reduce the risk to acceptable levels.

207. This submission is supported by the Consultation Report which DFA received from DFO which concludes as follows with respect to the Rattling Beach Farm:

> *DFO's review of the application is focused on the protection of fish and fish habitat and uses a risk management approach to formulate its assessment. The threshold for unacceptable risk to fish and fish habitat is population-level negative effects.*
>
> *The scope of our review was reflective of our legislative mandate, which includes the* Fisheries Act*, Species at Risk Act (SARA), Oceans Act and applicable regulations. The residual risk, after avoidance and mitigation measures, was assessed against criteria for unacceptable risk to fish and fish habitat to determine if further risk treatment was needed. Using the precautionary approach, the amount of risk treatment applied was commensurate with the level of scientific uncertainty and seriousness of residual risk.*
>
> *DFO employs a series of risk treatment tools to protect fish and fish habitat such as avoidance, mitigation, monitoring, compliance and remediation. Our review also takes into account other regulatory tools employed by other federal and provincial authorities to further protect fish and fish habitat. If DFO had concluded that additional risk treatment was needed, it would have been stated in the letter of advice.*
>
> *Farm Management Plan*
>
> *It is DFO's understanding that the Farm Management Plan contains details on operational practices that influence the likelihood of, as well as avoidance and mitigation of, impacts on fish and fish habitat. Having had this information for the specific areas stated in the letter of advice would have enabled a more precise determination of residual risk by DFO, but were not needed as the residual risk was below the threshold of unacceptable impacts.*

DFA Report on Network Consultations, Exhibit #2021-001-13C at page 118

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

208. There are additional aquaculture lease and licenses in the Annapolis Basin as set out in Section 8 of the Development Plan.

209. In addition to AQ#1039, Kelly Cove holds marine finfish lease and licenses AQ#1040 and AQ#1041 in the Basin. AQ#1041 is not operational.

210. There are also clam and rockweed lease and licenses. More recently, the Bear River First Nation was awarded 4 or 5 experimental oyster leases in the Annapolis Basin.

Affidavit of Dr. Snyder, para 28, Exhibit #2021-001-3

211. In his Affidavit and testimony, Dr. Snyder explained that the bio-security protocols in place at the Kelly Cove farm prevent contamination of the fish from outside sources. He was satisfied that Kelly Cove's bio-security protocols at the Farm mitigate the risk to other aquaculture operations in the Annapolis Basin.

SECTION 3(A) - RATTLING BEACH REPRESENTS THE OPTIMUM USE OF MARINE RESOURCES

212. In considering whether to allow the Application sought by Kelly Cove, the Board is required to take into account all of the factors set out in Section 3 of the *Aquaculture License and Lease Regulations*. The criterion set out in Section 3(a) "the optimum use of marine resources" is essentially a finding that the Board must make after reviewing all the other Section 3 factors.

213. Kelly Cove has submitted evidence respecting seven of the eight factors that the Board is required to take into consideration which has not been challenged or controverted by the Intervener. The only factor which the Intervener took issue with related to section 3(g) - "the sustainability of wild salmon."

214. Kelly Cove submits that the evidence does not support a conclusion that consideration of the sustainability of wild salmon provides any basis upon which the Application to amend the boundaries for the Rattling Beach Farm can be refused. The Rattling Beach Farm does not present any unacceptable risk to the wild Atlantic salmon population, if any, in

the area surrounding the Farm, the Annapolis Basin or the rivers flowing into the Annapolis Basin.

215. The evidence before the Board respecting all of the factors set out in Section 3 supports the proposed boundary amendment. On the strength of this evidence, the Board may safely conclude that the proposed boundary amendment represents the “optimum use of marine resources” as set out in Section 3(a) of the *Aquaculture License and Lease Regulations*.

216. It is submitted that the Board should also consider the significant productivity of the Rattling Beach site. Situated on only 29 hectares of leased area, the boundaries of the Rattling Beach Farm represent a relatively small portion of Annapolis Basin. Nevertheless, it is a highly productive area raising 660,000 fish harvested at an approximate weight of 10 to 12 pounds apiece for each cycle of production. We would suggest that there are no other users in the Annapolis Basin besides Kelly Cove’s other fish farm, the Victoria Beach Farm, that could in any way rival this site as representing “the optimum use of marine resources".

217. Together with the Victoria Beach Farm, the Rattling Beach Farm represents 30 percent of the landed catch of the Digby Wharf. The other users of the Digby Wharf fish for commercial species in the Annapolis Basin, the Bay of Fundy, Georges Bank and beyond. They work very hard over a large area of marine resources in order to contribute their 70 percent of the landed catch at the Digby Wharf.

218. The Kelly Cove Rattling Beach Farm does not interfere with any other user of marine resources. Mr. Nickerson testified that commercial scallopers regularly dragged the sea bottom within the proposed lease boundary including very close to the cages and moorings. Mr. Nickerson also testified that the sea bottom in this area is not lobster habitat as it is a sandy bottom which does not offer refuge for lobsters. Since fish farming operations began on the site, however, the area has become lobster habitat and lobster fishing is prosecuted within the lease boundaries pensively during the lobster season. Mr. Nickerson said that lobster fishers place their pots very close to the cages and typically do so at the start of the lobster season.

219. Based on the foregoing, it is respectfully submitted that the Board should decide in favor of Kelly Cove's Application for a lease boundary amendment such that the Minister of DFA may amend the aquaculture licence and aquaculture lease AQ#1039 pursuant to section 52 of the Act.

All of which is respectfully submitted.

Robert G. Grant

RGG/sdn
c. Kelly Cove Salmon Ltd.
Sara D. Nicholson
Alison Campbell
Gregory Heming, Sarah McDonald, Caitlin Urquhart

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1. A New Regulatory Framework for Low-Impact/High-Value Aquaculture in Nova Scotia, The Final Report of the Independent Aquaculture Regulatory Review for Nova Scotia [The Doelle-Lahey Report], 2014.

2. *Nova Scotia (Attorney General) v Nova Scotia (Utility and Review Board)*, 2019 NSCA 66.

TAB 1

A New Regulatory Framework for Low-Impact/High-Value Aquaculture in Nova Scotia

The Final Report of the
Independent Aquaculture Regulatory Review for Nova Scotia

[The Doelle-Lahey Panel]

2014

Meinhard Doelle & William Lahey

Schulich School of Law

Dalhousie University

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The regulatory framework proposed in this report is the work of the two Panel members; however, it could not have been completed without the contributions of the Advisory Committee, the Roundtable, the Knowledge Roster, the Panel's Secretariat and countless participants in the Panel's 18-month process. As Panel members, we came into this process with expertise in environmental law and policy, and in regulation in the natural resource sector as well as in some other sectors, but with no particular knowledge of the aquaculture industry or its condition in Nova Scotia. We have benefited greatly from the generous support we have received from the many participants in our process, from academics, from government officials, from community groups, from environmental groups, from members of the public and from those involved in the industry, with many contributing their time, knowledge and perspectives on a volunteer basis without compensation.

From our appointment in April of 2013 until April of 2014, Dr. Vimy Glass of the Department of Fisheries and Aquaculture provided indispensable administrative support, both to us and to our process. When Vimy had to move on to accept a new position with the Department of Economic Renewal, Tourism and Rural Development, her place was ably taken by Holly Amirault. We are deeply indebted to them both.

Four law students played key roles in our work. In the summer of 2013, Nick Conlon and Kira Misiewicz travelled the province with us as we each chaired more than 20 public meetings in coastal communities. Their notes from those meetings were instrumental to our ability to accurately document what we heard in those meetings, not only in our "What We Heard" document, but also in this report. As part of his law studies, Mathieu Poirier completed his placement in environmental law by preparing a very helpful report for us on the various certification programs that exist in the aquaculture industry. During the summer of 2014, Ted Murphy provided research assistance and worked with us on the complex task of assembling, organizing and producing this report and the draft version of it that we released for public comment on July 3. He also assisted us with the meetings we held in Yarmouth, Tatamagouche, Baddeck and Halifax to receive direct feedback from Nova Scotians on the draft report. We are very grateful to these four law students for their talented contributions to our work.

Our knowledge of how the aquaculture industry is regulated in other jurisdictions was greatly aided by the assistance we received from Cecilia Engler, a doctoral student at the Schulich School of Law, and from East Coast Environmental Law (ECELAW). Cecilia provided us with a detailed report on Scotland's regulatory framework, while ECELAW, under the leadership of Lisa Mitchell and Jamie Simpson, provided us with jurisdictional overviews for New Brunswick, Prince Edward Island, Newfoundland and Labrador, British Columbia and Maine.

Much of our work, including more than 20 stakeholder meetings, took place on the premises of the Schulich School of Law. We are very appreciative of the support of the School and of our Dean, Kim Brooks.

Lesley Griffiths was instrumental to the success of our Roundtable in producing under tight timelines a very useful report that we have used in preparing our own recommendations. The Roundtable process demonstrated that, in this as in other fields of contested public policy on the

development and protection of natural resources, inclusive dialogue among those who hold strongly differing views can do much to bridge and reduce those disagreements and to improve understanding where disagreement remains. We are very grateful to all of the members of the Roundtable for their dedication to the Roundtable's work and to their universally shared determination to produce a report that would be helpful to us in the fulfillment of our mandate. For making this success possible, we owe a particular debt of gratitude to Lesley.

With only a few exceptions, we met monthly with our Advisory Committee, from our first meeting in May of 2013 to our last meeting in September of 2014. The compliments we have received on our engagement with Nova Scotians in an open and transparent process and on our consultations with stakeholders of the industry and with members of the academic, local and knowledge communities owes much to the solid, thoughtful and always balanced advice we received from the Advisory Committee. Our particular thanks is therefore also due to the members of that Committee: Brian Blanchard of the Nova Scotia Aquaculture Association (who replaced Bruce Hancock in the early days of the process), Mark Butler of the Ecology Action Centre, Lisa Fitzgerald of the Nova Scotia Fisheries Sector Council, Roderick Murphy of the Union of Nova Scotia Municipalities, Carl Purcell of the Nova Scotia Salmon Association, Chief Terry Paul of Membertou, and Karen Traversy of the Coastal Coalition of Nova Scotia.

Our understanding of the scientific and especially of the biophysical issues was immeasurably assisted by the many experts who dedicated four days from their busy schedules, many travelling from considerable distances, to participate in our three Knowledge Workshops and the original organizing meeting of our Knowledge Roster. An organizing sub-committee of that Roster, consisting of Fred Whoriskey (Dalhousie), Peter Tyedmers (Dalhousie), Cyr Couturier (Memorial) and Charlie Dennis (Unama'ki Institute), played a critical role in getting us ready to participate in and benefit from the workshops. In addition, a number of members of the Knowledge Roster took the time to provide written answers to science questions posed by the Roundtable.

We would like to thank the Department of Fisheries and Aquaculture for the trust and confidence it placed in us to carry out our mandate and for the resources it provided to us to make our work possible. We were appointed by Minister Sterling Belliveau, who was a member of the NDP government of Premier Darrell Dexter. We continued to be supported by Minister Keith Colwell, who was appointed Minister of Fisheries and Aquaculture in the Liberal government of Premier Stephen McNeil. What we particularly wish to acknowledge is that we were left alone from the beginning of our process to its conclusion to carry out our work without interference of any sort and to follow the path indicated to us by our consultations, our research and our analysis. In this regard, we also want to acknowledge the support we have received first from Deputy Ministers Rosalind Penfound, Brian Rogers and Kim MacNeill, as well as from other members of the Department.

Finally, and again, we wish to thank every Nova Scotian and the numerous people from beyond Nova Scotia who spent time with us sharing their perspectives, knowledge, experience and advice. From many, we got the clear impression they thought we had been given a unique opportunity to give advice that could make things better for all concerned, directly and indirectly, with aquaculture in Nova Scotia. We have tried our best to live up to those expectations.

EXECUTIVE SUMMARY

Core Conclusions

In this report, we conclude that a fundamental overhaul of the regulation of aquaculture in Nova Scotia is called for. We conclude that this overhaul should be guided by the idea that aquaculture that integrates economic prosperity, social well-being and environmental sustainability is one that is low impact *and* high value. By this, we mean aquaculture that combines two fundamental attributes: it has a low level of adverse environmental and social impact, which decreases over time; and from the use of coastal resources it produces a positive economic and social value, which is high and increases over time.

A number of participants in our process urged us to conclude that marine-based fin-fish facilities – and more particularly, salmon farms – cannot be sustainably operated, and to recommend that a permanent moratorium be imposed on this kind of aquaculture. Our conclusion, after careful consideration of the state of the science and opportunities to reduce impacts through effective regulations, is that the regulatory framework should not be prohibitory at a provincial scale. Instead, we recommend fundamental changes to the regulation of aquaculture, which we conclude can address the serious and legitimate concerns raised without foreclosing the opportunity associated with this sector of the industry. Our reasons include the following:

a. The risks and impacts can be significantly reduced through effective regulation.
b. Through incremental development and continuous improvement to minimize negative impacts and risks while maximizing benefits, marine-based fin-fish aquaculture has the potential to make an important contribution to sustainable prosperity in Nova Scotia.
c. A diverse industry that includes marine-based operations and land-based facilities is more likely to be resilient to future changes, including changes in market conditions and climate change.
d. In the context of our mandate to develop a regulatory framework that integrates environmental, social and economic objectives and the conclusions of the One Nova Scotia Commission on the state of Nova Scotia's economy, the potential contribution of marine-based fin-fish aquaculture to Nova Scotia's economy calls for a policy approach that addresses the risks through responsible development and robust regulation rather than prohibition.

We recognize that fin-fish operations, even if well regulated and operated, are not appropriate in all coastal waters around Nova Scotia. We conclude that a new regulatory framework must ensure that marine-based fin-fish farming occurs only in coastal waters that are suitable for that kind of aquaculture and where it is compatible with other important uses of those waters. For that reason, one of our core recommendations is the creation of a classification system under which coastal areas would be rated as Green, Yellow or Red based on their relative suitability for fin-fish aquaculture. Under this system, the classification of a coastal area would determine how applications for a fin-fish licence would be evaluated and the likelihood of an application for such a licence being approved. It would also play a central role in determining the terms and conditions under which licences would be issued.

The regulatory framework we propose would also allow applications to the Minister (or to an independent aquaculture review board) to have a lease revoked if it has become clear through experience that the site is not suitable for a particular type of operation. The licensing process we have proposed also identifies the need to consider, at the renewal stage, whether a site is being responsibly operated and whether the site is suitable for continuing operation of the type and scale previously permitted on the site. Finally, we make clear that existing operations will have to be brought under the new regulatory system as soon as practical, and that any new facilities should be processed under the new regulatory system we have recommended. In other words, the province should continue its commitment not to process applications for new fin-fish licences until the new regulatory system is in place.

For fin-fish and other kinds of aquaculture, the regulation of aquaculture will change in fundamental ways under the proposed framework. For example:

a. The regulation of aquaculture will be functionally separated from the promotion of the aquaculture industry.
b. Responsibility for administering the Environmental Monitoring Program will be moved to the Department of the Environment from the Department of Fisheries and Aquaculture.
c. Important regulatory standards that are currently only addressed in the terms and conditions of individual licences written under statutory discretion will be addressed in legislation.
d. More generally, the regulatory process will be much less discretionary than it currently is under the *Fisheries and Coastal Resources Act*.
e. There will be a pervasive emphasis on openness and transparency, both in the licensing and leasing process and in the monitoring of compliance by licensed operations and the enforcement of regulations.
f. The health and well-being of farmed fish will become a central concern of the regulatory process and a core mechanism for ensuring the compatibility of aquaculture with its coastal environment.
g. The public will have multiple opportunities, including a mandatory hearing on every application for a licence, to contribute to decision making in the licensing process.
h. The licensing and leasing process will be conducted as a kind of specialized environmental assessment that incorporates an integrated understanding of environmental, social and economic issues into licensing and leasing decisions;.
i. Licensing will be guided by statutory licensing principles and subject to a requirement for written reasons that together will require licensing decisions to be justified in terms of regulatory objectives and the compatibility of aquaculture with public rights of navigation, fishing, local biophysical conditions, other uses of the waters proposed for aquaculture; the cumulative effect of aquaculture in the area; and the contribution of the proposed operation to net community socio-economic benefit.
j. Subject to standardized safeguards to ensure openness, transparency and participatory fairness in decision making, the licensing process will vary to reflect the differences between shell-fish and fin-fish aquaculture as well as the differences between fin-fish aquaculture in Green, Yellow and Red areas.

k. Salmon farms will be required to institute a comprehensive containment system to prevent escapes, such as is required in the state of Maine.

l. Compliance monitoring and enforcement will be strengthened in multiple ways, including by
   - increasing the monitoring and enforcement staff and other resources
   - unscheduled inspections
   - targeting oversight to higher risk operations
   - penalizing violations with prosecutions and licence and lease revocation where warranted

m. A standing Regulatory Advisory Committee – which includes Mi'kmaw representatives and stakeholders such as coastal communities, municipalities, the aquaculture industry and environmental organizations – will be created to provide ongoing advice on the implementation of the regulatory framework and the continuing improvement of regulation in the face of new and changing conditions, challenges, opportunities and learning.

In developing our recommendations, we have been mindful that a regulatory system for Nova Scotia's diverse aquaculture industry must reflect the differences between fin-fish and shell-fish aquaculture and between large and small business while strengthening the regulation of the industry in a comprehensive way. We note three options for addressing this concern in the design and implementation of the new regulatory system.

One is to ensure – in an effort to minimize the additional burden the framework places on small operators – that the requirements imposed by the regulatory framework on large and small operators are proportionate to the risks that the framework is intended to control. A second option is to ensure that the framework leaves regulated organizations with reasonable levels of flexibility as to how they implement or meet the regulatory requirements. The third option is for the regulatory agency, often in partnership with industry associations, to invest in programs that assist small and medium-sized enterprises (SMEs) in meeting their regulatory obligations. We have carefully considered these options in our work, and urge the province to give due consideration to these issues in the design and implementation of the new regulatory framework, as we see great value in a diversity of operators and in the size and type of operations.

Foundational Elements of the Regulatory Framework

The success of the regulatory framework we have proposed will depend on the creation of a number of fundamental enabling conditions:

a. The attitude that informs regulation must take the concerns of those who live in coastal communities seriously and at face value.

b. The critical role that effective regulation plays in constituting social licence and in building upon social licence once it is established must be embraced by government and the industry.

c. The pervasive discretion built into the current regulatory framework must be limited in a new regulatory framework if the new framework is to enjoy the trust and confidence it needs to be successful.

d. The capacity of the Department of Fisheries and Aquaculture (DFA) to carry out its regulatory mandate must be significantly enhanced.

e. There must be a fundamental emphasis in the regulation of the industry on the compatibility of licensed aquaculture with other uses of coastal waters.

f. The DFA must become more proactive in promoting, enabling and using the results of research in its regulatory activities and, in particular, in supporting the research that will improve collective knowledge of the interaction of aquaculture and the specific biophysical and socio-economic conditions of coastal Nova Scotia.

g. Nova Scotia must work to ensure that regional cooperation in the regulation of aquaculture is consistent with Nova Scotia's policy and regulatory objectives and includes cooperation on matters, such as the capacity to address and manage disease outbreaks, that require regional cooperation because of the limited scale of the industry in each province.

h. The commitment to improvement in the regulation of aquaculture must be sustained for the long term.

This report lays particular stress on the need for research and on the role that the DFA should play in taking advantage of and contributing to growth in Nova Scotia's and Atlantic Canada's research capacity in aquaculture. On some matters, such as the possible impact of fin-fish aquaculture on lobsters, there is concern in Nova Scotia about questions that have received very little research attention in or beyond Nova Scotia. On other issues, there has been limited research to evaluate the applicability of findings reached elsewhere to the Nova Scotia context. The ultimate effectiveness of the regulation of aquaculture in Nova Scotia will depend on research being done to address such gaps.

Of course, any regulatory system has to function in the face of uncertainty while research to reduce the uncertainty is underway. In the case of the potential impact of aquaculture on lobster and in similar cases of uncertainty, our recommended approach is that the DFA should

a. identify opportunities to reduce or eliminate the source of the risk, where this can be reasonably be done through changes in the operation of fin-fish aquaculture (for example, as set out elsewhere in the report, by eliminating the use of chemical anti-fouling agents);

b. where risks cannot be readily eliminated, proceed with a clear understanding that there is an unknown risk associated with the operation, and make the quantification of the risk a priority through specific monitoring and research efforts; and

c. ensure that the scale of development is in line with the risk involved, by ensuring incremental development and by retaining the ability to adjust to new information expected from the additional monitoring and research.

Coastal Planning

We heard a broad range of views on coastal planning. Our conclusion is that an integrated coastal plan for Nova Scotia would be a very useful tool that could do much to improve the efficiency, effectiveness and fairness of the regulatory process. At the same time, we are not in a position to determine what time and resources would be needed to complete such a process, and we cannot predict whether or when such a process would yield results, or what the outcomes of such a planning process would be. We have therefore decided to design the regulatory framework for aquaculture in the absence of a coastal plan. If such a plan is developed in the future, certain aspects of the regulatory process could be significantly streamlined.

Regulatory Goals and Principles

We stress the importance of the articulation of regulatory goals and principles both to guide regulation and strengthen the accountability of regulators. We conclude that the regulatory framework for aquaculture should have the following goals:

a. Environmental protection and sustainable use of environmental services
b. Fairness in allocation of public resources; i.e., coastal waters
c. Productive use of coastal resources in the direction of low impact for high value
d. Compatibility with other sectors of the economy
e. Ensuring social and economic benefits proportionate to the value of the resources used
f. Protection of wild salmon populations
g. Meaningful public participation in decision making
h. Attentiveness to plans, objectives, needs and priorities of local communities
i. Supporting the efforts of the industry to grow by combining business success with higher environmental performance
j. Regulation that is achievable, is enforceable, incorporates incentives to comply, and is efficient, timely, predictable and affordable for taxpayers and for industry

We similarly conclude that seven guiding principles should guide the design and implementation of the regulatory framework:

1. Effectiveness
2. Openness
3. Transparency
4. Accountability
5. Proportionality
6. Integration
7. Precaution

Key Regulatory Design Issues

Role of and Cooperation with Federal Regulators

Federal regulators play a critical role in regulating aspects of the industry. In particular, Fisheries and Oceans (DFO), Health Canada, the Canadian Food Inspection Agency (CFIA) and Transport Canada each contribute in important ways to the regulation of the industry. It will continue to be important for the province to work closely with federal regulators to ensure effective coordination. Therefore, we conclude that Nova Scotia should continue to work with the DFO and other federal regulators through the mechanism of an MOU to ensure that the entire regulatory framework for aquaculture in Nova Scotia is as effective, cohesive, coordinated and streamlined as possible despite the division of regulatory authority between the two levels of government. A strong and clear delineation of roles built on a clear articulation of shared regulatory objectives would help to achieve desired levels of cohesion. The province should not, however, treat federal decisions on

issues subject to federal regulation as reason to preclude additional provincial action to ensure the comprehensive effectiveness of the regulation of aquaculture in Nova Scotia.

Departmental Responsibilities for Regulating Aquaculture

The dual role of the DFA as promoter and regulator of the industry was a matter of concern to many participants. We were urged to recommend a regulatory framework under which responsibility for regulating aquaculture would be moved to the Minister of Environment. The issue goes to the heart of the lack of trust that is at the centre of much of the dissatisfaction with the current regulatory framework. Nonetheless, we have concluded that responsibility for regulation of aquaculture should remain with the DFA. The proviso to this conclusion is that it depends on acceptance and implementation of our proposed regulatory framework, many aspects of which are designed to address by other means the palpable distrust and potential for conflict that exists with the current regulatory framework. We have reached this conclusion for the following reasons:

a. Although the regulation of aquaculture is largely concerned with environmental protection, it also concerns the use of a public resource – coastal waters – and the place of aquaculture in the development, use and protection of coastal resources.
b. The result of reallocating the environmental aspects of provincial regulation of aquaculture to the Department of Environment would add to the already complex regulatory landscape in the sector.
c. Provincial regulation of aquaculture already suffers from a lack of regulatory capacity. We think that the capacity gap is more likely to be addressed cost-effectively if the increased capacity is concentrated as much as possible in one department rather than divided between departments.
d. Dividing regulatory functions between departments might complicate Nova Scotia's collaboration on aquaculture with other governments in Atlantic Canada, all of which combine industry promotion and support with regulation in one government department that is also responsible for the fishery mandate.
e. While separating the regulatory role from the industry-development role might improve confidence in the independence and trustworthiness of the regulatory process, it may not result in improved regulatory effectiveness.
f. Even if we were otherwise inclined to assign the regulatory responsibility to the Department of Environment, the approval process and the environmental assessment process in Parts IV and V of the Nova Scotia *Environment Act* would require significant enhancement to serve as useful regulatory tools for aquaculture.

Restructuring the Administration of the Regulatory Framework

One of the critical provisos to our conclusion that the regulation of aquaculture should stay in the DFA is that it should be more strongly separated from the Department's role in industry promotion. To facilitate this, responsibility for the administration of legislation should be assigned to a statutory official instead of to the Minister. This change will have other benefits, including greater independence for those who have regulatory functions and responsibilities, and a less political and a more professionalized regulatory process.

Environmental Monitoring Process

An effective environmental monitoring process (EMP) is critical for effective regulatory oversight of regulated facilities. We recommend the following:

a. The process should be established in legislation.
b. The parameters of the process should be prescribed in regulations rather than in departmental policy.
c. The legislation should make compliance with the process a term and condition of all licences. The mandatory nature of the process should not depend on whether or not it is written into the terms and conditions of specific licences.
d. The responsibility for administering the EMP should be transferred to the Department of Environment to improve public confidence in the independence and objectivity of the oversight that government brings to bear on industry's compliance with the EMP.
e. The regulatory monitoring of compliance of operators with the EMP has to be strengthened. There needs to be more auditing of compliance. The auditing process needs to include random unannounced audits. Directly or through contracted third parties who are independent of industry, regulators need to more frequently collect their own samples for analysis, and again, this needs to be periodically done on an unannounced random basis subject only to the advance notice that is required to address biosecurity concerns.
f. The results from the EMP for each site must be made available to the public in a timely manner.

Statutory Standards

In an effort to replace discretion with clear standards where appropriate, we conclude that certain matters now addressed in the terms and conditions to specific licenses should be addressed in legislation. The legislation should in addition specify regulatory standards in certain key areas of operation that are currently not addressed in the regulatory framework. The following matters should be addressed more specifically in legislation:

a. The conditionality of each licence on compliance with the Act and regulations, as well as with the terms and conditions of the lease and licence.
b. Compliance with the EMP.
c. Obligation to maintain oxic conditions.
d. The prohibition of use of anti-fouling processes that discharge toxic substances into the environment.
e. Standard requirements regarding fallowing, age class and separation between facilities.
f. Standard reporting obligations for each type of aquaculture.
g. Standard requirements regarding accommodation of navigation.

Regulatory Transparency

Lack of transparency about the regulatory process and its operation in general and in relation to specific sites was a frequently voiced concern in our process.

Regulatory transparency will be critical to the effectiveness of the proposed regulatory framework. In particular, it is a crucial enabling condition for our conclusion that responsibility for regulation should largely stay with the DFA.

As a starting point, comprehensive and easy-to-understand information on the regulatory framework should be readily accessible to anyone interested. This will address the real frustration and irritation we heard from many, including some in the industry, about the difficulty they have experienced in obtaining clear information about matters such as the steps in the regulatory process, the obligations of applicants for leases and licences and of operators once licensed, their opportunities to participate in the regulatory process and the actions the DFA can or will take to ensure compliance with the regulations.

Transparency and openness have to extend beyond general information about the regulatory process. They must extend to the application of the regulatory framework to each application for a lease and a licence and to the DFA's ongoing oversight of each approved operation. As nearly as possible, the objective should be to make application of the entire regulatory framework an open book.

We therefore recommend that the basic principle should be that information relevant to understanding the operation and effectiveness of the regulatory process as it applies to each proposed and approved site should be readily available to the public. This principle should be set out in legislation to ensure that it is binding on the DFA and to ensure that public access to information covered by the principle does not require the making of an application under the *Freedom of Information and Protection of Privacy Act* (FOIPOP) process.

Information that is truly confidential business information should be excluded from this principle under a definition of confidential business information set out in the legislation. However, the assumption should be that information is public information unless a regulated business clearly establishes that it is confidential business information within the scope of the statutory definition.

The objective of our transparency recommendations is a level of transparency and openness that would allow a member of the public to readily ascertain the status of an application for a lease and licence (or for a change or renewal of a lease and licence) or the standing of an approved operation relative to its regulatory responsibilities at any given time.

Provisions on Aquatic Animal Health and Well-Being

We heard persuasive presentations that the key to aquaculture's future as a sustainable industry that enjoys social licence is a focus on the health and well-being of farmed animals.

Fish health is one of the objectives of various elements of the framework that have a range of objectives. These elements of the framework include

a. biophysical site conditions that make a site suitable for a particular operation
b. conditions on number of fish on site and on permitted stocking densities
c. fallow period requirements
d. the mixing of species on sites
e. limits on the number of and separation between permitted farms in particular bays

f. coordination of production on sites within defined geographic areas
g. vaccination requirements

In addition, the regulatory framework should deal more explicitly and extensively with a number of matters specific to fish health, including

a. reporting of diseases
b. the elements of disease surveillance
c. the DFA's authority in relation to the management of disease outbreaks
d. biosecurity procedures to be followed to prevent the spread of infectious disease
e. regulation of the movement of fish to or from a site

We have also concluded that the regulatory framework should more clearly define the animal welfare standards that are required in fin-fish aquaculture. It should do this at three levels:

1. By outlining the animal welfare standards that should generally be met on water quality, stocking levels, feeding rates, general husbandry and cage design, construction and maintenance.
2. By better defining distress (i.e. neglect) as it applies to fin-fish aquaculture.
3. By better defining what practices of animal management, husbandry and slaughter will be regarded as "reasonably and generally accepted" in aquaculture in Nova Scotia for the purpose of determining the applicability of the statutory provision that creates the offence of causing distress.

In addition, we also draw attention to improvements required in the industry's capacity to respond to and manage disease outbreaks.

Site Selection and Utilization for Fin-Fish Aquaculture

We propose that decision making on applications for licences to conduct fin-fish aquaculture be guided by a classification system under which coastal areas would be classified as Green, Yellow or Red areas. The objective of this classification system is to address the critical importance of proper site selection and utilization to the effectiveness of a regulatory framework for marine-based fin-fish aquaculture.

In general terms, these designations in the proposed classification system would have the following meaning:

- Green areas would be areas found to be generally suitable for fin-fish aquaculture.
- Yellow areas would be areas that have the potential to be suitable but are not ideal and would require a more careful approach to site selection, a more rigorous assessment in the licensing and leasing process, stricter or more limiting terms and conditions for approval and additional regulatory oversight.
- Red areas would be areas found to be generally unsuitable for fin-fish aquaculture.

The criteria for classifying areas as Green, Yellow or Red would be biophysical suitability and the presence or absence of conflicts with other important uses or values and, where conflicts exist, the nature and extent of conflicts with other uses and values. A Green area would be one in which there are biophysical suitability and no serious conflict issues. A Red area would be one at which

conditions show that it is highly unlikely that environmental standards could be met at the site or that serious conflict issues with other uses could be avoided or suitably addressed through terms and conditions of an approval and regulation. The classification of a coastal area may be different for different kinds of fin-fish aquaculture, reflecting differences in the potential of different kinds of fin-fish aquaculture to cause adverse impacts.

Regulatory approval for fin-fish aquaculture would be unlikely in Red areas and less likely in Yellow areas than in Green areas. Whether regulatory approval would be given for a site in a Yellow or Red area at all would depend on whether the applicant for a licence and lease in such an area is proposing a fin-fish operation that is suitable for a site having Yellow or Red area characteristics. Although Red areas would be generally off limits for the kinds of fin-fish aquaculture for which the Red area designation is applied, the regulatory framework would not preclude the possibility that fin-fish aquaculture could in exceptional circumstances be authorized in a Red area. However, the onus of showing that this is appropriate would be a difficult one to meet.

Process for Applying the Classification System

An area (or site) could be classified in one of three ways:

1. Through a proactive and general process of classification that operates in parallel to the licensing process,
2. Through a strategic assessment in the nature of a strategic environmental assessment of particular coastal regions, or
3. In the licensing process where an application for a fin-fish licence is made in respect of a site located in a previously unclassified coastal area.

The relationship among these prongs of the process of classification is envisaged to be dynamic. Classification choices made in the general process or through strategic assessment will be taken into account as a fundamental input to the licensing process. Classification choices made through strategic assessment or in the context of an application for a licence would add to the overall progress toward comprehensive classification of the coastline, which will be the main concern of the general or overall classification process. No matter which process is used to apply the classification system, the critical thing will be that classification happens before the application of the licensing process so that classification can be an input to the licensing process.

Effect of Classification as Green, Yellow or Red Area

Designation of a part of Nova Scotia's coastline as Green, Yellow or Red for a particular form of aquaculture will have the following implications for the regulatory process:

a. First, a proposed operation in a designated area will not have to go through a classification process during the licensing process. Operations proposed for areas that have not been designated will require a determination from the regulator at the start of the licensing process as to whether the proposed site is in a Green, Yellow or Red area.
b. Second, the designation of an area as Green, Yellow or Red will have implications for the process of reviewing individual applications for a licence and associated lease. The

regulatory process in Green areas will be more streamlined, whereas the process in Red areas will be most onerous.

c. Third, the likelihood of the success of an application will differ. In Green areas, it would be reasonable to expect that licences would be granted for well-designed operations that are sensitive to other users and are proposed in suitable locations. The likelihood of a successful application in a Red area would be low – only projects that were very carefully designed to meet the limitations of the site would have a prospect of being approved.

d. Finally, the terms and conditions under which aquaculture facilities would be licensed to operate would vary. Because of the biophysical constraints and potential social and economic concerns in Yellow and Red areas, operations that do get approved will have to meet additional terms and conditions, such as additional monitoring and reporting obligations.

Strategic Assessment of Coastal Areas

In addition to being available as a tool for classification of coastal areas as Green, Yellow or Red for fin-fish aquaculture, strategic assessment would also be available for assessing the suitability of coastal areas for shell-fish aquaculture.

The details of the process would vary from application to application, but transparency and full engagement of all interested parties, including the Mi'kmaq, potential operators, other users of the coastal area, other industries, local residents and all levels of government would be required. A key goal of the process would be to integrate biophysical, social and economic analysis for the purpose of evaluating suitability of the area for aquaculture development.

Where strategic assessment does identify areas suitable for aquaculture, the DFA will have the option of proactively encouraging development in those areas. Licensing could happen on a streamlined basis where this is stated to be a possible outcome at the beginning of the strategic assessment and where the assessment determines that development enjoys significant community support.

Licensing (Site Approval) Process

The licensing mode of regulation should continue to be the mode of regulation used in Nova Scotia. However, we recommend a range of improvements.

We recommend that assessments of an application for a licence should be conducted on the understanding that the assessment must cover all of the ground that an environmental assessment would cover. The licensing process should in other words be conducted as a kind of specialized environmental assessment.

The legislation governing the licensing process should set out the principles that are expected to guide the process. The principles should address the following matters:

a. Compatibility with public rights of navigation

b. Compatibility with fisheries activities, including the lobster fishery

c. Compatibility of the nature and scale of a proposed operation relative to the biophysical, oceanographic and community context

d. Compatibility with the activities of other users or beneficiaries of the public waters in question
e. Responsiveness to the cumulative effect of aquaculture in the area
f. Contribution of the proposed project to net community socio-economic benefits

We recommend a licensing process that consistently includes the following key elements.

With limited exceptions, the licensing process will start with the issuance of an "option to lease." While in effect, this limited authorization will provide the developer of an aquaculture project with the exclusive right to apply for a licence and lease for the site covered by the option to lease. This is intended to address the concern of industry that requiring a developer to seek input from the community before applying for a lease will give competitors an opportunity to apply for the preferred site ahead of the developer.

The public will be notified by the DFA that an option to lease has been issued. This ensures that the community is made aware of the proposed project from the very earliest stages of the licensing process. This is the first element of the transparency that will be consistently implemented throughout the balance of the licensing process.

To apply for a licence, the holder of an option to lease will be required to participate in a pre-application scoping process that engages with, and seeks input from, the community.

For an application for a licence to be complete, it will have to include a background (or scoping) report that includes information on the scoping process such as overall levels of community support or opposition and community views on proposed location, scale, species, operator and technology; compatibility with existing uses; impacts, benefits, risks and uncertainties; and what the operator should do to minimize adverse impact. The Background Report will also be required to include a detailed description of the proposed operation, a description and analysis of biophysical conditions at the site, the presence of any endangered species, and specific measures to be taken or required to address potential impacts. It will be a public document. It will serve the same purpose as an impact statement in environmental assessment.

The DFA will conduct an application screening process. Input from the public will be received in the form of comments on the application file, including the Background Report. Input will also be received from other regulators, such as the DFO, at this stage of the process. Decision options available at this stage would be to send the application forward for a hearing, to reject it as having no prospect of success at a hearing, or to send it back to the applicant for further work. For fin-fish applications in relation to sites previously classified as Green, Yellow or Red, that classification would be taken into account at this stage of the process. For unclassified sites, the screening will assess whether the information needed for classification is included in the application.

For applications that proceed past the screening stage, a hearing will be conducted on all applications. The hearing will be either an administrative hearing wherein public participation is primarily carried out through the provision of written comments and submissions, or it will be an adjudicative hearing, which includes a more formal in-person hearing. The hearing will be adjudicative where the application is for a fin-fish licence in a Yellow or Red area. Depending on the circumstances, the hearing will be either administrative or adjudicative for shell-fish applications and for fin-fish applications in Green areas.

The DFA will be required to give reasons that explain how the decision addresses the licensing principles, the regulatory goals and the issues raised at the hearing.

At each stage of the process, the DFA will have the ability to utilize independent third parties in the conduct of the process. A third party could be mandated to conduct the pre-application screening process, to conduct a later consultation, to do an independent study or analysis, to provide advice or to conduct some or all of the hearing.

Licensing decisions will be subject to appeal to the Minister, or alternatively to an independent quasi-judicial Aquaculture Board. From either the Minister or the Board, there would be a further appeal to the Supreme Court of Nova Scotia.

At the application screening stage, the DFA will be required to specify the maximum duration for the overall licensing process and for the completion of the hearing within the overall licensing process. Unless an application is withdrawn, the DFA will be required to complete the hearing and give a decision within the specified time frames.

The DFA's decisions will be subject to appeal, in the first instance to the Minister or the independent aquaculture review board, and in the second to the Nova Scotia Supreme Court.

At the end of this Executive Summary (pages xxiii to xxv), we have included three flow charts that visually show the proposed licensing system process for marine-based salmon operations, marine-based fin-fish operations, and marine-based shell-fish operations.

Changes in the Leasing of Aquaculture Sites

We recommend the following changes in the administration of leases for aquaculture:

a. Make it clear that holding a lease depends on holding and using a licence.
b. Unused leases should revert to the Crown, at which point they would become available to other potential developers of aquaculture. It should be clear that where an aquaculture operation is discontinued, the lease of the operator reverts to the Crown.
c. A system should be instituted to make information on the location and breadth of existing leases much more readily available to landowners and users of the coastal waters than is currently the case.
d. Lease boundaries should be appropriately enforced even if according to the Coast Guard they do not cause problems for navigation.
e. The exclusivity of the rights of leaseholders needs to be clarified and limited to what is necessary for the purpose of the function of an aquaculture lease. It should be understood that waters that are leased for aquaculture continue, subject to the lease, to be public waters.
f. Protection for rights of navigation should be built into leases.
g. The transfer of leases should be subject to Crown approval.

Security of Tenure for Operators in Good Regulatory Standing

In response to concerns of the industry that one of the major problems caused to the development of the industry by the current regulatory framework is the limited tenure it provides to licensed operators, we recommend that the tenure of approved aquaculture operations be structured as follows:

h. The initial licence granted should continue to be for 10 years, and the initial lease should be granted for 20 years, subject to holding a corresponding licence.
i. The initial licence would be reviewed after one growing cycle to determine the success of the operator in establishing and conducting a site that generally meets regulatory requirements, including environmental performance requirements.
j. Renewals should be decided upon through an open, transparent and participatory licensing renewal process.
k. The length of licence renewals should in general be for a term that is comparable to the maximum term for which aquaculture is licensed in other Atlantic Canadian provinces, subject to variation in either direction to reflect environmental performance and the compliance record of the operator.
l. Any licence would always be subject to cancellation for regulatory infractions that would make revocation an appropriate, fair and just sanction.

Transfers, Expansions, Other Changes

It is important that the process for transferring licences and leases or changes in terms and conditions be clear and also that it be open and transparent.

There should be a requirement for public notification when an application for a transfer of a lease has been made. The public should have the opportunity to submit comments to the Minister on the proposed transfer.

Key factors in deciding whether to approve a transfer should be whether the proposed new owner or operator has a good compliance record, and is likely to deal constructively with other coastal users and affected communities. Similar considerations should guide the process and decisions on expansions, changes in species, and other significant changes to the terms and conditions of an existing licence.

Protection for Wild Salmon

The legitimate concerns about how the growth and conduct of the industry might impact wild salmon are among the concerns that have led us to make recommendations on a number of core elements of the regulatory framework, including site selection and utilization, fallowing and stocking densities, and fish health and well-being.

The regulatory framework we propose also includes a number of elements that are more specifically directed to the protection of wild salmon. To that end, protection for wild salmon would be listed in legislation as one of the criteria to be considered in leasing and licensing decisions.

The regulatory framework should be clear and explicit about the need for appropriate physical separation between marine-based aquaculture and salmon rivers and known salmon migration routes. While the DFA should continue to rely on the DFO's advice and requirements under the *Fisheries Act* and the federal *Species at Risk Act*, it should be a clear element of the regulatory framework that the DFA will go beyond what is recommended by the DFO where the DFA determines that an additional level of protection for wild salmon is appropriate or called for.

The regulatory framework should deal more extensively with the prevention of escapes, generally along the lines of what has been implemented in Maine, through a requirement for adoption by salmon farms of a comprehensive and integrated containment management system.

Monitoring Compliance and Enforcement Provisions

In this section of the report, we reiterate the recommendations made in other parts of the reports that will strengthen monitoring or enforcement, or both, while also addressing other issues. We then outline additional enhancements to monitoring and enforcement, as follows:

a. More inspectors fully trained for aquaculture
b. More inspections and more unannounced inspections
c. More capacity to investigate complaints about the compliance of a facility
d. More capacity to carry out aerial surveillance and access to vessels to carry out inspections
e. A broader range of compliance measures and a clear policy on how they are used to ensure compliance, including increased reliance on prosecutions
f. Complete transparency about violations regardless of what compliance action is taken
g. A clear link between compliance performance, and the licensing process, including terms of licences, issuance of new licences, monitoring and reporting obligations, and renewal of licences.

Ongoing Development and Review of the Regulatory Framework

Ongoing Regulatory Advisory Committee

We recommend that an ongoing Regulatory Advisory Committee (RAC) be struck and continue to meet at least once a year to advise the DFA on the implementation of aquaculture regulations, on possible changes to the regulatory framework in the future, on significant policy issues relating to regulation as they arise and on the overall effectiveness of the regulatory framework. The RAC could also be a forum for the discussion of emerging issues in the regulation of aquaculture. The RAC should be made up of approximately 10 members, including representation from the Mi'kmaq and the following stakeholders:

- Municipalities
- Aquaculture industry
- Fishing industry
- Coastal communities
- Environmental and conservation organizations
- Economic development and tourism interests

Science Advisory Committee/Network/Mechanism

We recommend that the DFA establish an ongoing mechanism for consulting with experts on the science of aquaculture and its regulation. However constructed, the idea would be that a standing mechanism would link the DFA with a community of experts in the science of aquaculture to facilitate the DFA's access to their combined expertise. Invited experts should include those who

hold relevant local and traditional knowledge. Those who agree to participate would have a channel through which to contribute to the effectiveness of regulation, and to decision making in the aquaculture sector more broadly. Our experience suggests that many experts across Atlantic Canada are fully prepared to make this kind of contribution and would welcome an avenue to do so on a continuing basis. This mechanism could also help to identify and support the research needed to fill information gaps and reduce uncertainty and disagreements in understanding of the impacts of aquaculture and the options for addressing them.

Mandatory Independent Five-Year Review

In Nova Scotia legislation similar to the *Fisheries and Coastal Resources Act*, a mandatory five-year review has proven to be useful in making legislation better. In our view, the same can be expected from a review of a broader regulatory framework – a review that would include any amendments made to the Act and regulations to implement the framework. The review should also encompass the role of the DFA in making the framework operational through licensing and leasing, monitoring and enforcement, and working with the DFO and other federal regulators and scientific and regulatory advisory groups.

Other Issues

This report deals with a number of other issues:

- Experimental or developmental licences
- Licensing and leasing fees
- The constitution, composition and powers of an independent aquaculture review board
- The site closure and cleanup obligations of licensees
- The relationship of the regulatory framework to industry codes of practice
- The relationship of regulation to third-party certification
- Bay management
- The access of the industry to working capital through the Fisheries and Aquaculture Loan Board or the provincial government
- Emerging issues that the regulatory framework will or may have to face in the near future

Implementation and Transition

We have concluded that the regulatory framework we propose can be implemented through amendments to the *Fisheries and Coastal Resources Act* and regulations made under the Act. Applications for new fin-fish aquaculture licences should be processed under the proposed regulatory framework. The proposed regulatory framework should be applicable to the operation of already licensed aquaculture.

The development and implementation of a new regulatory framework for aquaculture should be discussed with representatives of the Mi'kmaq in the forums that exist for those kinds of discussions.

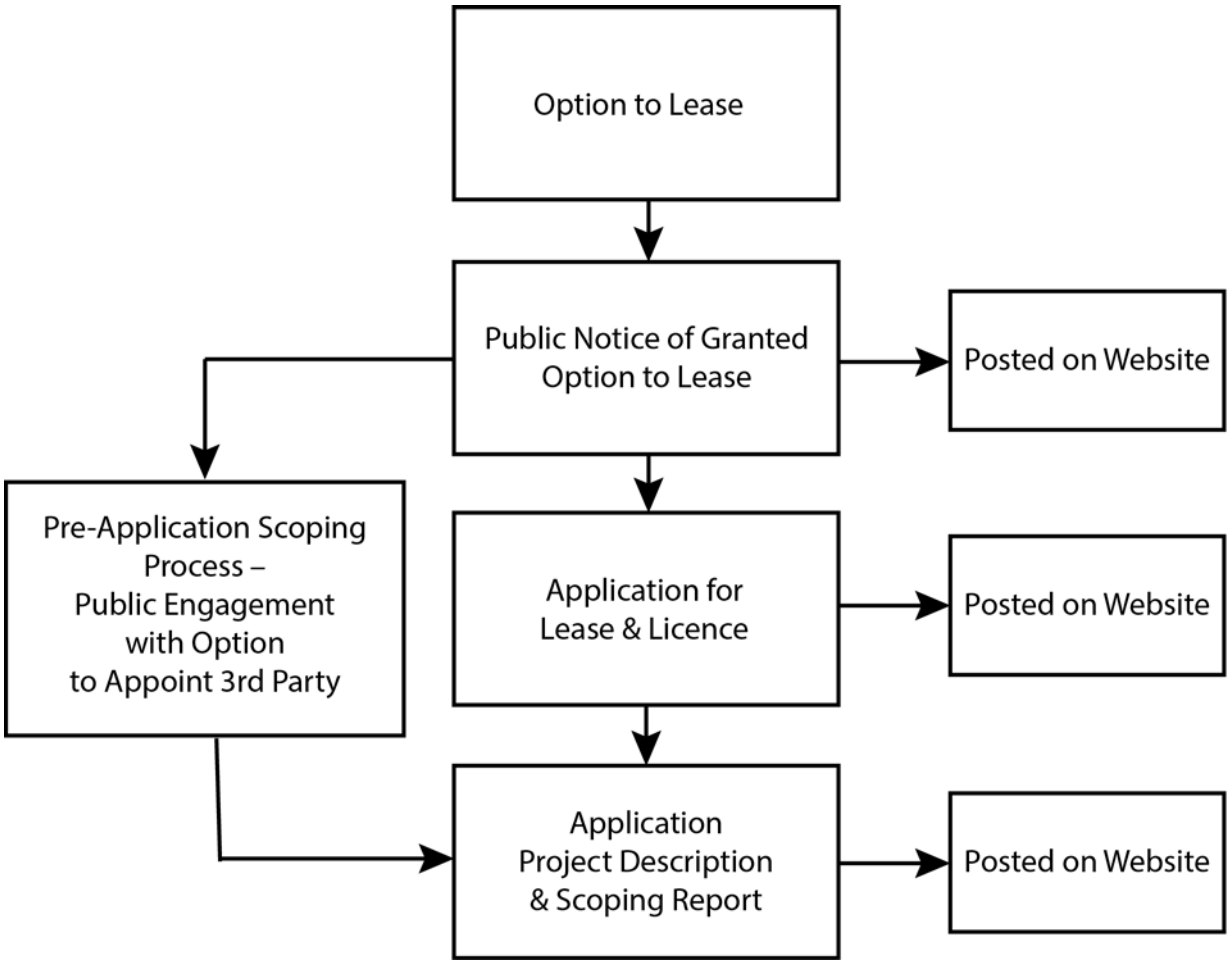

Figure 1: The Pre-licensing Process

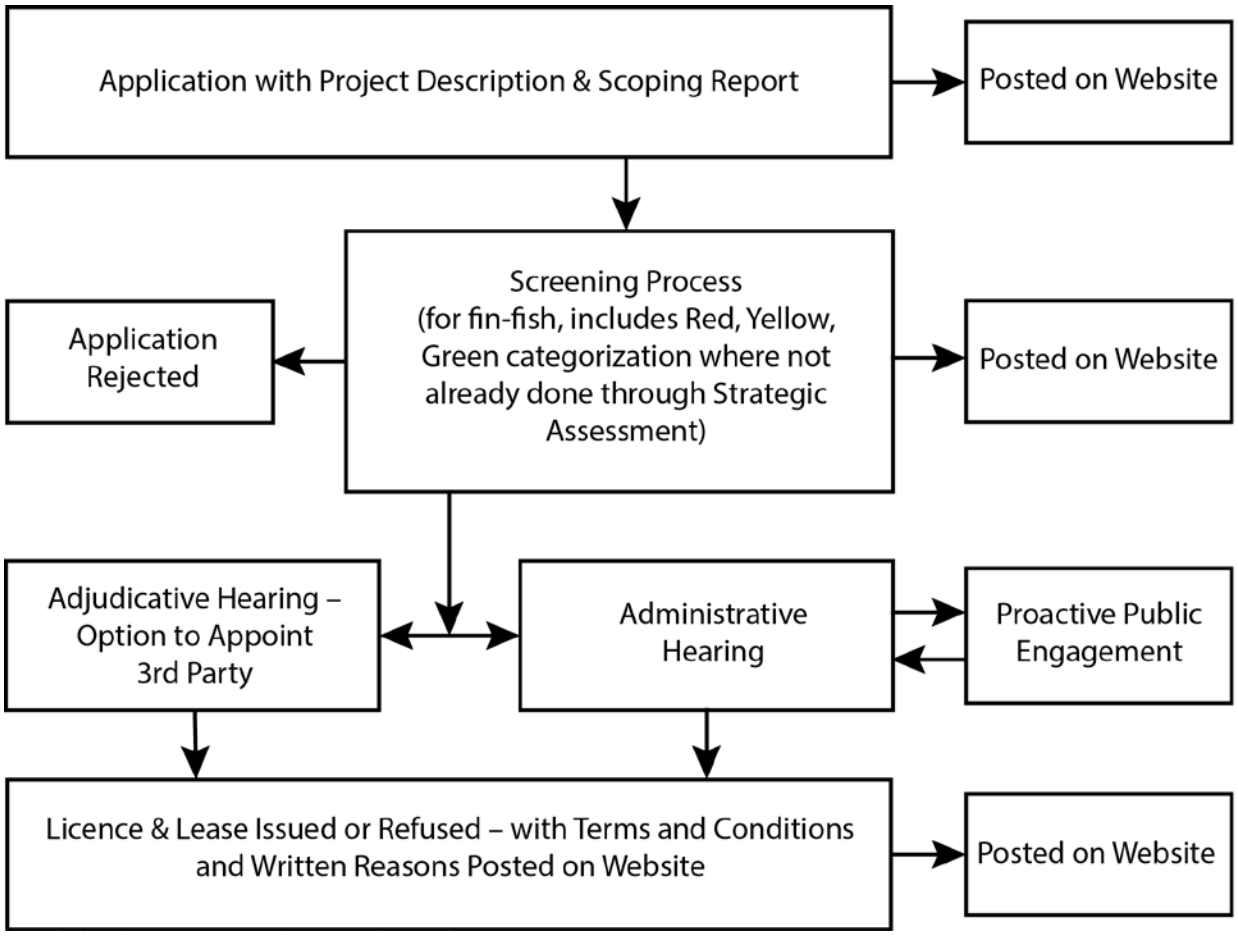

Figure 2: The Licensing Process

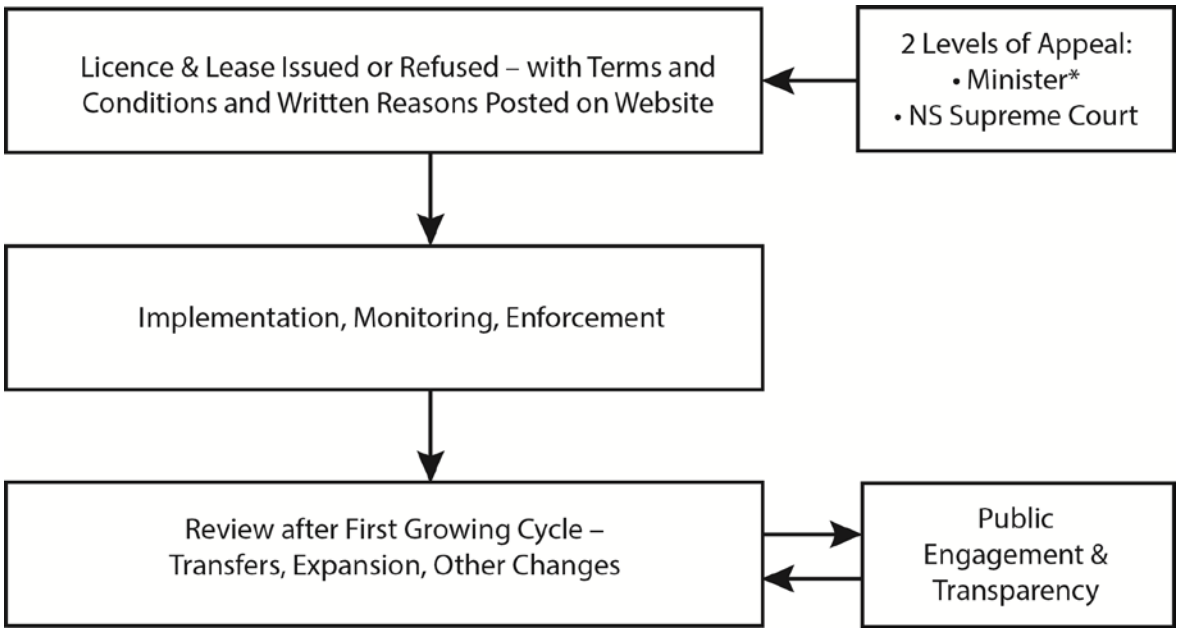

Figure 3: The Post-licensing Process (* This appeal could be to the Aquaculture Review Board if such a board were established.)

1. INTRODUCTION

In April of 2013, we were appointed as a two-person independent panel to "lead the development" of a "regulatory framework for the aquaculture industry that will be state of the art in integrating and advancing environmental protection, social well-being and economic opportunity."[1] Our mandate, which is available on our website at www.aquaculturereview.ca, encompassed the whole of the industry, including fin-fish, shell-fish and plant-based aquaculture, and both marine-based and land-based operations. Our mandate stressed that we were to develop and follow "a process for carrying out the work of the Panel that is independent, transparent, consultative, collaborative, analytically rigorous and evidence-based." In designing the process for our work, we were instructed by our mandate to seek advice from "key industry sectors, conservation groups, the Mi'kmaq and subject matter experts."

Of particular note is that our mandate made specific reference to the *Environmental Goals and Sustainable Prosperity Act* (*EGSPA*)[2] and its goal of integrating environmental protection with economic and social prosperity. Our work was also significantly influenced by the work of the One Nova Scotia Commission, which released its report partway through our process. The conclusions reached by the Commission reinforced the need for us to be conscious in our work of the importance of rural development to the prosperity of the province.

Throughout our process, we met monthly with our Advisory Committee, consisting of Brian Blanchard of the Nova Scotia Aquaculture Association (who replaced Bruce Hancock in the early days of the process), Mark Butler of the Ecology Action Centre, Lisa Fitzgerald of the Nova Scotia Fisheries Sector Council, Roderick Murphy of the Union of Nova Scotia Municipalities, Carl Purcell of the Nova Scotia Salmon Association, Chief Terry Paul of Membertou, and Karen Traversy of the Coastal Coalition of Nova Scotia. The primary role of the committee was to provide us advice on the design and implementation of our process, particularly in the conduct of community meetings, meetings with stakeholders, and establishing and organizing the Roundtable. Notes from the meetings of the Advisory Committee are available on our website.

During the summer of 2013, we held two meetings in each of 21 coastal communities throughout Nova Scotia to learn about the issues people in coastal communities felt we should consider in our work. A summary of what we heard at these meetings, as well as the more-detailed notes we took during the meetings, is available on our website. In very broad terms, we heard a range of concerns about the impact of marine-based salmon aquaculture on the marine environment,[3] on wild salmon

[1] The mandate can be found at http://www.aquaculturereview.ca/sites/default/files/TOR_Panel.pdf.

[2] SNS 2007 c 7, as amended by SNS 2012 c 42 [hereinafter "SNS 2012 c 42"].

[3] Throughout this report, we refer to salmon farming as well as fin-fish aquaculture. In many places, we distinguish fin-fish and shell-fish aquaculture as to the two main kinds of aquaculture. In reality, the kind of fin-fish aquaculture we heard about most and by a large margin was marine-based salmon farming, which is why we sometimes use salmon farming and fin-fish aquaculture as interchangeable terms. Where we think that the differences between salmon farming and other kinds of fin-fish aquaculture are important to our recommendations, we have made the distinction between the two. In addition, in the feedback to our draft report, including the feedback received from the Ecology Action Centre (EAC), concern was expressed that we had not explicitly stated that many of the issues associated with marine-based salmon farming are also

populations and on lobsters, lobster fishers and the lobster industry. We heard concerns about how both fin-fish and shell-fish aquaculture can interfere with or disrupt the activities of other users of coastal waters and the character and quality of coastal communities. We heard distrust of and lack of confidence in the industry, the Department of Fisheries and Aquaculture (DFA) other regulators, and the current regulatory framework.

In August of 2013, we established a "Knowledge Roster" of more than 20 people. Members included university professors, scientists who work in industry or for environmental organizations and holders of community and traditional knowledge. At a meeting held at the Schulich School of Law, the Roster created an inventory of the issues to be considered in the development of a new regulatory framework for aquaculture in Nova Scotia. From the Roster, we formed a smaller organizing committee that helped us identify the issues that were most in need of more detailed attention, including what we heard in community or stakeholder meetings or in discussions taking place at the Roundtable. These issues were discussed in Knowledge Workshops to which the broader Knowledge Roster was invited, which we convened in early 2014. Three workshops were held: one on interactions with species other than wild salmon, one on aquaculture and pollution, and the third on interaction with wild salmon. The notes from these workshops are available on our website.[4] Many members of the Roster also provided written answers to questions posed to the Roster by the Roundtable.

Starting in October of 2013, we conducted more than 20 stakeholder meetings – i.e., meetings with individuals or organizations who either asked to meet with us or were asked by us to meet. Notes from these meetings are available on our website.[5] We also met in person or via telephone with representatives of the three key governmental organizations involved in regulation of aquaculture in Nova Scotia: the Nova Scotia Department of Fisheries and Aquaculture, the Department of Fisheries and Oceans and the Canadian Food Inspection Agency. In addition, we held telephone meetings with aquaculture regulators in New Brunswick, Prince Edward Island and Newfoundland and Labrador.

In November, we convened the Nova Scotia Aquaculture Regulatory Review Roundtable. The role of the Roundtable was to provide us advice on (a) issues relating to the future sustainable development of aquaculture in Nova Scotia with respect to environmental protection, social well-being and economic opportunity and (b) the development of recommendations regarding a new regulatory framework. The Roundtable included Mi'kmaw representatives as well as representatives from the aquaculture industry, the fishing industry, tourism, municipalities, coastal communities, the Nova Scotia Salmon Association, the Ecology Action Centre, and the broader public. Lesley Griffiths facilitated the Roundtable and wrote the report that sets out the

applicable to marine-based trout farming. In our process, it was more typical for participants to refer to salmon farming, but there were also many comments to the effect that salmon farming and trout farming raised the same or similar questions. To the extent that these two kinds of salmonid farming are similar, we intend that our proposed framework would apply to trout farming as well as to salmon farming.

[4] See the "Updates" section.

[5] See the "Updates" section.

Roundtable's conclusions and recommendations. A copy of the Roundtable's report can be found on our website.[6]

Throughout the process, we carried out our own reading and analysis of the grey and academic literature on the aquaculture industry, the issues that regulation of aquaculture should address and the approaches that are being taken in different jurisdictions, or that could be taken, to the regulation of the industry. We commissioned Cecilia Engler, a doctoral student at the Schulich School of Law, to prepare a paper for us on the regulation of aquaculture in Scotland. We commissioned East Coast Environmental Law (ECELAW) to provide us with reports on the regulatory frameworks in place in New Brunswick, Prince Edward Island, Newfoundland and Labrador, British Columbia and Maine. Both Ms. Engler's report and the reports prepared for us by ECELAW are available on our website.[7]

On July 3 we released a draft of this report for public and stakeholder feedback, after receiving feedback from the Advisory Committee on an earlier version of the draft report. We held public meetings to receive feedback on the report in Yarmouth (July 21), Tatamagouche (July 22), Baddeck (July 23) and Halifax (July 24). With the assistance of Chief Terry Paul, we also met on the draft report with representatives of the Mi'kmaq Rights Initiative. We also held meetings with the Department of Fisheries and Aquaculture. In addition, throughout July, August and September, we received written feedback on the draft report.[8]

[6] www.aquaculturereview.ca/sites/default/files/RT_Final(VG).pdf. In the feedback to our draft report, we received comments on how we had utilized the report of the Roundtable. Many of these comments were positive and expressed appreciation for the extent of our responsiveness to the Roundtable's recommendations. One comment was negative, expressing concern that we had on various issues adopted recommendations of the Roundtable instead of making our own recommendations. The suggestion seemed to be that we had inappropriately delegated our role to the Roundtable. To be clear, where we adopt a recommendation made to us by the Roundtable, we do so because our own analysis has led us to agree with the Roundtable. In deciding whether we agree with a Roundtable recommendation, one of the factors we have taken into account is the level of agreement for the recommendation that was achieved at the Roundtable itself. For example, it has mattered to us that on a number of matters, the Roundtable made unanimous recommendations. At the same time, based on our own analysis, we make recommendations that are like ones on which there was either qualified or only partial agreement at the Roundtable. Finally, we note that throughout this report, we draw attention to the connections between our conclusions and recommendations and those reached or considered at the Roundtable; we do this solely for the purpose of documenting those connections, whether or not we have made a recommendation like or different from the one made or considered by the Roundtable.

[7] The Scotland report is available under "Updates." The ECELAW reports are available at www.ecelaw.ca/ecelaw-projects/aquaculture.html and at our website under "Updates."

[8] Throughout this report, we address feedback we received on the draft report. We have not tried to be exhaustive in doing so. Instead, we have largely limited ourselves to responding to feedback that indicated a need for (a) greater clarity or elaboration on our part; (b) an adjustment or change to what we had proposed in our draft report; (c) consideration of issues we had not addressed in our draft report; or (d) explanation of the rationale for our conclusions or recommendations.

2. POLICY CONTEXT AND ISSUES

2.1 Regulation, Aquaculture and Nova Scotia's Long-Term Economic, Social and Environmental Objectives

This document lays out our conclusions and recommendations on a new regulatory framework for aquaculture in Nova Scotia. From the length and detailed nature of the document, it is obvious that we have concluded that the regulatory framework that is needed is fundamentally different from the current one. In other words, we have concluded that the regulation of aquaculture in Nova Scotia needs to be completely overhauled. This is particularly true for fin-fish aquaculture but it is true in important respects for the industry as a whole, especially its role in the life of the communities where it is located or nearby.

In its nature, regulation is about the prevention or reduction of harm. Accordingly, most of this document deals with how the aquaculture industry should be regulated to prevent or reduce the risk of harm that can occur if aquaculture is conducted without due regard for the environment, local communities and the protection and productive use of public coastal resources.

Our mandate, however, was broader. In proposing "a state-of-the-art regulatory framework for the aquaculture industry in NS," the Panel was asked to "strive to make its recommendations in light of the best long-term environmental, social and economic interests of the province, in accordance with priorities, principles, and interests as articulated in relevant Nova Scotia legislation, including the *Environmental Goals and Sustainable Prosperity Act."* We approached this broader aspect of our mandate with the awareness, which is built into the *Environmental Goals and Sustainable Prosperity Act*, that regulation is only one of the tools of governance that governments and societies use to advance long-term environmental, social and economic interests.

Not surprisingly, we heard more in our process about the adverse impact of aquaculture that people wanted the regulation of aquaculture to address than we did about the potential economic or social benefits of aquaculture or its future. Nevertheless, we did hear quite a bit about what the industry was contributing or could contribute to Nova Scotia's economy and about the determinants of the industry's economic success. For example, we heard about the importance of scale to the industry's competitiveness in national and global markets. At the same time, we heard about the importance of diversity, between and within sectors of the industry, to the resiliency and sustainability of the industry and to its ability to create opportunities for entrepreneurs and for rural communities to benefit from the efforts of entrepreneurs. As another example, we heard about innovation that has happened or is occurring in Nova Scotia's industry and about the difficulties – including uneven, uncertain and inadequate support from government – that the industry has faced in growing in Nova Scotia despite that innovation. We heard both about the need of the industry to be current with global trends in productivity and in reducing its environmental footprint and about the importance of avoiding prescriptive regulations that can stymie the industry's evolution and development.

During our process, the One Nova Scotia Commission completed its work and issued its final report, *Now or Never: An Urgent Call to Action for Nova Scotians*.[9] Several of the central messages to be taken from that work are relevant to the broader aspect of our mandate to make recommendations on regulation that address Nova Scotia's long-term environmental, social and economic interests as articulated in the *Environmental Goals and Sustainable Prosperity Act*.[10] One of these messages is that Nova Scotia's prosperity depends on businesses that produce value from the province's natural resources. Another is the crucial importance of innovation and entrepreneurship in and beyond the natural resources sectors. A third is the recognition that Nova Scotians expect economic prosperity to be combined with environmental stewardship. A fourth is that Nova Scotia must be prepared to say yes to the economic opportunities it has if it is to reverse the current trend toward long-term economic and social decline.

Putting these core messages of *Now or Never* together, a larger conclusion is that Nova Scotia's prosperity requires Nova Scotians to excel at developing the natural resources of the province in ways that combine wealth creation with the continuing productivity of those resources and the well-being of the broader environment. This is similar to the philosophy that underlies the *Environmental Goals and Sustainable Prosperity Act*.[11] The Act says that the long-term objective of Nova Scotia is to achieve sustainable prosperity, which the Act defines as "seizing today's opportunities without compromising tomorrow, while working together for a strong, competitive economy, a healthy environment and vibrant, thriving communities." Moreover, Subsection 3(2) of the Act proclaims a number of foundational principles that, like *Now or Never*, call for integration between economic, environmental and social well-being through innovation, as follows:

> 3 (2) This Act is based on the following principles:
>
> (a) the health of the economy, the health of the environment and the health of the people of the Province are interconnected;
>
> (b) environmentally sustainable economic growth that recognizes the economic value of the Province's environmental assets is essential to the long-term prosperity of the Province;
>
> (c) the environment and the economy of the Province are a shared responsibility of all levels of government, the private sector and all people of the Province;
>
> (d) the environment and economy must be managed for the benefit of present and future generations, which is in keeping with the Mi'kmaw concept of Netukulimk, defined by the Mi'kmaq as the use of the natural bounty provided by the Creator for the self-support and well-being of the individual and the community by achieving adequate standards of community nutrition and economic well-being without jeopardizing the integrity, diversity or productivity of our environment;
>
> (e) innovative solutions are necessary to mutually reinforce the environment and the economy;

[9] The report is available at https://drive.google.com/file/d/0B48TTKtbWS0kQ0syOHZaZW9xaWs/edit?pli=1.

[10] SNS 2012 c 42.

[11] Ibid.

> (f) a long-term approach to planning and decision making is necessary to harmonize the Province's goals of economic prosperity and environmental sustainability;
>
> (g) the management of goals for sustainable prosperity, such as emission reduction and increasing the amount of legally protected land will preserve and improve the Province's environment and economy for future generations.[12]

Applying these principles and the concepts underlying both the Act and *Now or Never* to our mandate leads us to conclude that the kind of aquaculture that fits with the Act and with *Now or Never* is low-impact/high-value aquaculture. In our view, this is aquaculture that combines two fundamental attributes:

1. A low level of adverse environmental and social impact, which decreases over time.
2. A positive economic and social value from the use of Nova Scotia's coastal resources, which is high and increases over time.[13]

In addition to being consistent with the Act and *Now or Never*, our work suggests that this may be the only kind of aquaculture Nova Scotia can have if it is to have a successful and growing aquaculture industry. We say this for two reasons.

First, significant market forces are at play suggesting that the growth in demand for farmed fish and seafood, particularly for farmed salmon, will be for fish and seafood that have been produced with low and sustainable levels of environmental impact. These forces include new global certification programs agreed to by major producers of farmed salmon and leading international environmental organizations. They include the move toward higher and more demanding levels of regulation in many of the high-producing jurisdictions such as Norway, Scotland, Chile, New Brunswick and Maine.

Most fundamentally, the forces include growing consumer demand for sustainable fish and seafood products that either drives or is supported by the sourcing of sustainable fish and seafood products by major retailers. No doubt the impact of these forces in the short term can be overstated. But the longer-term direction of change in the market in favour of products that can be credibly branded as sustainable seems self-evident. Although we do not doubt that there will continue to be a market for low-cost high-volume production, we doubt Nova Scotia's competitive advantage in that market or that Nova Scotians would accept aquaculture conducted in a manner required to be competitive in that market.

This brings us to our second reason for suggesting low-impact/high-value aquaculture may be the only option for the industry's future in Nova Scotia. It is unlikely that any other approach to aquaculture can enjoy or maintain the social licence, particularly in coastal communities, that aquaculture must enjoy in Nova Scotia if it is to grow and prosper. While this is true of all

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[12] Ibid., at s 3(2).

[13] These two fundamental attributes of the proposed framework are broadly consistent with an ecosystem approach for aquaculture (EAA), as articulated in the paper *Building an Ecosystem Approach to Aquaculture* – FAO Fisheries and Aquaculture Proceedings 14, a report based on a workshop organized by the Food and Agriculture Organization of the United Nations in 2007. There, the ecosystem approach is characterized as "a strategy for the integration of the activity [aquaculture] within the wider ecosystem in such a way that it promotes sustainable development, equity, and resilience of interlinked social and ecological systems." (iv)

aquaculture, we think it is particularly true of marine-based salmon farming. We base this conclusion largely on what we heard from Nova Scotians who live close to aquaculture, but also on our discussions with national and provincial regulators of aquaculture, on our understanding of the strengthening of regulations taking place in other jurisdictions, on the market forces listed above and on the conversations we have had with a number of people in the aquaculture industry or who work closely with the aquaculture industry.

For these reasons, our conclusion is that a regulatory framework that is both "world class" and consistent with Nova Scotia's long-term environmental, social and economic interests as articulated in the *Environmental Goals and Sustainable Prosperity Act* is one that is decidedly on the side of low-impact/high-value aquaculture. That is the kind of regulatory framework that is intended by the recommendations set out in the balance of this document.[14] In consequence, the regulatory framework we propose is intended not only to control the impact of aquaculture but also to contribute to the value that aquaculture can yield.[15]

2.2 What We Heard about Aquaculture in Nova Scotia in a Nutshell

Our regulatory review process included a number of opportunities to hear from stakeholders and members of the public. We do not intend to provide a detailed account of what we heard through these various forums, as this information is readily available on our website at www.aquaculturereview.ca. We do think, however, that it is important to offer a summary of some of the high-level views we heard most consistently and are most important for setting the stage for the proposed regulatory framework.[16] These views include:

- Generally positive views of shell-fish aquaculture
- Many concerns about marine-based fin-fish aquaculture and potential growth of that kind of aquaculture

[14] In the feedback received on our draft report, there was generally positive response to our conclusion that the objective of the regulatory framework should be an industry characterized by low impact and high value. We were, however, urged to define what we meant by low impact and high value. For example, the Ecology Action Centre asked us to provide a formula for calculating low-impact/high-value aquaculture and some key indicators. It is therefore important that we clarify that it is not our intent that the phrase low-impact/high-value aquaculture be used and applied as a free-floating regulatory standard in addition to or independently of the specific regulatory standards we have recommended for specific parts of the regulatory framework, such as licensing or enforcement. Rather, the idea is that the regulatory framework as whole, together with other factors such as changes in the market, must work together to make Nova Scotia's industry one that is increasingly characterized by low impact and high value.

[15] Our thinking here is that the regulation of aquaculture will be more effective if it is guided by a broader vision of economic, social and environmental governance such as that set out in the *EGSPA* and in *Now or Never*. This is an approach broadly similar to that set out for the governance of aquaculture in Nathanael Hishamunda et al., *Policy and Governance in Aquaculture: Lessons Learned and Way Forward,* FAO Fisheries and Aquaculture Technical Paper 577.

[16] For a more complete description of the issues raised and views expressed in the community meetings, see the document entitled "Summary of Issues Identified by Participants in Community Meetings," which is available on our website under "Updates." The notes taken at these meetings by the students who assisted the Panel at those meetings is also available in a separate document on the website under "Updates."

- Many calls for an end to marine-based aquaculture or at least to any further growth in marine-based aquaculture
- Significant support for limiting fin-fish aquaculture to land-based facilities
- Significant support for the view that government should not be subsidizing marine-based aquaculture by funding its development with taxpayer dollars, by compensating operators for destruction of diseased fish or by permitting discharge of waste into the marine environment
- Widespread concern about the capacity and will of the DFA to effectively regulate the industry and especially marine-based fin-fish aquaculture
- Range of industry concerns that the current approach to regulation of the industry is stymying growth

Although there are very different views as to what a better regulatory framework would be, there was widespread support for a better regulatory framework.

2.3 Environmental Impacts[17]

As part of our regulatory review process, we engaged with the Knowledge Roster on the key concerns identified in community and stakeholder meetings and by the Roundtable and the Roster itself on the environmental impacts of aquaculture. The key concerns all involved fin-fish operations in coastal waters, specifically salmon farms. The following section summarizes our conclusions on three key areas of concern: benthic impact, water pollution and impact on wild salmon.[18]

2.3.1 Benthic Impacts of Fecal Matter and Waste Feed

With respect to benthic impacts from fin-fish operations in coastal waters, the accumulation of fecal matter and waste feed were the concerns most frequently raised by participants in our process. We consulted with members of the Knowledge Roster on these issues as part of a workshop on the

[17] In responding to our draft report, the Atlantic Canada Fish Farmers Association (ACFFA) expressed its strong disagreement with this section of the report. It stated, "Contrary to what is stated in the Report, there is, in fact, a body of science that has accumulated over the past ten years that shows that environmental impacts, benthic impact and water pollution are minimal and are being routinely assessed and managed." Our view is that the impacts in each of these areas are acceptable from a public policy perspective only when aquaculture is conducted responsibly in appropriate locations subject to effective regulation and ongoing efforts to further reduce these impacts.

[18] There are many papers and reports on aquaculture and the environment. We have found the following two documents particularly useful because of their recent publication and because they both survey the voluminous literature: J.A. Hutchings et al., *Sustaining Canada's Marine Biodiversity: Responding to the Challenges Posed by Climate Change, Fisheries, and Aquaculture* (The Royal Society of Canada: The Academies of Arts, Humanities and Sciences of Canada); and Carol Seals Price and James A. Morris, Jr., *Marine Cage Culture and the Environment: Twenty-First Century Science Informing a Sustainable Industry*, NOAA Technical Memorandum NOS NCCOS 164. We have also benefited from being referred to many sources on specific aspects of fin-fish aquaculture's relationship to the environment by members of the Knowledge Roster, and in particular by Fred Whoriskey, Cyr Couturier, Inka Milewski and Barry Hargrave, all of whom were particularly generous and helpful in bringing to our attention useful sources. Of course, we alone are responsible for what we have taken from those sources.

impact of aquaculture on marine species other than salmon, which in turn was the subject of a separate Knowledge Workshop.

A key concern with waste feed is that it can contribute to anoxic conditions of the benthic environment below fin-fish cages. It does so because it contains nutrients for bacteria in the benthic environment that then use up oxygen, reducing the availability of oxygen in the benthic environment, which in turn creates less-favourable conditions for a number of marine species.

We learned that waste feed can be reduced significantly through best practices in feeding methods, but it seems clear that some feed will still fall through the cages. The overall impact of waste feed on oxic conditions (containing adequate levels of oxygen) is largely a function of the size of the operation and feeding method in relationship to water depth and flushing, in combination with fallowing periods. The impact of waste feed on the oxic conditions of the benthic environment is relatively smaller than the impact from fecal matter, though waste feed interacts cumulatively with fecal matter.

The amount of fecal matter that reaches the benthic environment below a site is largely a function of the number of fish per site, the age class of the fish and the biophysical conditions of the site. Fecal matter deposit is greatest toward the end of the growing cycle. Of course, as was pointed out to us by a number of participants, the deposit of fecal matter from fish is a natural process. The main issue is the concentration of fecal matter in a given location as a result of an intensive fin-fish operation. The environmental impact from fecal matter is therefore largely a function of stocking and density levels in relation to water depth and flushing, in combination with fallowing periods.[19]

There is also concern about the accumulation of non-natural substances in the benthic environment, which can have adverse impacts on marine life. Possible pollutants include medication from waste feed (antibiotics, SLICE), zinc and copper from waste feed and from anti-fouling agents, and pesticides used to treat sea lice.[20] As we discuss later in this report, we feel that risks and uncertainties around these impacts warrant a regulatory approach that seeks to minimize, and where possible to prevent, the release of these substances.

2.3.2 Water Pollution

Throughout our process, participants expressed concern to us about the impact of fin-fish aquaculture operations on water quality. In particular, we heard concerns about the release of chemicals (such as anti-fouling agents), medication and pesticides into coastal waters. Concerns were also raised by some about fuels and operational discharges, as well as debris and surface wastes from aquaculture operations.

Fin-fish operations in coastal waters contribute to increased levels of zinc and copper through waste feed and from anti-fouling agents used in aquaculture operations. There was general agreement among participants in the Knowledge Workshop on pollution that increased levels of

[19] In the NOAA report *Marine Cage Culture and The Environment* (Price & Morris), it is stated that "at well flushed sites in deep water and with efficient feed management, ecological impacts tend to be minimal and confined to the area just beneath the cages." (iv)

[20] See Knowledge Workshop on Pollution report, at pages 3–4, and Knowledge Workshop on Species Other Than Salmon report, at page 2 (under "Updates" at www.aquaculturereview.ca).

zinc and copper are of concern in the marine environment.[21] There were different opinions as to the extent of the harm posed from the releases of these substances from aquaculture. The contribution each of the two major sources makes to the levels of zinc and copper will very much depend on conditions at the site, and on operational details, such as the feeding method, and the manner in which anti-fouling agents are used. It seems, however, that anti-fouling agents are generally the more significant contributor to the release of zinc and copper into the marine environment, particularly in the water column.

Our conclusion, based on the information we received from the Knowledge Roster, is that the release of these chemicals should be minimized and eliminated where possible. As elaborated later in this report, the chemical treatment of aquaculture equipment to prevent fouling should be prohibited under the new regulatory framework. This, in combination with best practices in feeding methods, should minimize the release of zinc and copper from aquaculture operations. An ongoing goal of further reducing and to eventually eliminate the release of all chemicals, medication and pesticides into the environment should be an objective of the regulatory framework.

Another concern we heard from a number of participants is the release of antibiotics from waste feed and fecal matter into coastal waters.[22] Concerns associated with this release range from contamination of wild fish to the increase of antibiotic resistance of bacteria. We learned that four classes of antibiotics are approved for use in aquaculture by Health Canada: oxytetracycline, florfenicol, and two types of trimethoprim sulfas.[23] We were told that oxytetracycline and florfenicol are used but that the trimethoprim sulfas are not. Provincially regulated veterinarians oversee the use of antibiotics.

There was general agreement at the Knowledge Workshop on pollution that bacterial resistance can occur over time and that the accumulation of antibiotics, particularly in the sediment, is a concern.[24] Minimizing the release of antibiotics, through a combination of feeding practices that minimize feed waste, and minimizing or eliminating the need to use antibiotics, is therefore clearly desirable.

Many participants were similarly concerned about the release of pesticides, both in feed and in the form of “bath treatments.” When pesticides are used it is to treat sea lice infestations. The main concerns with pesticides are their acute toxicity, their persistence, and the compounds they break down into. Participants in the Knowledge Workshop on pollution generally agreed that the pesticides approved for use in aquaculture are designed to break down quickly into less harmful substances. Only a few pesticides are approved for sea lice treatment in aquaculture operations in Canada. The number is smaller than in other jurisdictions. Some pesticides approved in other

[21] See Knowledge Workshop on Species Other Than Salmon report, at page 2.

[22] On antibiotics, other medications and pesticides, the contributions of Dr. Larry Hammell of the University of Prince Edward Island at the Knowledge Workshops were incredibly helpful to our understanding of the applicable science and veterinarian medicine, as well as of the applicable regulatory systems.

[23] See Knowledge Workshop on Pollution report at page 4.

[24] See Knowledge Workshop on Pollution report at page 1 (summary of discussion).

jurisdictions are not approved in Canada due to concern about their persistence in the environment.[25]

The overall conclusion appears to be that while Canada seems to be taking a more cautious approach to the approval of pesticides for use in aquaculture than some other jurisdictions, there is good reason to make every effort to minimize the use of pesticides. There has not been a confirmed application of pesticides to treat sea lice in Nova Scotia for at least a decade. In other jurisdictions, including New Brunswick, operators have had difficulties managing sea lice infestations at their operations. The use of SLICE (a commercial chemical treatment) in feed has become ineffective in New Brunswick, leaving operators to push for the approval of "bath treatments" of pesticides. Furthermore, an unauthorized application in New Brunswick resulted in a significant kill of lobster. Our conclusion is that the regulatory framework in Nova Scotia must manage the sea lice problem through proper site and species selection, separation distances, and responsible operation of sites, with the goal of avoiding the need for either medicinal treatments or the application of pesticides by "bath treatment."

Other pollution concerns raised include fuels and operational discharges from service vessels, and surface wastes and marine debris from operations. In our view, there is no reason why a well-run operation would result in any significant impact. There is every reason to think that a well-designed and implemented regulatory system will address these concerns.

2.3.3 Impact on Wild Salmon

Many of those who participated in our process were very concerned that the growth of marine-based fin-fish aquaculture in Nova Scotia is one more threat to the already threatened Atlantic salmon populations of Nova Scotia's rivers.[26] This concern was strongly and unequivocally articulated by organizations that are dedicated to the conservation and protection of the Atlantic salmon, including the Atlantic Salmon Federation and the Nova Scotia Salmon Association, and by many local salmon conservation associations across the province. It was also communicated to us by the Ecology Action Centre and by many anglers. These participants in our process were among the strongest advocates for a policy that limited salmon farming to closed-containment systems located on land.

In our Knowledge Workshop on the impact of aquaculture on wild salmon, it was emphasized that wild Atlantic salmon face a range of threats that pose greater danger to the survival and recovery of wild salmon populations than could be posed by marine-based aquaculture, particularly as it is currently practised. It was also emphasized that there is no research showing that the continuing decline in the numbers of wild Atlantic salmon at a population scale is significantly caused by

[25] See Knowledge Workshop on Pollution report at pages 1, 3, & 4.

[26] In the feedback we received on our draft report, the EAC expressed a concern that we had not identified the risk that farmed salmon represent to sea trout populations. Because we heard little on this issue in our process, including at our Knowledge Workshops where participants were given an open opportunity to identify wild species that could be harmed by salmon farming, we are not able to say that the concerns about the potential impact of salmon farming on wild salmon populations apply or do not apply to sea trout populations. All we can do at this point in our process is to acknowledge the feedback we received on this point so that it can be considered and addressed appropriately in the development and implementation of the regulatory framework we propose.

salmon farming.[27] Rather, the combined effect of more fundamental factors, such as loss of habitat, acid rain, the legacy of historic overfishing and low population numbers, was stressed.[28]

On the other hand, our Knowledge Workshop indicated that particular sub-populations of wild Atlantic salmon have been negatively impacted by marine-based salmon farming.[29] Research in New Brunswick's Magaguadavic River has shown that wild salmon were entirely displaced from that river by the late 1990s through the interbreeding of wild salmon with escaped salmon and their offspring.[30] It was said that this happened when the industry had a much higher number of escapes than it now does. Some debated this on the basis of the number of escapes they believe have recently happened in Nova Scotia. Our view is that even accepting that prevention of escapes is greatly improved, the research shows that salmon farming can seriously harm wild salmon if escapes are not prevented. It is important in this connection that the adverse impact of interaction between escaped farmed fish and wild fish is not only a function of the number of escapes but also of the number of fish in the wild population. With a smaller population of wild fish, a smaller number of escapes may be sufficient to cause an adverse impact on the genetic composition of the wild fish population. This is relevant because the number of salmon left in many of Nova Scotia's rivers is very small compared to the number of fish that would have been present in the Magaguadavic when salmon aquaculture started in southwestern New Brunswick.

In our Knowledge Workshop, the discussion of the concern that marine-based fin-fish aquaculture can harm wild salmon by increasing their exposure to sea lice infestation and to infectious salmon anemia (ISA) was similarly nuanced. On sea lice, it was stated that sea lice levels in Nova Scotia are below the levels at which treatment for sea lice would be required.[31] It was said that this allows aquaculture to be conducted in Nova Scotia, at least for the time being, without use of the treatments for sea lice that generate some of the concerns about aquaculture's broader impact on the environment and other species. It might also be concluded from our Workshop that ISA may be primarily a concern for the health and well-being of farmed fish.[32]

On the other hand, the harm that sea lice are capable of causing to wild salmon was not questioned in our Workshop or, for the most part, in any other part of our process. It is also possible, as some suggested to us, that the current low prevalence of sea lice is, at least in part, due to the relatively

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[27] This assessment appears to be broadly consistent with the conclusions of the Cohen commission on the decline of the sockeye salmon population in the Fraser River Valley, which are that the decline could not be clearly attributed to salmon farming or to any other specific cause: see The Honourable Bruce I. Cohen, *The Uncertain Future of Fraser River Sockeye: Volume 2 – Causes of the Decline* (Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River, 2012).

[28] See Knowledge Workshop on Salmon report at pages 1–7.

[29] See Knowledge Workshop on Salmon report at page 2.

[30] See J.W. Carr et al., "The occurrence and spawning of cultured Atlantic salmon in a Canadian river," *ICES Journal of Marine Science* 54: 1064–73.

[31] See Knowledge Workshop on Pollution report, at page 4, and Knowledge Workshop on Salmon report, at pages 5–7. In response to our draft report, some contested the accuracy of this statement, while others stated we had given inordinate and unjustified attention to sea lice, given that it is not a problem in Nova Scotia. In providing feedback to our draft report, the ACFFA noted that the Aquaculture Activity Regulations to be adopted under the *Fisheries Act* will require public reporting on all sea lice treatments.

[32] See Knowledge Workshop on Salmon report at pages 3–5.

limited scale and wider distribution of the industry in Nova Scotia. In any event, Nova Scotia's objective should be to ensure that sea lice do not become a problem for farmed salmon or wild salmon in Nova Scotia.

On ISA, we were told that current research suggests that farmed salmon are more likely to contract pathogenic strains of ISA from wild salmon than the other way around and that wild salmon have greater resistance to ISA than do farmed salmon. We heard that ISA is not easily transmitted between farmed and wild fish. On the other hand, the Workshop discussion also made it clear that there is no definitive knowledge as to how the disease moves between farmed and wild populations or as to the severity of the risk it presents to wild salmon.[33]

On both the sea lice and ISA risk, we attach importance to the statements made in our Workshop and elsewhere in our process that the risk to wild salmon (as well as to farmed salmon) may increase and become more difficult to control if salmon farming is allowed to develop in too concentrated a fashion. There was also broad agreement with the view that both of these risks, along with the risk of genetic disruption through interbreeding, warranted some level of physical separation between fish farming and wild salmon habitat and migration routes. While this point was made in the context of a discussion about protection of wild salmon from farmed salmon, it seems to us that it may also be important to the protection of farmed salmon from wild, at least where the number of wild salmon is large enough to increase sea lice or ISA risk to farmed salmon.

Another consideration is important to our conclusions on the emphasis that the regulatory framework should place on the protection of wild salmon. It is crucial to keep in mind the threatened status of the wild Atlantic salmon population. Some populations of Atlantic salmon have been declared an endangered species, and other populations, including some in Nova Scotia, either are or are likely to be considered for the same designation. But whether individual populations are or are not formally declared to be endangered, 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.[34] 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.

[33] Ibid.

[34] In their response to our draft report the ACFFA stated, "It is not accurate or science-based to conclude that salmon farms have had a significant impact on wild salmon populations in Nova Scotia." We have not reached that conclusion, nor do we base our recommendation on that conclusion.

2.4 Request for a Permanent Moratorium on Marine-Based Fin-Fish Aquaculture

We were urged by many to recommend a permanent moratorium on licensing of additional fin-fish aquaculture sites in coastal waters.[35] Almost as often, we were urged to recommend the discontinuation of existing marine-based fin-fish operations. We were told that these recommendations were warranted for multiple reasons, including the adverse impact of fin-fish aquaculture on the marine environment and coastlines; the risk that fin-fish operations pose to wild salmon populations; the incompatibility of fin-fish aquaculture with the fishing industry, particularly the lobster fishery; the negative impact of fin-fish aquaculture on the lives of those who live on the coastline in proximity to fin-fish sites; and the inability of regulation, even of good regulations effectively enforced, to address the problems.[36]

Usually, those who proposed a permanent moratorium argued that fin-fish aquaculture should be restricted to contained facilities located on land.[37] The primary rationale was to avoid the pollution of the marine environment associated with marine-based operations, and concern about risk to wild salmon populations.[38] In effect, proponents of limiting fin-fish aquaculture to land argued that because of the adverse impacts of marine-based operations and the technical and economic viability of contained land-based systems, the latter should be the only kind of fin-fish aquaculture allowed.[39] In opposition to these views, some people in the industry argued that a land-based industry was not technically or economically viable, at least not at the scale needed to replace the marine-based salmon farming industry.[40]

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[35] There was partial support at the Roundtable for the recommendation that "the Province should not approve new open-pen finfish operations until the new regulatory regime is in place." (Roundtable Final Report, 22)

[36] See the ECELAW report *Aquaculture Regulation in Nova Scotia: Overview of the Regulatory Framework and Considerations for Regulatory Reform*, at pages 7–11, for more discussion of the calls for a moratorium and about public concern about for aquaculture projects more generally, particularly within the context of the need for more transparency.

[37] This view was not adopted by the Roundtable, as a recommendation along these lines ("No new open-pen operations should be approved, and all existing open-pen operations should be removed from coastal waters within five years") was not supported, with more *no* votes than *yes* and *maybe* votes combined. (Roundtable Final Report, 23)

[38] This can be seen in the recommendation, which received partial support at the Roundtable, that "the regulatory framework should encourage and facilitate the development of closed containment aquaculture operations to reduce waste, disease and parasite transfer to wild fish populations." (Roundtable Final Report, 22)

[39] There was partial support for a recommendation that the province "commission a detailed comparison of the economic, social and environmental impacts of closed containment and open pen fish farming to include true cost evaluation." (Roundtable Final Report, 16)

[40] There is a range of views on the viability of land-based systems. The Gardner Pinfold study *Feasibility of Land-Based Closed-Containment Atlantic Salmon Operations in Nova Scotia* noted that closed-containment salmon aquaculture is recognized to be technically feasible, but concluded that it is not financially feasible, "given current cost estimates and price assumptions used in this report" (p. i). The DFO studied closed containment in the context of British Columbia in 2010 and found "a positive net income" for both closed-containment and marine-based aquaculture but noted that the former is "considerably more sensitive to market forces" largely as the result of "high initial capital investment and subsequent associated costs" (p. vi). The Conservation Fund's Freshwater Institute and the Atlantic Salmon Federation looked at feasibility in

Our mandate assumes the continuing existence of an aquaculture industry to be regulated. Nova Scotia can, however, have an aquaculture industry with or without marine-based fin-fish aquaculture and with or without expanding this sector of the industry. We have carefully considered the views expressed to us, particularly those from people with residences close to marine-based fin-fish aquaculture sites, that Nova Scotia's new regulatory framework should regulate marine-based fin-fish aquaculture by prohibiting it or its expansion.

Our conclusion is that the regulatory framework should not be prohibitory. Our reasons are as follows:

- The risks associated with this kind of aquaculture, while serious, do not warrant a prohibitory approach, provided that they are otherwise addressed by responsible operation and by a robust regulatory framework.
- The risks and impacts associated with marine-based fin-fish aquaculture can be significantly reduced through effective regulations.[41]
- Through incremental development and continuous improvement to minimize negative environmental and social impact while maximizing benefits, marine-based fin-fish aquaculture has the potential to make an important contribution to sustainable prosperity in Nova Scotia.
- A diverse industry that includes marine-based operations and land-based operations is more likely to be resilient in responding to future changes, including changes in market conditions and climate change.
- A prohibitory approach would apply a different standard to aquaculture than is applied to other industries that pose comparable levels of risk and that are regulated under regulatory frameworks that do not prohibit but regulate.
- In the context of our mandate to develop a regulatory framework that integrates environmental, social and economic objectives and the conclusions of the One Nova Scotia Commission on the state of Nova Scotia's economy, the potential contribution of marine-based fin-fish aquaculture to Nova Scotia's economy calls for a policy approach that addresses the risks through responsible development and robust regulation rather than prohibition.

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their report *Freshwater Growout Trial of St John River Strain Atlantic Salmon in a Commercial-Scale, Land-Based, Closed-Containment System* (Summerfelt et al.) and concluded that closed containment was technically feasible, finding that "Atlantic salmon can be reared from port-smolt (~340 g) to harvest size (4–4.6 kg) within approximately 12 months in a land-based, freshwater, closed-containment system." (p. 6)

[41] A good deal of the feedback we received on our draft report questioned our conclusion that marine-based fin-fish aquaculture can be effectively regulated, but we stand by that conclusion. It seems clear to us that it is a conclusion reached by many others, as indicated by the NOAA report *Marine Cage Culture and The Environment* (Price & Morris), which notes that concerns about the "potential impacts to water quality, sediment chemistry, benthic communities, marine life and sensitive habitats" (ii) can be addressed in the context of the Agency's role in implementing "policies and regulations which safeguard our marine and coastal ecosystems" (i), and other documents. The critical issue is the *effectiveness* of the regulation.

At the same time, we conclude that the regulatory framework for aquaculture needs to be greatly strengthened in preventing fin-fish aquaculture from taking place in coastal waters that are not suitable for that kind of aquaculture.

In reaching these conclusions, we have not accepted the argument made by some that land-based closed-containment systems are not a viable option in salmon aquaculture. Based on all we have heard, we think this sector holds considerable promise, and the viability of such systems is still in the process of being determined as market conditions evolve and innovative entrepreneurs work to respond to the growing market demand for sustainably produced salmon. In that context, we think Nova Scotia is fortunate to have significant activity taking place in its aquaculture industry on land-based closed-containment systems. Through our process, we heard often about the activities of Sustainable Blue, which is working with new technology to become one of the first companies in the world to grow salmon at a commercial scale in a land-based system. We also learned that the Nova Scotia industry includes people who worked on some of the earliest projects done anywhere in the world on the application of closed-containment systems to salmon farming, which happened in Nova Scotia. Meanwhile, land-based systems are being used in Nova Scotia to produce Arctic char, trout, halibut (juveniles and adults) and Atlantic salmon smolt. Assuming viable commercial-scale closed-containment systems are going to be developed somewhere, it could be a tremendous benefit to Nova Scotia's future in aquaculture if that were to happen in Nova Scotia. For that reason, we think one of the objectives of Nova Scotia's efforts to develop its aquaculture industry should be to establish the Nova Scotia industry as a leader in the development and deployment of closed-containment systems for salmon aquaculture.

We do not, however, accept the argument that marine-based fin-fish aquaculture should be prohibited if and when closed-containment systems are shown to be technically and commercially viable. What we have heard leads us to conclude that even if the commercial viability of closed-containment options is established, it will be a long time, if ever, before they are capable of producing the volume of salmon currently demanded by the market and produced by the marine-based industry. Provided that Nova Scotia's marine-based industry is conducted responsibly subject to robust regulation, we do not think Nova Scotia should limit itself to one kind of salmon aquaculture when and if the commercial viability of land-based systems is established. Instead, we agree with those who submitted to us that the relationship between marine-based and land-based systems could be economically synergistic if Nova Scotia were to aim to be at the leading edge of developing closed-containment systems and low-impact marine-based salmon farming. This would build and reinforce Nova Scotia's brand as a leader in the sustainable farming of salmon, whether done at sea or on land. In that world, Nova Scotia's closed-containment and marine-based farmers might both sell more product than each might otherwise.

It is critical that we stress the following point: our conclusion that we should not recommend a permanent moratorium assumes the adoption and effective implementation of the regulatory framework we have outlined in this report.

2.5 Fin-Fish versus Shell-Fish

Our mandate was to develop a regulatory framework for the whole of aquaculture, not just for fin-fish aquaculture. This means our mandate extends to the shell-fish industry, which includes the producers of oysters and mussels. It also extends to plant aquaculture, where Nova Scotia is a

leader largely due to the success of Acadian Seaplants. However, although we heard lots about fin-fish aquaculture and a good deal about shell-fish aquaculture, we heard very little about plant aquaculture.

Currently, the legislative framework for the regulation of aquaculture found in the *Fisheries and Coastal Resources Act* subjects fin-fish and shell-fish aquaculture to the same regulatory framework. The differences between the two branches of the industry, particularly in the nature and level of risk each poses to the environment, is addressed in the administration of the regulatory framework through the licensing process. Specifically, they are reflected in the different terms and conditions that get written into the licences for each.

Our process suggested that concerns about the environmental impact of aquaculture are largely focused on fin-fish aquaculture. More broadly, it suggested that opposition to growth in aquaculture is concentrated on fin-fish aquaculture and is much more intense in relation to fin-fish aquaculture than to shell-fish aquaculture. In addition, we heard positive things about how shell-fish aquaculture is perceived much more frequently than we heard positive things about the perception of fin-fish aquaculture.

At the same time, we heard similar concerns about how shell-fish and fin-fish aquaculture are regulated in relation to the impact of aquaculture on communities and other users of coastal waters. For example, although the concerns were more intensely and consistently expressed relative to fin-fish aquaculture, we heard concerns in communities close to both kinds of aquaculture regarding inadequate transparency about proposed aquaculture developments, inadequate opportunities for community participation in the regulatory process, and inadequate response to community concerns about the impact of aquaculture on boating and other recreational activities, fishing and the beauty of coastal waters.

The regulatory framework for aquaculture needs to treat fin-fish and shell-fish aquaculture differently as regards their respective potential impacts on the environment. We also think, however, that improvements in the regulatory framework relative to the potential impact of aquaculture on communities, including the opportunities the framework provides to citizens to be informed about and to participate in the regulatory process, should in general be applicable to both kinds of aquaculture. Even there, however, some attention needs to be given to the differences between the two kinds of aquaculture, including the smaller scale of many shell-fish operations.

2.6 Regulation and Scale of Operation

A related but distinct issue is the interaction between regulation and the structure of the aquaculture industry. On the one hand, we heard that the salmon farming industry is increasingly dominated by industrial-scale operations. This scale of operation can increase the nature and scale of environmental risk associated with salmon and others kinds of fin-fish aquaculture. It therefore leads to calls for increases in regulatory oversight and for tighter and more demanding regulatory requirements.

On the other hand, we heard that heightened regulatory requirements tend to be much more burdensome for smaller operators than for larger ones. The result of across-the-board increases in regulatory requirements designed to address the risks associated with larger-scale operations can be to increase the competitive advantage that large-scale operators already have over smaller-scale

operators. It was pointed out to us that this could be somewhat ironic in a Nova Scotia context, given the level of support we heard for smaller-scale indigenous companies that many people say are the kinds of companies that should be supported.

The dynamic relationship between operational scale and regulatory responses to operational scale are well recognized in the literature on regulatory design and administration.[42] Particular attention is paid to the problem that heightened regulatory requirements present to small and medium-sized enterprises (SMEs). Any good regulatory framework needs to grapple with these dilemmas, while recognizing that there are no simple or comprehensive solutions. Large-scale operators must be appropriately regulated. At the same time, regulation must be feasible not only for them but for smaller operators too.

A range of options is available to achieve and maintain the necessary balance between these objectives. One is to ensure that the requirements imposed by the regulatory framework on large and small operators are proportionate to the risks that the framework is intended to control. This minimizes the extent to which the additional burden the framework places on small operators is unnecessary. A second option is to ensure the framework leaves regulated organizations with reasonable levels of flexibility as to how they implement or meet the regulatory requirements. This gives smaller operators the opportunity to adopt approaches to implementation that are more feasible for them than the approaches followed by larger organizations. A third option is for the regulatory agency, often in partnership with industry associations, to invest in programs that assist SMEs in meeting their regulatory obligations. This responds directly to the issues of capacity that often are the core barriers faced by smaller organizations when they are faced with higher regulatory requirements.[43]

Each of these options has informed the development of our proposed regulatory framework for aquaculture on Nova Scotia, and needs to inform the more-detailed design and implementation of the regulatory system for aquaculture.

2.7 Prescriptive versus Performance-Based Regulation

Above, we note that use of regulations that require performance (i.e., outcomes) rather than compliance with prescriptive rules is one of the options for designing a regulatory framework that works for both large- and small-scale businesses. In the feedback we received to our draft report, we were urged to reconsider the extent to which we had then proceeded to recommend a regulatory

[42] See, for example, Neil Gunningham, "Regulating Small and Medium Sized Enterprises," *Journal of Environmental Law* (2002) 14(1): 3–32.

[43] We think it is important that we stress the option that is *not* considered in this paragraph, which is to design different regulations for large companies and for small companies. This is because in the feedback we received on our draft report, it was clear that some thought this is what we were suggesting or asked for clarification as to whether this is what we were suggesting. We agree with the concern that prompts this feedback: that treating small and large companies engaged in activity that presents the same risk of adverse impact differently on the basis of company size is unfair, leads to arbitrary and hard-to-justify distinctions and is also likely to distort business decision making. On the other hand, we think that differences in the scale of operations, whether the operations are owned and operated by large or small companies, can be relevant to what is required by regulation to the extent that differences in scale mean differences in the nature and extent of the risk of adverse impact.

framework that was viewed as being too or unnecessarily prescriptive. We therefore think we should make a few comments on the general question of prescriptive and performance-based regulation.

First, it is obvious to us that the regulation of aquaculture must unavoidably include a significant element of performance-based regulation. Licensed operators are in control of aquaculture sites, not DFA or federal regulators, and no increase in the intensity of regulation could change that. The Environmental Monitoring Program that currently exists in Nova Scotia, which is like the monitoring programs that exist in other jurisdictions, reflects this reality. It is the core tool the regulatory system uses to hold operators accountable for exercising their control over licensed sites in ways that achieve the outcomes the regulatory system wants in the area of environmental performance. It is also a very good example of performance-based regulation.

Second, contrary to the view of some that either prescriptive regulation (often called command and control regulation) or performance-based regulation is inherently and always superior to the other, the literature suggests that each mode of regulation has a different combination of strengths and weaknesses that makes one of them more suitable or called for than the other in different circumstances.[44] Further, the literature suggests that the effectiveness of regulation often depends more on how prescriptive and performance-based regulation are combined to work together than on whether a regulatory system is in general a prescriptive or a performance-based system.[45] These points being made, we recognize that performance-based regulation plays an important role in industries that, like aquaculture, are not generally amendable to point-source discharge regulation and in which interaction between the regulated activity and the environment varies significantly with site-specific conditions.[46] Another relevant advantage of performance-based regulations is their generally greater capacity to evolve as knowledge, conditions and technology evolve.

Third, what is prescriptive and what is performance-based is often a subjective thing. For example, we understand we are proposing changes to the licensing process for aquaculture in Nova Scotia that will make the process of licensing more prescriptive then it currently is. At the same time, the process we propose is performance-based in multiple ways. It will, for example, require applicants for a licence to show high performance in engaging with, and building constructive relationships with, communities.

Fourth, for reasons laid out throughout this report, we think the regulatory framework for aquaculture in Nova Scotia needs to be more prescriptive in a range of its elements than it currently is. This is particularly important in respect to the process of regulation and the basic standards or outcomes that the regulatory system should achieve. At the same time, it is critical to the framework's success that it continue to be performance-based in light of the key reality that

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[44] See, for example, Gunningham, "Environment Law, Regulation, and Governance," *Journal of Environmental Law* (2009) 21(2): 179–212.

[45] William Howarth, "Global Challenges in the Regulation of Aquaculture," in David VanderZwaag and Gloria Chao (eds.), *Aquaculture Law and Policy: Towards Principled Access and Operations*, p. 13.

[46] Neil Craik, *Subsidiarity and Environmental Federalism: The Emergence of "New Governance" in Finfish Aquaculture in Canada*."

aquaculture's success in meeting the objectives of the framework will ultimately depend on how it is developed, managed and conducted by the industry.

Finally, in light of the feedback we received on performance-based versus prescriptive regulation, we have adjusted some of our specific recommendations in order to ensure we have the right combination between the two kinds of regulation. Specifically, in recommending a change of the basic architecture of the system from one extensively based on administrative discretion to one more strongly based on legislated responsibilities, we have adjusted, where appropriate, the language we use to leave appropriate and necessary scope for administrative decision making, adaptability and flexibility. The key rationale for these adjustments, which are noted where they have been made, is to ensure that the proposed regulatory framework has both the strength of a more-detailed statutory foundation and the necessary scope to deal with the variable and changing conditions in a diverse industry.

3. FOUNDATIONAL ELEMENTS OF THE REGULATORY FRAMEWORK

A regulatory framework includes, but is much more than, the rules of regulation. Regulation encompasses rules (and other kinds of regulatory standards), but it also encompasses the policy choices behind those rules and standards and the entire process by which the rules and standards are implemented and enforced.

The effectiveness of a regulatory framework therefore depends on many variables and factors in addition to the content of the rules and standards. Our process leads us to conclude that the current regulatory framework is not working optimally because of a number of factors that will not be addressed by changing the rules of aquaculture in Nova Scotia. Although we think changes in the rules are also required, these changes will not be effective in producing the improvement in regulation that we think is required unless these other factors are addressed.

3.1 Attitudes

The regulation of aquaculture in Nova Scotia reflects an attitude within the provincial government that needs to change if regulation is to become effective and trusted as being effective. The attitude in question is one that assumes that the concerns held by members of the public and local communities about the impact of the industry, especially about the environmental impact of marine-based fin-fish aquaculture, are overstated, unsubstantiated and based on a not-in-my-backyard syndrome. It is an attitude that is too quick to blame opposition to the industry on those complaining and not sufficiently critical of the industry's responsibilities for the opposition it faces. In the regulatory process, these attitudes manifest themselves as insufficiently rigorous and transparent regulation, which often ends up being understandably perceived as more concerned with defending the industry from its opponents than keeping the industry accountable for its performance and impact.

Within the industry, we saw evidence of a similar set of attitudes at play. To be fair, we heard many people from the industry speak of the industry's accountability for the opposition it faces,

and also to the role that the industry must play in gaining and maintaining public and community support. But we also detected a tendency to portray opposition as illegitimate, in some cases because it came from those who summer in Nova Scotia but do not live here year-round or because it was perceived as being orchestrated or bankrolled by national and international environmental groups that are dedicated to the destruction of the industry for ideological reasons. Sometimes, it was suggested to us that the difficulty the industry faces in getting new sites approved by regulators is the reason why the industry has lost social licence, overlooking the more likely possibility that the industry's loss of social licence accounts for the difficulties the industry increasingly faces in a regulatory process that seems to us to be geared to support the growth of the industry.

From the community perspective, we of course recognize the right of members of the public to hold whatever views they wish to hold about the industry or the role of the government in promoting it or regulating it. We are particularly aware that many who spoke to us live close to aquaculture operations while we do not, and that for many, frustration with the current regulatory process has understandably shaped their current view of the industry. That said, we are left with the view that the demonization of the industry we sometimes heard occasionally came close to overshadowing the very real problems we heard about that the regulatory framework must clearly address.

Some of the calls for regulatory protection that were conveyed to us were disproportionate to the risks posed by aquaculture and to how comparable levels of risk created by other industries are addressed. We not only understand the inability of regulators to meet those expectations, we also question whether it would be sensible public policy for them to do so given the level of resources such an effort would require. We also must comment that although there are very real and legitimate concerns about the impact that certain kinds of aquaculture may have on other ways of making a living, we question the unwillingness we sometimes heard to acknowledge any value in the wealth and jobs created by aquaculture, an industry that has been in the province for at least 40 years and that is currently worth almost $50 million dollars in annual sales.[47]

Sometimes, this unwillingness seemed to reflect the kinds of attitudes to economic development that the One Nova Scotia Commission concluded are working against Nova Scotia's very viability as a province. It seems clear to us that for the benefit of all Nova Scotians, it will be critical that a new regulatory approach to the industry be accepted by those suspicious of the industry – both as a fresh start and as an opportunity by government and industry to establish constructive relationships with local communities and other users of coastal waters. While changes in attitude within government and industry are a precondition for progress, an openness to change among those who have felt disenfranchised by the regulatory process in the past will be a critical ingredient to reaching the goal of ensuring that aquaculture contributes to sustainable prosperity, particularly in rural Nova Scotia.

[47] As was pointed out to us during the public meetings we held to receive feedback on our draft report, this number does not reflect the net economic benefit to Nova Scotia. It is merely a number that offers a sense of the size of the industry.

3.2 Social Licence

Social licence refers to the informal permission that society or a segment of society, such as a local community, does or does not give to an industry, an activity or a project. The relationship between social licence and formal regulation is complex. On the one hand, effective regulation can help to create, reinforce and sustain social licence. On the other hand, the presence or absence of social licence can be one of the key determinants of the effectiveness of regulation.

Our conclusion is that the aquaculture industry in Nova Scotia, particularly marine-based salmon farming, has a social licence problem.[48] Fair or unfair, this reflects a perception that the industry is a significant polluter of the marine environment, using practices that are not sustainable for ecosystems, or the health of the fish that are farmed, or the wild fish or other aquatic life that comes into proximity with "open-net pens," frequently called "feed lots" by their detractors.

In our process, we heard polarized views on the question of social licence. From an industry perspective, the message sometimes seemed to be that social licence depends on industry and regulators staring down the unreasonable opposition and working with those in society who are prepared to have an open mind and to accept the facts. From an oppositional perspective, we sometimes were flatly told that no amount of regulation could solve the social licence problems of an inherently unsustainable industry. But from both perspectives, we also heard many more nuanced opinions that recognized the vital contribution that regulation could make in helping the industry's social licence problem by helping the industry avoid or fix the problems it has encountered in the past.

Our conclusion is that for fin-fish aquaculture to develop in Nova Scotia, the social licence problem will have to be addressed. If the development of fin-fish aquaculture continues in the absence of improved social licence, there is a real possibility that the social licence of aquaculture in general may come into doubt. Already, we see some evidence of that happening. Our process leads us to the conclusion that the social licence problem is deeper than the ineffectiveness and non-responsiveness of the current regulatory framework. But it also leads us to conclude that the social licence issue cannot be addressed unless the effectiveness of the regulatory framework is significantly improved and is seen to be improved in visible and tangible ways.

This does not mean additional levels and layers of regulation and oversight for the purpose of showing an increase in regulation. Even if that approach mitigated the social licence gap, which is unlikely, it would cause other kinds of barriers to the health of the industry. What it does mean, at a

[48] In our draft report, we said, "There seems to be widespread agreement that marine-based fin-fish aquaculture does not currently enjoy high social licence in Nova Scotia or across Canada." The ACFFA stated that this was incorrect because research commissioned by the aquaculture industry shows high support for aquaculture in the communities in which the industry operates and because opinion surveys conducted by Corporate Research Associates shows that the majority of Nova Scotians support the expansion of salmon farming. We do not agree that this shows our original statement was incorrect, but we do accept that it was worded too broadly. Meanwhile, given all that we heard in our process, including from most of those we spoke to from the industry, we can and do conclude that the industry has a social licence problem. What differs is what people attribute this problem to, as we indicate in the following sentences. For some, it is the conduct or track record or business model of the industry. For others it is because of well-financed ideological campaigns of opposition and/or weak or inconsistent government policy or decision making.

minimum, is regulation that deals directly and responsively with the real and legitimate issues that the industry must address if it is to enjoy better social licence.

We think, however, that Nova Scotia should aim higher than the minimum. Our mandate asked us to consider the regulation of aquaculture in light of the *Environmental Goals and Sustainable Prosperity Act*[49] and the priority it places on development that is sustainable because it integrates economic, social and environmental aspirations. In that context, we propose below that one of the goals of the new regulatory framework should be to contribute to a Nova Scotia brand of sustainable aquaculture that produces the highest-value products for the lowest possible environmental impact while maximizing social value.

3.3 Discretion

All regulatory frameworks give discretion to the regulator. In complex regulatory frameworks that govern the conduct of an industry, it is typical for the regulator to be given considerable discretion by the legislation that implements the framework. This is essential to the ability of regulators to deal with variations among the nature, scale and context of the activities that are regulated. It is also essential to the ability of the regulatory framework to evolve and change to reflect changing conditions driven by economics, technological innovation, new scientific knowledge or changing social values.

There is, however, a balance to be struck between the extent of the reliance on discretion and the laying out of the basic elements of the regulatory framework in legislation, whether it be in the statute enacted by the legislature or in the regulations that get made as authorized by the statute. Too much reliance on discretion can mean that the regulatory framework is little more than the sum total of the specific decisions made by the regulator. This is a problem on multiple levels. Regulators are provided with little guidance in how they are to carry out their work. Regulated businesses can be unsure of what is expected of them and uncertain of when and how those expectations will change. The protection provided to the people and the values the regulations are intended to protect can be uncertain and variable. Most broadly, there can be a concern that the framework is delegating not just administrative but law-making authority to regulators without making them subject to the kinds of transparency and accountability generally applied to law-making.

Our conclusion is that the regulatory framework currently in place under the *Fisheries and Coastal Resources Act*[50] and Regulations is too heavily dependent on regulatory discretion.[51] We believe that a number of the concerns we heard from communities and from industry about the current

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[49] SNS 2012 c 42.

[50] SNS 1996 c 25; as amended by SNS 1999 c 2; as amended by SNS 2001 c 6, s 108; as amended by SNS 2005 c 50, s 1; as amended by SNS 2010 c 51; as amended by SNS 2012 c 22 [hereinafter "SNS 2012 c22"].

[51] This conclusion is also reached by ECELAW, which recommends that "government regulators should consider establishing a regulatory framework for aquaculture that reduces Ministerial discretion, providing a more consistent and predictable regulatory approach" in the report *Aquaculture Regulation in Nova Scotia: Overview of the Regulatory Framework and Considerations for Regulatory Reform*, 22–23. In providing feedback on our draft report, the ACFFA questioned this conclusion, saying it was not supported by evidence and facts. All we can say is it is one of the core conclusions we came too over the course of our mandate, and it is supported by feedback we have received throughout our process from a broad range of stakeholders.

framework are exacerbated by the extent to which the framework operates almost entirely through regulatory discretion. For example, community concerns about the content and adequacy of the rules under which aquaculture operates is understandable given that those rules are overwhelmingly found in the terms and conditions of each operators lease and licence. Similarly, industry concerns about the predictability and dependability of regulatory decision making is partly a result of the open-ended nature of the discretion the legislation gives to the Minister of Fisheries and Aquaculture.

In the regulatory framework we have proposed, regulatory discretion would be limited in various respects. Where discretion necessarily remains, it would be subject to clearer and more specific legislative guidance as to how it is to be exercised.

3.4 Capacity

Throughout our process, a recurring theme was inadequacy of the regulatory resources at the disposal of the DFA to carry out effective regulation. Frequently, it was pointed out that the Department had only a single boat at its disposal and that it often depended on operators for transportation to and from aquaculture sites.

Another aspect of the capacity issue was the dependency of the DFA on the DFO for the science the DFA needs to understand and address the issues that the regulators of aquaculture must address if they are to be "world class."

Our discussions with regulators in other jurisdictions served to confirm the widespread concern about the Department's regulatory capacity. These discussions confirmed that it is not just regulators in jurisdictions such as Norway that have significantly more resources at their disposal but also neighbouring jurisdictions like New Brunswick and Newfoundland and Labrador. We were particularly impressed by what we heard about the level of commitment to building policy, science and regulatory capacity in the latter province, where there seems to be a clear understanding that a strategy to support significant growth in the industry would fail if it were not accompanied by proportionate growth in the capacity of government to regulate a growing industry.

In discussions of regulatory effectiveness, there is tendency to emphasize issues such as the relative merits of different kinds of regulation. For example, a typical debate will be between a model of regulation that requires performance or outcomes (usually supported by industry) and a model of regulation that prescribes the rules that industry must follow and stresses the punishments industry will face when the rules are broken (often supported by environmentalists). While these debates are important, it is equally important to recognize that both kinds of regulation depend for their effectiveness on the level of resources put into their implementation. In fact, in the academic literature on regulatory design and practice, there is growing recognition that adequate regulatory capacity is a foundational, and perhaps *the* foundational, determinant of regulatory effectiveness.[52]

[52] For example, in a report on a comprehensive framework for regulating agriculture, it has been observed that "whilst improved regulatory practices are vitally important, these will only deliver the promised benefits if they sit within an institutional architecture that is efficient, and *if they are appropriately resourced*" – Paul

It follows that a critical component of a new regulatory framework for aquaculture in Nova Scotia is a significant increase in the capacity of regulators to implement the framework. We are not in a position to quantify the scale of the increased capacity required. But we can with confidence say significant increased capacity is needed at least in the following areas: in the number of knowledgeable and experienced regulators in the field, in the equipment available to the officers in the field, in the capacity of the Department in the area of veterinary medicine and fish health and welfare more generally, and in the access of the Department to scientific research capacity.

Our last comment in this regard is that although the required capacity building will entail a cost, it will also represent an opportunity. Through our process, we were struck by the number and range of experts on aquaculture doing world-class work in Atlantic Canada. We were also struck by what we were told by these experts, which was that much of the available research on the impacts of aquaculture has been done on other parts of the world, leaving many unanswered questions about its applicability to Atlantic Canada and to Nova Scotia in particular. If Nova Scotia is serious about building a world-class regulatory framework, it needs to fill these knowledge gaps. It can do so by developing deeper and longer-term collaborations with the scientific community that is already present in the region. If it did so, it would make a major contribution to building that base of expertise and to deriving another layer of economic and social benefit from the industry. Moreover, the results of the collaboration would undoubtedly be research that would be of value not only to regulators but to the industry and its capacity to make environmentally sustainable and socially valuable contributions to Nova Scotia's economy.

3.5 Emphasis on Compatibility with Other Uses

In our process, we heard from a broad range of participants about the compatibility (or incompatibility) of various forms of aquaculture with other uses of public resources, particularly in coastal waters. We heard concerns from industry members who felt that private property owners treat coastal waters as their exclusive domain, refusing to share this public resource with the industry. We also heard from the aquaculture industry that there are many land-based threats to coastal waters that also threaten the aquaculture industry, such as nutrient runoff from agriculture operations, and inadequate sewage treatment.

We heard from some members of the fishing community that they depend on this public resource, and that they are concerned that aquaculture may pose an unacceptable risk to the inshore fishing industry. We heard from tourism operators that they rely on pristine coastal waters to attract tourists to their operations, and that aquaculture is a threat to their industry.

Others see opportunities for collaboration and synergies. We heard from some members of the inshore fishing industry that they see opportunities to combine fishing and aquaculture as a way to diversify opportunities in rural communities. Similar comments were made by some tourism operators, who saw mussel farms as tourist attractions.

In some cases, the divergent views on the compatibility between coastal aquaculture and other uses of coastal waters are a result of scientific uncertainty about the impacts of the various activities,

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Martin et al., *Developing a Good Regulatory Practice Model for Environmental Regulations Impacting on Farmers*, at ix. [emphasis added]

how these activities interact with each other and how they cumulatively affect natural systems. In many cases, however, compatibility is a matter of mutual adjustment and accommodation in the best interest of all. This requires a willingness to engage with one another openly and to look for mutually acceptable solutions that ensure compatibility and maximize synergies.

We were frequently reminded in our process that the waters on which aquaculture is conducted are public waters. We were told that aquaculture had the effect of privatizing the benefit of this public resource by depriving others of its use, particularly those who live in communities close to aquaculture operations. We were also told that the lease payments and licensing fees charged to aquaculture businesses were not proportionate to the value these businesses obtained from using and, in the view of many, damaging, a public resource.

The regulatory framework we have proposed responds to these valid perspectives in multiple ways. It does so keeping in mind that coastal waters do not belong to those to whom they are leased for aquaculture or to those who live in proximity to or are licensed to fish in them. They belong to everyone in Nova Scotia, and it is the responsibility of the government to ensure they are used and managed for the benefit of the people of Nova Scotia as a whole.

3.6 Promoting, Enabling and Using Research

The effectiveness of regulation in aquaculture is greatly dependent on research that allows the environmental and socio-economic impacts to be understood, mitigated and ameliorated where they are negative, and accentuated where they are positive. In our process, we heard quite different views as to whether the current regulatory framework was properly and defensibly grounded on what science and local and traditional knowledge[53] say about the potential impacts of aquaculture, especially of marine-based fin-fish aquaculture. There were frequently asked questions about the capacity of the DFA to apply research evidence in the regulatory process. Often, the context for these questions was the perception that the DFO is doing less aquaculture research than it has historically, making the provincial role in research all the more important.[54] A recurring theme in our conversations with researchers was that what is most needed is research on the interaction of aquaculture with the environment in Nova Scotia, which is different in important respects from the environments in which a lot of the research on aquaculture has been carried out.[55] The result is that on a range of scientific questions for which there is a significant body of research, the research has not been done to confirm the applicability of that research to Nova Scotia.

We think the future effectiveness of the regulation of aquaculture in Nova Scotia will depend on an increase in the DFA's capacity to identify the questions on which it needs research to be done and in its capacity to make regulatory decisions on the basis of its own independent understanding of

[53] There was qualified support at the Roundtable for the recommendation that, "Mi'kmaw traditional knowledge should be used throughout the regulatory process. Processes should be put in place to ensure that research issues are addressed through Mi'kmaw knowledge studies that include land and water use, cultural use and tools to identify indicators." The Roundtable recognized that this is part of a larger process of discussions between the Mi'kmaq in relation to rights and treaty obligations. (Roundtable Final Report, 18)

[54] The representatives of the DFO we met with stated that this perception was a mistaken one.

[55] By this we do not mean that research conducted elsewhere cannot be applied or relied upon. We simply mean that it would be better if the applicability of research conducted elsewhere could be validated by research conducted in Nova Scotia.

the research evidence. In particular, the DFA must take a more proactive role in funding or otherwise enabling research to fill the gaps in the peer-reviewed literature that are relevant to improving the regulation of aquaculture in Nova Scotia's particular environmental context.[56]

One of the areas of research to be given priority should be the interaction between fin-fish operations and lobster in coastal waters.[57] This is one of the compatibility issues of particular relevance to Nova Scotia that is suffering from a lack of sufficient scientific information. Many members of the inshore fishing industry expressed concerns about the impact of fin-fish aquaculture on lobster. Concerns range from displacement of individual fishers from their traditional lobster fishing grounds to contamination of lobster through feed, medication, pest-control products and chemicals used in aquaculture operations, and to the effect of benthic contamination on the abundance of lobster in a given area.

There are some peer-reviewed papers that consider these issues from a social science perspective, assessing when and how the two industries have found ways to coexist in harmony in New Brunswick, for example.[58] There are also peer-reviewed studies that consider the biophysical impact of fin-fish aquaculture on lobster.[59] In addition, there was considerable discussion in our process of a lobster-trap survey study carried out by Louchs and Smith and other members of the Friends of Port Mouton Bay (2014). The study tracks lobster-trap results from local fishers in the Port Mouton area during various phases of a fin-fish operation in the bay. The study concludes that the number of lobster in the vicinity of the fin-fish operation increased during a fallowing period and then decreased when fin-fish operations recommenced.

We heard a number of perspectives on this study, both from scientists who have reviewed the study and from stakeholders who have views on what action should be taken as a result of this study. Some of the scientists who reviewed the study are supportive and view it as a credible study, while others asked serious questions about the reliability of the data, the methodology used to conduct the research and how much weight can be given to a single study, the results of which had not been

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[56] There was partial support at the Roundtable for the recommendation to "develop a process to pose clear research questions to support sustainable management. Make questions available to guide research by students." (Roundtable Final Report, 19)

[57] Participants in the February 10, 2014, Knowledge Roster generally agreed that little research has been conducted about the interaction of fin-fish aquaculture and lobster. Our interpretation of the discussion is that some thought this reflected factors such as the lack of any basis for suspecting that a negative interaction exists, the fact that lobsters are "waste feeders," the healthy and growing stocks of lobster and the observation of lobsters doing well in close proximity to salmon and other fin-fish farms. Others were of the view that the research hasn't been done because there is simply not enough known about how lobster and aquaculture interact to prompt research interest, or simply because the interaction between aquaculture and lobster has not been given priority in research.

[58] See Bradley B. Walters, "Competing use of marine space in a modernizing fishery: salmon farming meets lobster fishing on the Bay of Fundy," *The Canadian Geographer* 51(2) (2007): 139–59; and Melanie G. Wiber et al., "Impact of aquaculture on commercial fisheries: fishermen's local ecological knowledge," *Human Ecology* 40(1) (2012): 29–40.

[59] A peer-reviewed paper in *Aquaculture*, "Dispersion and toxicity to non-target crustaceans of azamethiphos and deltamethrin after sea lice treatments on farmed salmon, *Salmo salar*," found "no substantive effect after the treatment solution was released," though "longer exposures (48 h) . . . produced toxicity in samples taken up to 850 m from the net pens." (Ernst et al., 104)

published in a peer-reviewed journal when the study was discussed at one of our Knowledge Workshops. Some stakeholders have asked us to dismiss the study outright, while others view it as a smoking gun that warrants shutting down fin-fish aquaculture in coastal waters.

In our view, the study, which has now been accepted for peer-reviewed publication, raises questions about the interaction between fin-fish aquaculture and lobster populations that should not be ignored. They are questions that are particularly important in Nova Scotia, where the lobster fishery is vital to the economy of coastal communities and the province more broadly. The fact that considerable work is left to be done by the scientific community before we will have clear answers to these questions is not a reason for inaction but rather for action that will ensure that this work is undertaken. The Friends of Port Mouton Bay have done tremendous work to try to fill information gaps that are of significant general interest, and it is critical that their work lead to further research in this area. The DFA, with or without support from the DFO, should act to promote this research and to support those who are qualified to undertake it.

Of course, any regulatory system has to function in the face of uncertainty while research to reduce the uncertainty is underway. In the case of the potential impact of aquaculture on lobster and in similar cases of uncertainty,[60] our recommended approach is that the DFA should do the following:

- Identify opportunities to reduce or eliminate the source of the risk where this can be reasonably done through changes in the operation of fin-fish aquaculture (for example, as set out elsewhere in the report, by eliminating the use of chemical anti-fouling agents).
- Where risks cannot be readily eliminated, proceed with a clear understanding that there is an unknown risk associated with the operation, and make the quantification of the risk a priority through specific monitoring and research efforts.
- Ensure that the scale of development and regulatory oversight are in line with the risk involved, by supporting incremental development and by retaining the ability to adjust to new information expected from the additional monitoring and research.

In providing feedback to our draft report, the Ecology Action Centre (EAC) expressed concern that we had said very little about climate change. This reflects the fact that we heard much less about this significant issue than we did about the many issues we have addressed more extensively. We have noted, however, the relevance of climate change to the operation and evolution of the proposed regulatory framework in several areas, including the classification of coastal areas for suitability for fin-fish aquaculture. This said, we agree that the relationships between climate change and aquaculture, particularly in the context of coastal conditions in Nova Scotia, is another area in which research will be very important to ensure that the regulatory framework operates and evolves in accordance with evidence.

[60] There was qualified support at the Roundtable for a recommendation to "support evidence-based regulatory decision-making" with "continuing research supported both directly by the Province and industry, and through federal-provincial partnerships." Areas of research identified include the impacts of aquaculture on lobster, the impacts of escaped salmon and of ISA on wild stocks, and the impacts of sea lice. The Roundtable noted that research should not be limited to these areas and additionally targeted knowledge gaps identified by the Knowledge Roster. (Roundtable Final Report, 19)

3.7 Regional Cooperation

We heard about regional cooperation from a number of the regulators we met with from Nova Scotia, New Brunswick, Prince Edward Island and Newfoundland and Labrador. The existing Regional MOU is clearly a step in the right direction in this regard. It is important to note, however, that there are likely to be limits to regional cooperation. Prince Edward Island, for example, has a very different regulatory system and a differently structured industry that operates in different biophysical conditions. It is not surprising therefore that the industry and its regulation have developed differently in PEI. New Brunswick's industry is much more geographically concentrated than Nova Scotia's, is perhaps less diverse and is operating at a larger scale than in Nova Scotia. Newfoundland and Labrador's industry is also quite concentrated geographically, is dealing with very different biophysical conditions and is far removed from Nova Scotia, making cooperation in certain areas more difficult.[61]

We heard from federal regulators about the imperative of improved regional cooperation. There is concern within the CFIA, for example, that the capacity of any one jurisdiction in Atlantic Canada to properly respond to a disease outbreak is inadequate, and building that capacity in each province may be prohibitively expensive given the size of the industry. This issue is explored in more detail below (Sec. 15), but regional cooperation in this area clearly seems warranted.

In our view, regional cooperation more generally is an important consideration to enhance the regulatory process in all Atlantic provinces. However, it should not drive the design and implementation of the regulatory process in Nova Scotia. We have recommended a particular approach to the regulation of aquaculture for Nova Scotia that is based on our assessment of biophysical, social and economic conditions in Nova Scotia, provincial priorities as expressed through the *Environmental Goals and Sustainable Prosperity Act* and the One Nova Scotia Report, which may not have the same application or resonance in other provinces.

Nova Scotia should look for opportunities to harmonize where there are common interests and to pursue its own course where interests and priorities diverge. More broadly, it should look for cooperation opportunities as well as harmonization opportunities. Among the areas where regional cooperation would seem particularly critical would be disease control, production of feed, and processing. There are opportunities for regional cooperation in regulatory requirements, branding and marketing, but this would be contingent on other provinces embracing the approach we have recommended in this report.

3.8 Sustained Commitment

Mandating a comprehensive review of the regulation of aquaculture and establishing this Panel to recommend a new regulatory framework represented a commitment on the part of the DFA, and the provincial government more broadly, to significantly improve the regulation of aquaculture in Nova Scotia. As a Panel, we were mandated to recommend a "world class" regulatory framework,

[61] For more analysis of the differences in the regulation of aquaculture among the Atlantic provinces, see ECELAW's report *Comparative Analysis of Five Aquaculture Regulatory Frameworks in Canada* (which also includes British Columbia). The report can be accessed on our website, under "Updates."

drawing on the ideas in the *Environmental Goals and Sustainable Prosperity Act*[62] and from the example of leading jurisdictions in the regulation of aquaculture. We were specifically mandated to conduct an open and transparent process.

Our impression was that, in general, people who participated in our process appreciate the opportunity the DFA had created for an open, transparent, independent and fundamental review of the regulatory system. There was, however, a good deal of scepticism expressed as to whether our work would be one more report left to gather dust once the focus on improving the regulation of aquaculture dissipated after our process had run its course. Some even suggested that the motivation of government in establishing the Panel was not really to improve the regulation of aquaculture but to defuse the opposition to the expansion of the marine-based fin-fish industry.

It will be critical that the commitment to improving regulation of the aquaculture industry that was exhibited in the creation and mandating of the Panel be maintained as the issue becomes the implementation of the framework we have proposed. Good regulation obviously depends on the design or architecture of the regulatory framework, but it depends equally on the diligence, commitment and effort with which it is implemented and operated on a continuing basis.

We have made a number of recommendations that will help to ensure that the commitment and the momentum for improvement is maintained through the process of implementation. For example, we have called for a new culture of regulatory openness and transparency that will, if adopted, help to keep the DFA accountable for acting on our recommendations or for explaining why our recommendations have not been adopted or effectively implemented. We have also recommended the creation of an ongoing Regulatory Advisory Committee both to monitor the implementation of the proposed framework and to contribute to its development and implementation on a continuing basis. We have also recommended the creation of a formalized mechanism through which the DFA would access the knowledge and research capacity of the broader knowledge community outside of government to ensure that the development and implementation of the framework is evidence-based.

In the end, the crucial question will be whether the DFA and its leadership remain committed to the essential goal of improved regulation through the creation of a new regulatory framework. The broader and equally important question will be whether the DFA is supported by the broader government in moving forward with the implementation of the framework, which will require an increase in the resources the DFA has to work with.

4. COASTAL PLANNING

We were asked by some participants in our process to recommend an integrated coastal planning process as a necessary context for making siting decisions for aquaculture operations in coastal

[62] SNS 2007 c. 7, as amended by SNS 2012 c. 42.

waters.[63] Recommendations for integrated coastal planning and for integrated coastal management have been made before, including in the 2007 report of the Joint Review Panel for the Whites Point Quarry project in Digby Neck.[64] Other participants were strongly opposed to linking the regulatory system for aquaculture to coastal planning. The main concern was that comprehensive and integrated planning processes can take a long time and yet fail to produce a comprehensive plan for coastal development and protection. A number of participants in our process had previous experience with the Eastern Scotian Shelf Integrated Management (ESSIM) process, which was led by the Department of Fisheries and Oceans, and expressed frustration about the effort and time involved, and the fact that in the end the results were not implemented. Others reminded us that previous efforts to develop a comprehensive provincial strategy have not been successful.[65]

Clearly, an up-to-date integrated coastal plan for Nova Scotia that comprehensively considers biophysical, social and economic factors and includes a plan for the most effective long-term use and protection of the coastal zone would be a valuable tool for the regulation of aquaculture. It would be valuable both for proper site selection and for considering how aquaculture fits with current and potential future uses of the coastal area in question.

We have therefore concluded that an integrated coastal plan for Nova Scotia would be a very useful tool that could do much to improve the efficiency, effectiveness and fairness of the regulatory process. At the same time, we are not in a position to determine what time and resources would be needed to complete such a process successfully, particularly given that it would ideally have the support of all levels of government. While a coastal planning process would be very helpful to the regulatory process, we cannot predict whether or when such a process would yield results, or what the content of such a planning process would be. We have therefore decided to design the regulatory framework for aquaculture in the absence of a coastal plan. If such a plan is developed in the future,[66] certain aspects of the regulatory process could be significantly streamlined.

Because we are assuming that there will not be a coastal plan in place for the foreseeable future, we have identified other ways for regulators to determine how aquaculture fits with other current and

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[63] For example, the Ecology Action Centre made a submission arguing that coastal planning should be regarded and carried out as a foundation for the regulation of aquaculture.

[64] This report is available at www.ceaa.gc.ca/B4777C6B-docs/WP-1837_e.pdf

[65] At the Roundtable, there was vigorous discussion of a recommendation that "the province together with federal partners should, within a reasonable period of time, develop an overall coastal planning process to address the location of aquaculture operations in the context of environmental suitability and other marine resource uses." In the end, the recommendation received only partial support by the "narrowest of margins." An alternative, that the province should collate existing coastal planning information and make it publicly available to assist with decision making regarding aquaculture siting, likewise received only partial support. The recommendation that "Improvements to the aquaculture regulatory system should proceed in a timely fashion, independent of progress made with developing a coastal planning framework" received qualified support. (Roundtable Final Report, 12)

[66] There was partial support at the Roundtable for a recommendation that "the Bras d'Or Lakes would be a suitable location for a pilot coastal planning project in consultation with First Nations. The existing Bras d'Or Lakes Collaborative Environmental Planning Initiative (CEPI) could provide valuable information and input into this process." There may be other areas suitable for pilot coastal planning projects as well, such as the Bay of Fundy, and there may be other ways to move coastal planning forward. (Roundtable Final Report, 13)

future uses of a given coastal area.[67] One is the strategic assessment process we have recommended as one of the processes for determining Green, Yellow and Red areas for siting aquaculture operations. Other processes that can help fill the gap left by the absence of a coastal plan include our proposed Regulatory Advisory Committee and the potential revival of Regional Aquaculture Development Advisory (RADA) Committees, or the creation of a new forum to facilitate comprehensive planning around aquaculture at the local level. Our understanding is that the RADA committees were either led or supported by DFO but that they are now no longer used. In our view, it would be ideal if they could be reactivated by the DFA and the DFO working in collaboration with each other and interested municipalities for communities in which such a process could serve a useful purpose of integrating the development of aquaculture into other local planning processes. Even if the participation of the DFO cannot be secured, the DFA should consider whether a similar kind of process could play a useful role either in conjunction with the strategic assessment process we recommend for assessing the potential of coastal areas for community-supported aquaculture or independently of strategic assessment.

5. GOALS OF THE REGULATORY FRAMEWORK

Regulation should have clear goals. This helps to ensure that it is conducted with a shared understanding of its objectives. It helps to ensure that each element of the regulatory framework is designed and administered to contribute to the accomplishment of the framework's overall goals. It provides guidance to regulators as to how they should exercise their discretion. It gives business a better understanding of what the regulatory process is trying to accomplish and the opportunity to integrate those objectives into how business is conducted. It helps to ensure that members of the public have a clear understanding of what they can expect of regulators and business, which in turn enables them to better contribute to the regulatory process.

In all of these ways, clear goals can help to ensure that the resources for making, administering and complying with regulations are optimally used. In addition, clear goals facilitate the evaluation of the effectiveness of regulation. Evaluation in turn is critical to improvement of regulation over time.

The *Fisheries and Coastal Resources Act*[68] currently contains a list of goals or objectives. This approach should be retained. The list of goals should, however, be explicitly connected to the regulation of aquaculture. In addition, the list of goals should be more comprehensive and include a number of goals that are more specific than the goals currently found in the Act. The goals of the regulation of aquaculture should be stated to include the following:

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[67] The Roundtable considered a recommendation as an alternative to a more comprehensive coastal planning approach: that "the Province should collate existing coastal planning information and make it publicly available to assist with decision-making regarding aquaculture siting." This recommendation received partial support among Roundtable members. Also of note during Roundtable discussions, it was on the one hand suggested that much of this information already exists and on the other hand cautioned that keeping publicly available inventories of information up to date can be very difficult. (Roundtable Final Report, 13)

[68] SNS 2012 c 22.

a. Ensuring aquaculture is conducted under conditions and in accordance with controls that will protect the environment by preventing significant harm to the environment or to the continuing availability in the short, medium and longer term of unimpaired environmental services to aquaculture and to other users of those environmental services[69]
b. Ensuring equity, fairness and compatibility in access to, and utilization of, public water resources in the coastal zone by aquaculture and other users of the coastal zone
c. Ensuring that the regulation of aquaculture contributes to the productive development of Nova Scotia's coastal resources in the direction of low impact for high value
d. Ensuring that aquaculture is developed and conducted to establish its compatibility with the well-being and prosperity of other sectors of the Nova Scotia economy, including the lobster fishery, the tourism industry and the fly-fishing industry[70]
e. Ensuring that the people of Nova Scotia, including the residents of communities in proximity to aquaculture sites, have opportunities to receive direct and indirect economic and social benefits from the development and operation of the aquaculture industry that are proportionate to the value of the public water resources and the environmental services utilized by the aquaculture industry[71]
f. Ensuring that aquaculture is developed and conducted with due regard to the health, well-being and recovery of the wild Atlantic salmon population in Nova Scotia rivers as well as any endangered species that may be affected by aquaculture operations[72]
g. Ensuring that members of the public have meaningful opportunity to be informed about and to participate in the regulatory process, including early notification of proposed aquaculture operations, proposed expansions of existing sites and proposed transfer of ownership of existing sites[73]
h. Ensuring that the regulation of aquaculture is attentive to the developmental plans, objectives, needs and priorities of local communities

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[69] This goal is closely related to two of the guiding principles suggested by the Roundtable for the regulatory framework: that it "ensure the maintenance of long term ecosystem health in the areas where aquaculture takes place" and that it "ensure that the net environmental impact of an aquaculture operation, from start-up to decommissioning, does not exceed the ecological carrying capacity of its location." Both received unanimous support from the Roundtable. We agree with both of these recommendations but think they are better understood as different ways of expressing a critical goal of the framework than as one of the principles to be followed in the pursuit of that and other goals.

[70] The Roundtable proposed a guiding principle with unanimous support that the regulatory framework should "prevent or minimize negative impacts on other marine resource industries and users." Again, we agree with the recommendation but think it works better as a goal of the framework than as one of its guiding principles. (Roundtable Final Report, 7)

[71] This proposed goal is roughly similar to the guiding principle suggested by the Roundtable that the regulatory framework "deliver net benefits, which can include environmental, economic or social benefits, to Nova Scotia." (Roundtable Final Report, 7)

[72] This goal was interpreted by the ACFFA as making aquaculture responsible for recovery of wild Atlantic salmon and other endangered species. That is not the intent. Rather, the intent is to ensure that the industry does not adversely affect wild salmon or endangered species.

[73] There was qualified support at the Roundtable for a similar guiding principle, which states, "Include public input and local knowledge throughout the regulatory process." (Roundtable Final Report, 7)

i. Ensuring that the regulation of aquaculture supports the efforts of the Nova Scotia aquaculture industry to develop and grow through innovation and through the adoption of aquaculture and business practices that combine business success with higher environmental performance[74]

j. Ensuring that regulations are achievable, contain incentives for compliance and can be enforced[75]

k. Ensuring that the regulation of aquaculture in Nova Scotia is efficient, timely, dependable, predictable and affordable for both taxpayers and businesses[76]

More generally, the underlying concept of the regulatory framework should be that strong regulations make for a stronger industry.[77] Here, it is relevant to reiterate our view that, for aquaculture, the *Environmental Goals and Sustainable Prosperity Act* should be interpreted and applied to mean that the industry should be regulated on the basis that Nova Scotia's objective is to host an industry that creates the highest-value products with the lowest possible environmental impact, while maximizing social value. Put somewhat differently in the context of our mandate to recommend a world-class regulatory framework, the ultimate regulatory goal is for the regulatory framework to contribute to and support Nova Scotia's development as a world leader in low-impact aquaculture and to market this success so that Nova Scotia exports can achieve the highest possible value in the marketplace.[78]

These objectives should apply to all forms of aquaculture, and they should guide the development, application and evolution of the regulatory system developed for the industry.

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[74] A guiding principle with some shared elements received partial support from the Roundtable. (Roundtable Final Report, 8)

[75] This was proposed by the Roundtable as a guiding principle with unanimous support. We think it fits better here as one of the goals of the regulatory framework (Roundtable Final Report, 7). The ACFFA expressed concern that a regulatory framework that contained "incentives for compliance" would undermine rather than decrease public confidence and add discretion to the regulatory system. We think this concern can be addressed if incentives for compliance are structured and applied in accordance with the open, transparent and accountable regulatory framework we have proposed. Moreover, we think a good regulatory system includes carrots as well as sticks.

[76] See the Australian Farm Institute's report, *Developing a Good Regulatory Practice Model for Environmental Regulations Impacting on Farmers* (Martin et al.) for a more thorough discussion of the role of well-designed and implemented regulatory measures in the profitable and sustainable operation of businesses. See also the OECD's "Principles for Regulatory Quality and Performance" for a discussion of efficient and effective regulators, and how "good regulatory outcomes depend on more than well designed rules and regulations." (p. 2)

[77] Stefan Ambec, Mark Cohen, Stewart Elgie, and Paul Lanoie, The Porter Hypothesis at 20: Can Environmental Regulation Enhance Innovation and Competitiveness? (Resources for the Future, 2011).

[78] We have adjusted the wording here to reflect the reality that the regulatory framework cannot accomplish this economic objective but only contribute to it. To that extent, we agree with the feedback we received on this point from the ACFFA, although we do not agree with its view that this is not a regulatory goal at all. We also think the *EGSPA* is based on this understanding of the role between regulatory and economic goals.

6. GUIDING PRINCIPLES

In addition to clarity on goals, a regulatory framework should be clear on the principles that have guided the development of the framework and that will guide its continuing evolution and its administration. Such principles do not supersede the specific content of the regulations. They do not give regulators the authority to ignore specific regulatory requirements. Rather, they form the backdrop to the operation of the regulatory framework and inform how it is interpreted and applied to specific situations where there is room for legitimate questions as to how it should be interpreted and applied.

The relationship between guiding principles and goals can be a source of confusion. One of the goals of a regulatory framework can be that it operate in accordance with its guiding principles. Conversely, the guiding principles can be stated to include attributes that can also be stated as goals. Our approach is to think of the goals of the framework as the high-level outcomes that the framework is designed and administered to achieve. The guiding principles are the attributes the regulatory process should live up to while those high-level outcomes are being pursued.

Principles that would be relevant to regulation in general (including aquaculture) can be differentiated from principles that are specific to regulation in a particular sector (like aquaculture). The list that follows is a combination of these two kinds of principles. In general terms, generic principles relate to issues of regulatory design and administration that arise in all or most regulatory contexts, whereas principles specific to a sector relate more closely to the objectives of regulation in that sector.

There are many lists of "good regulation principles" available from other settings or jurisdictions.[79] Although there is considerable overlap between them, there is no list that is universally accepted as the right or best list. The differences between lists can be of a technical nature, but they can also reflect a difference in understanding of the purpose of a list of regulatory principles. While some lists are weighted toward ensuring the effectiveness of the protective function of regulations, others are weighted in favour of avoiding or minimizing regulations' adverse impact on business and the markets. In general, lists weighted in favour of protection are lists specific to particular fields of regulation, whereas lists weighted in favour of minimizing the adverse impact of regulation on business are lists developed to apply to regulation in general.

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[79] Examples include: "OECD Principles for Regulatory Quality and Performance," in OECD, Regulatory Policy and Governance: Supporting Economic Growth and Serving the Public Interest.

OECD, *Governance of Regulators*, which "seeks to develop an overarching framework to support initiatives to drive further performance improvements across regulatory systems in relation to national regulatory bodies or agencies (*regulators*)," at p. 2.

Better Regulation Task Force, *Principles of Good Regulation*, which sets out the five principles of good regulation that have been used by regulators in multiple sectors in the UK: proportionality, accountability, consistency, transparency, and targeting.

Victoria State Services Authority, *Review of the Rationalization and Governance of Regulators*, which is singled out for praise on regulatory principles by the OECD.

Paul Martin et al., *Developing a Good Regulatory Practice Model for Environmental Regulations Impacting on Farmers*, in particular the discussion in Appendix 1 of regulatory principles (pp. 27–28).

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The list that follows includes the principles that appear on a number of other lists plus a number of the guiding principles proposed to us by the Roundtable. We have reflected on the literature on regulatory principles, the experience of other jurisdictions (including Nova Scotia), the advice we have received from the Roundtable and all that we have heard in our consultations with Nova Scotians and others, to conclude that the regulatory framework for aquaculture in Nova Scotia should be based on the following principles:

a. **Effectiveness** – The foundational regulatory principle is effectiveness. Effectiveness in serving regulatory objectives must be the core consideration in the design, implementation and enforcement of a regulatory framework. Clarity on the broad objectives of the framework as a whole and on the more specific objectives of individual elements of the regulatory framework is therefore critical.[80]

b. **Openness** – This principle is often included with transparency. We think it should be separately identified because it emphasizes that the regulatory process should not just be transparent to those outside of it but participatory and inclusive of those who have interests that the regulatory process could affect. At the Roundtable, there was qualified support for a guiding principle to "include public input and local knowledge throughout the regulatory process."[81]

c. **Transparency** – Transparency is one of the principles that appears on most lists of regulatory principles.[82] The Roundtable concluded that one of the guiding principles of the regulatory framework should be to "Provide for transparency throughout the regulatory cycle."[83] The perceived lack of transparency in how aquaculture has been regulated to date was one of the concerns raised most consistently during our consultations.[84]

d. **Accountability** – Generally, this principle calls for accountability from regulators, both to those directly affected by their decisions and to the broader public that pays for regulation and either does or does not benefit from it depending on how it is implemented. One aspect of this principle is that there be clarity (transparency) on who makes what decisions and on what basis. Another aspect calls for accountability on the overall success of the regulatory process in achieving progress toward its goals and the costs to government and business for that success. So understood, this principles overlaps with one of the guiding principles suggested by the Roundtable – that there be "clear roles, responsibilities and accountability."[85]

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[80] The Roundtable gave unanimous support to several related guiding principles, including "Numerical Requirements included in indicators, standards and thresholds should have clear justification" and "Ensure that regulations are achievable, contain incentives for compliance and can be enforced." There was also qualified support for a recommendation to "Improve regulatory certainty." (Roundtable Final Report, 7)

[81] See Roundtable Final Report, 7.

[82] See, for example, the OECD's *Governance of Regulators* paper.

[83] This guiding principle received unanimous support from the Roundtable. (Roundtable Final Report, 7)

[84] This concern was analyzed and discussed in ECELAW's report *Aquaculture Regulation in Nova Scotia*. The report concludes that "an informed citizenry is key to . . . ensuring an industry that is sustainable both economically and environmentally." (p. 11)

[85] This guiding principle received unanimous support from the Roundtable. (Roundtable Final Report, 7)

e. **Proportionality** – Regulation should be proportionate to the risks it seeks to control. Higher risks should be more heavily and aggressively regulated, whereas lower risks should attract less attention and effort, even though they may be serious to those who could be affected by them.[86] The idea is to calibrate regulatory effort to the relative seriousness of risk to prevent over-regulation of smaller (less serious) risks and under-regulation of higher (more serious) risks. Proportionality is also concerned with ensuring that the costs imposed by regulation on business are proportionate to the seriousness of the risks that regulation is controlling.[87]

f. **Integration** – The Roundtable proposed that the regulatory framework should recognize that "the health of the economy, the environment and the people are interconnected" as one of its guiding principles. We agree. Building such a principle into the regulatory framework for aquaculture is consistent with our mandate, which was to make recommendations "in light of the best long-term environmental, social and economic interests of the province, in accordance with priorities, principles, and interests as articulated in relevant Nova Scotia legislation, including the *Environmental Goals and Sustainable Prosperity Act.*" The objective of this legislation is to guide environmental policy, and public policy more generally, to make it more supportive of development that is sustainable, because this serves economic, environmental and social objectives. In this legislative context, it is appropriate to include a guiding principle that recognizes the interconnectedness of the economy, the environment and society in the regulatory framework for Nova Scotia's aquaculture industry.

g. **Precaution** – The Roundtable proposed that the regulatory framework should "embody the precautionary principle as defined in the Rio Declaration on Environment and Development, 1992: 'Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.' "[88] This is the definition of the principle already in the *Environment Act*,[89] and we agree that precaution should be an explicit part of the regulatory framework for aquaculture.

   We think, however, that it should be thought to have a broader application in this context than the precautionary principle is often interpreted to have. Often in discussions of the principle, it is assumed that its only application is to the decision of whether to allow an activity to happen or to continue. Given the nature of the aquaculture industry, its current state of development, and the degree of uncertainty about its impacts on the receiving environment, we feel that a more general application of a precautionary approach is warranted.[90] We use the term "precautionary approach" deliberatively, because it signals an

[86] The level or severity of a risk (harm) is a function of the probability of its occurring multiplied by the potential impact of the risk in the event that it occurs.

[87] Two of the guiding principles that received qualified support at the Roundtable are related to proportionality. The first is a principle to "avoid undue regulatory burden on smaller operations while staying within the limits of environmental carrying capacity." The second is the principle to "address issues of regulatory equity between aquaculture and other industries." (Roundtable Final Report, 7)

[88] This guiding principle received unanimous support from the Roundtable. (Roundtable Final Report, 6)

[89] SNS 1994–95, c 1, s 2(b)(ii).

[90] There was partial support at the Roundtable for the recommendation that "the precautionary approach should be employed when data is limited or absent." Due to time constraints, the Roundtable was unable to

> 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. This does not mean, of course, that there will not be circumstances where a precautionary approach suggests no development, such as in case of clear conflict with the recovery of endangered species. Instead, it means that the precautionary approach continues to apply where development is permitted, in shaping the terms and conditions under which the approval for development is given as well as the ongoing regulation of the approved site. Our point also is that the precautionary approach should not be thought of as relevant only or even primarily as a free-floating guiding principle that applies only where the regulatory framework does not deal specifically with an issue or question. 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.

This proposed list of guiding principles does not include all of the guiding principles proposed by the Roundtable. It also does not include a number of regulatory principles that have been proposed in the academic and policy literature or that have been incorporated into the regulatory principles adopted in various jurisdictions. We think, however, that to be useful a list of guiding principles needs to be relatively manageable and that a list with more than seven guiding principles is likely to become unwieldy and unhelpful. In addition, our list of seven principles covers much of the ground that is covered by most lists of regulatory principles. They are also, in our opinion, the seven principles that are most important and responsive to the improvements needed in the regulation of aquaculture in Nova Scotia.

Further, it is to be noted that many of the guiding principles suggested by the Roundtable but that we have not included in our list of guiding principles are addressed in our proposed list of goals for the regulatory framework. The same can be said for a number of the regulatory principles found in the literature that we have not included in our list of guiding principles. A number of these are encompassed by two of the proposed goals: "Ensuring that regulations are achievable, contain incentives for compliance and can be enforced"[91] and "Ensuring that the regulation of aquaculture in Nova Scotia is efficient, timely, dependable, predictable and affordable for both taxpayers and businesses."

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fully discuss the difference between the precautionary principle and the precautionary approach (Roundtable Final Report, 19). See also the ECELAW report *Aquaculture Regulation in Nova Scotia*, at pp. 7–8 in particular, for more discussion of the precautionary approach and its specific application to aquaculture in Nova Scotia.

[91] As a guiding principle, this goal received unanimous support from the Roundtable. (Roundtable Final Report, 7)

7. ROLE OF AND COOPERATION WITH FEDERAL REGULATORS

7.1 Background

The DFO plays a range of roles in the regulation of aquaculture across the country. In British Columbia, it is the primary regulator of aquaculture pursuant to a court ruling that aquaculture in that province fell under federal fisheries jurisdiction.[92] The DFO regulates aquaculture in BC through regulations made under the *Fisheries Act.*[93] Under these regulations, the federal Minister of Fisheries plays the same role in licensing as provincial ministers for fisheries and aquaculture play in most other provinces.

Another model is found in Prince Edward Island, where the federal Minister of Fisheries is the licensing authority. However, unlike in BC, the federal Minister carries out that responsibility in accordance with an MOU with the province, under which a committee of federal and provincial officials reviews the applications and advises the Minister on whether they should be granted or refused and on all associated matters, such as the terms and conditions to be included in licences. The Minister consistently follows the advice of this committee. The regulatory process in PEI can therefore be described as one of federal-provincial co-regulation.[94]

In Nova Scotia, New Brunswick, and Newfoundland and Labrador, the aquaculture industry is comprehensively regulated by the provincial minister responsible for aquaculture, who in each province is the minister responsible for fisheries as well as aquaculture.[95] Under this model, federal regulators participate in the regulatory process largely by providing input to the provincial licensing process. This input can consist of advice or guidance that the province takes into account in its licensing decisions. However, it can also consist of requirements that the federal regulator must have addressed to conclude that the project is going forward in compliance with the requirements of federal law. In this way, federal-provincial MOUs in these provinces can result in a delegation of federal regulatory authority to the provincial level.

Typically, the federal input to the provincial licensing process comes from the DFO and relates to the compatibility of the proposed project with fisheries or fish habitat protected under the *Fisheries Act.*[96] Where applicable, the DFO will also take the *Species at Risk Act*[97] into account in providing

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[92] Morton v. British Columbia (Minister of Agriculture and Lands) [2009] B.C.J. No. 193, 92 B.C.L.R. (4th) 314 (B.C.C.A). See also ECELAW's report Comparative Analysis of Five Aquaculture Regulatory Frameworks in Canada at pages 26–28 for more discussion of this decision. Finally, for analysis of this decision, see Dwight Newman, Natural Resource Jurisdiction in Canada, at pages 156–160, and Neil Craik, "Subsidiarity and Environmental Federalism," arguing that the decision gives inadequate weight to regulatory need for both levels of government to be engaged in the regulation of aquaculture.

[93] RSC 1985, c F-14.

[94] See again ECELAW's *Comparative Analysis* at pages 22–25 for more discussion of PEI's regulatory framework.

[95] Ibid., at pages 9–12 (NS), 13–17 (NB), and 18–21 (NL).

[96] RSC, 1985, c. F-14, and OECD, "Principles."

[97] SC 2002 c 29.

input to the provincial licensing process. The other kind of input received from the federal government comes from the Coast Guard, which is part of the Department of Transport, under the *Navigation Protection Act*,[98] which recently replaced the *Navigable Waters Protection Act*.

Federal regulation also applies to the aquaculture industry in Nova Scotia in more direct ways. For example, the Coast Guard can intervene to address obstacles to navigation or compliance with the terms of a lease that reflect the Coast Guard's requirements relative to navigation. We frequently heard about the applicability of regulations under the *Fisheries Act*, which control the transfer and movement of fish stock between bodies of water or from bodies of water to market. The purpose of these regulations is to prevent the transfer of disease or parasites and to prevent harvesting activities that threaten wild stocks.

We heard from people in the industry their view that federal regulations are sometimes applied to aquaculture in ways that do not reflect the differences between wild and farmed stocks. The example we were given was the application to growers of cocktail oysters, which are deliberately grown to be smaller than other cultivated oysters, of *Fisheries Act* regulations that prohibit the harvesting of small oysters as a means of protecting wild oyster populations.

These examples of direct regulation of the industry by federal regulators notwithstanding, the core feature of the relationship between the federal and provincial governments under the MOUs in place in each of these provinces (as opposed to PEI) is that federal regulators seek to achieve their regulatory objectives primarily through their contributions to the provincial licensing process. From an industry perspective, the advantage here is that the regulatory process is more coordinated and streamlined than it otherwise might be. Comparable coordination and streamlining could presumably be achievable by adoption of the BC model, under which the DFO is the comprehensive regulator of aquaculture, but this might reduce the responsiveness of the regulatory framework to Nova Scotia's specific conditions. In addition, different arguments on the jurisdictional limits of the two levels of government than those considered in BC[99] would arise in the Nova Scotia context. Finally, representatives of the DFO were very clear in our meeting with them that the DFO is not interested in becoming the comprehensive regulator of aquaculture in Nova Scotia.

The Canadian Food Inspection Agency (CFIA) and Health Canada also play important roles in the regulation of aquaculture. The CFIA is responsible for developing and implementing the National Aquatic Animals Health Program (NAAHP).[100] This program is Canada's response to its obligations as a member of the World Trade Organization (WTO) to implement a program of aquatic animal health that complies with standards issued by the World Organization for Animal Health (WOAH). Under the NAAHP, the mandate of the CFIA is to ensure that wild and farmed aquatic animals are protected from the introduction of infectious diseases from other countries as well as from movement of diseases within Canada. The website of the NAAHP states, "Although the aquatic animal pathogens regulated by the NAAHP pose no health risk to humans, they can be

[98] RSC 1985 c N-22.

[99] See the *Morton* decision, as well as the analysis of it in Newman and in Craik.

[100] The program is explained at http://www.dfo-mpo.gc.ca/science/aah-saa/National-Aquatic-Animal-Health-Program-eng.html.

potentially devastating both economically and ecologically to wild fisheries and aquaculture operations." It goes on to say,

> The NAAHP enables Canada to certify fish and seafood exports free of pathogens of international importance and to require similar health certification from countries wishing to export fish and seafood to Canada. This prevents the transfer of pathogens of international concern from Canada to other countries, but also protects Canada from the introduction of pathogens not found here.

According to feedback we received from the CFIA on our draft report, the exports certified by the CFIA pursuant to the NAAHP are "live aquatic animals and their germplasm as well as a wide range of aquatic animal products for many various end uses including aquaculture, feed production, bait, stocking and enhancement." The CFIA certifies the health status of Canadian aquatic animals "on the basis that it is considered the Competent Authority for aquatic animal health and has the regulatory framework to meet international standards which include surveillance, and early detection system (mandatory notification) as well as control of international imports." The diseases kept under surveillance and control under the NAAHP are not limited to those that have been identified to be of international importance but also include diseases Canada has decided to control.

The implementation of the NAAHP depends on the operation of a comprehensive system of surveillance for the pathogens included on the lists of reportable and notifiable diseases established by the CFIA. This system of surveillance must satisfy the CFIA. In the Nova Scotia aquaculture industry, a central part of the system of surveillance is the role the provincial veterinarian plays as both the provider of veterinary services to the industry and the regulator of the industry on matters relating directly to the health of farmed fish.

Two branches of Health Canada also play a regulatory role in aquaculture. The Pest Management Regulatory Agency (PMRA) decides which pesticides may be used in Canada. Like other industries, aquaculture is prohibited from using pesticides not approved for use in Canada by the PMRA. The Veterinary Drugs Directorate (VDD), which is part of the Health Products and Food Branch of Health Canada, decides which drugs may be used in treating or preventing illness and disease in food-producing animals. Like farming, aquaculture cannot use drugs that are not approved for use in Canada by the VDD.

The provinces also have jurisdiction over aspects of the regulation of the use of pesticides and veterinary drugs. In Nova Scotia, approved pesticides must be used in accordance with any regulations that the province adopts or authorizes relating to issues such as permitted methods and frequencies of application, the training that must be provided to applicators, the notifications that must be given before application and the separation distances that must be maintained between the area of application and residences or other activities. Similarly, approved drugs must be used as prescribed by a veterinarian who is licensed to practice veterinary medicine under provincial legislation.

Two other aspects of the involvement of the federal government in aquaculture require mention. The first is that until recently, aquaculture requiring a permit or approval under federal legislation could require, or "trigger," an environmental assessment under the *Canadian Environmental*

Assessment Act.[101] In all cases, this assessment was conducted as a screening-level review by the federal regulator called upon to decide the application for a permit or approval in which the public could participate. Typically, these reviews were triggered under the *Navigable Waters Protection Act*. Under a new version of the *Canadian Environmental Assessment Act* adopted in 2012, federal consideration of aquaculture projects will no longer involve an environmental assessment. Indeed, for practical purposes, this would have occurred even if the *Canadian Environmental Assessment Act* had not been changed, given the replacement of the *Navigable Waters Protection Act* with the *Navigation Protection Act*. Under the latter act, aquaculture projects would in most cases not have triggered an environmental assessment under the version of the *Canadian Environmental Assessment Act* in force until 2012.[102]

The second additional element of the federal role relates to the reliance of provincial regulators on the expertise of DFO scientists and on scientific studies produced by scientists funded or employed by the federal government, and in particular by the DFO. Through our process, we heard frequent concern about the extent to which the federal government and the DFO in particular are perceived to be reducing investment in the science that policy makers need, to better understand the impact of aquaculture (and the impact of the environment on aquaculture), and that regulators need to improve their regulation of aquaculture. In our meeting with the DFO regulators, we were strongly assured that these concerns were unfounded, and we were told that the DFO has actually received increased funding to work on the science needed for effective regulation of aquaculture.

7.2 The Vital Importance of Intergovernmental Regulatory Collaboration

It was not within our mandate to consider if jurisdiction over the regulation of aquaculture in Nova Scotia should or can be reallocated. Nevertheless, it is obvious that one of the difficulties to be addressed in developing an effective regulatory framework is the division of regulatory authority between federal and provincial regulators.

Conceptually, there are two kinds of solutions to this problem. One is for either the province or the federal government to become the exclusive regulator. The other is for the two levels of government to effectively collaborate in carrying out their respective functions to ensure that the regulation of aquaculture is as coordinated and seamless as it can be when part of it is provincial and part of it is federal.

The first option may not be available for legal or practical reasons. Given the nature of the relevant competing jurisdictions, it could only be achieved by having the DFO become the lead and comprehensive regulator of aquaculture, as it has in British Columbia. However, it is not clear whether the DFO would have the same jurisdictional authority to do so in Nova Scotia. This is because it cannot be assumed that the *Morton* decision would be followed if the question of jurisdiction over aquaculture in Nova Scotia's coastal waters were brought before the courts.

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[101] SC 2012 c 19, s 52.

[102] In some of the feedback we received from the industry on our draft report, we were told that environmental assessment for aquaculture was discontinued – under the *Canadian Environmental Assessment Act* before the Act was changed and before the *Navigable Waterways Protection Act* was replaced by the *Navigation Protection Act* – on the basis of a determination that aquaculture did not in general warrant environmental assessment.

Moreover, it does not appear to us that the DFO wants to take on the same role in Nova Scotia that it has British Columbia.[103]

Moreover, a wholesale federalization of the regulatory framework may not be desirable from Nova Scotia's perspective. The responsiveness of the regulatory framework to Nova Scotia's specific conditions might be reduced. In addition, Nova Scotia would lose the opportunity it currently has to make effective regulation of the industry part of a broader strategy to develop the industry in accordance with Nova Scotia's own economic, environmental and social objectives. Third, the opportunity to integrate regulation of aquaculture with other processes of coastal resource planning and management that are fully within Nova Scotia's jurisdiction could be lost or impaired.

The second option – regulatory collaboration – only addresses the complications that arise from the division of regulatory responsibility between the two levels of government if regulatory collaboration between provincial and federal regulators is a central element of the regulatory framework for both levels of government. The vehicle Nova Scotia and Canada currently use to coordinate their regulatory activities is an MOU. We heard many positive things about the working relationships that exist under this MOU. Nevertheless, our conclusion is that it may not be achieving the level of coordination and collaboration that can be achieved or that is needed for optimal regulatory effectiveness.

From an industry perspective, we heard concerns about the number of regulators, regulatory processes and regulatory requirements the industry must deal with. From a broader regulatory effectiveness perspective, we heard concerns that perceived weaknesses in the current regulatory process were linked to the way jurisdiction over the regulation of the industry is currently divided and managed. For example, some of those who expressed concern that regulation is not sufficiently informed by or grounded in science also expressed the view that this is because the regulatory process is largely in the hands of the province rather than in the hands of the DFO. As another example, the view that the regulatory process lacks rigour was often linked with the view that it lacks rigour because it is in the hands of the province rather than the federal government. This interpretation flows from the perception that the province is not equipped or resourced to regulate rigorously and, in any event, may be too close to the industry to be willing to do so. The representatives of the DFO we met with did not question the will or regulatory capacity of the province, but they did state unequivocally that the growth of the industry depends on public confidence that the industry is being properly regulated.

Our own analysis leads us to a related but distinct concern – that issues that may require regulatory attention might not receive that attention because they are being allowed to fall through the cracks

[103] See the new proposed *Aquaculture Activities Regulations*. For some information on these proposed new regulations, see http://www.gazette.gc.ca/rp-pr/p1/2014/2014-08-23/html/reg1-eng.php and http://www.dfo-mpo.gc.ca/aquaculture/management-gestion/aar-raa-proposition-eng.htm. Our reading of these proposed regulations is that they will mean that the DFO may now generally treat compliance with provincial approvals of aquaculture as determinative of the compliance of the approved aquaculture with the *Fisheries Act*. If this is an accurate understanding, it emphasizes the importance of the point we make below, that the DFA must take full responsibility for ensuring that its regulation of aquaculture addresses all of the adverse impact that aquaculture might cause, including on matters within federal jurisdiction but which the federal government is leaving to the province.

between federal and provincial regulatory responsibility. This may be because of the tendency of the province to regard certain regulatory issues as more exclusively federal than they actually are.

For example, one of the frequently expressed concerns about aquaculture activities is the impact they can have on commercial and residential boating. The federal government has jurisdiction over navigation, and the province is bound by any limitations the federal government places on aquaculture to address navigational concerns. But there is no constitutional impediment to the province imposing additional limitations to address concerns about navigation that are not addressed by the federal government. The same can be said about the role of the limitations the DFO places on aquaculture to protect wild fish stocks; depending on how these limitations are expressed by the DFO, they may be binding on not only operators but also the province. This does not mean, however, that the province cannot impose additional limitations it decides are appropriate to protect wild fish stocks.

In examples such as these, the province may be failing to fully consider its regulatory authority and responsibilities by taking the view that there are only navigational issues or wild fish issues to be addressed if the relevant federal regulators say there are navigational or wild fish issues to be addressed. Assuming the province has the jurisdiction over aquaculture it claims to have, this ignores its ancillary jurisdiction to deal incidentally with matters in federal jurisdiction when it does so as part of its regulation of aquaculture. Moreover, we believe that Nova Scotia's role as the primary and comprehensive regulator of aquaculture means that Nova Scotia is responsible for using this ancillary jurisdiction (in ways that are compatible with federal law) to ensure that the regulatory framework is fully responsive to the issues that the regulatory framework needs to address. On the navigational issues, Prince Edward Island illustrates how this can be done; it has adopted legislation requiring all operators to provide a standardized navigational channel or space to boaters. This is in addition to any limitations respecting navigation that may be imposed on specific operators by the Coast Guard.[104]

Our conclusions based on this discussion for the regulatory framework in Nova Scotia are as follows:

a. Nova Scotia should continue to work with the DFO and other federal regulators through the mechanism of an MOU to ensure that the entire regulatory framework for aquaculture in Nova Scotia is as effective, cohesive, coordinated and streamlined as it can be despite the division of regulatory authority between the two levels of government. The objective should be to make this division of regulatory authority as irrelevant to the regulation of the industry as it can possibly be. Specifically, Nova Scotia's goal should be to ensure that shared jurisdiction over aquaculture does not make compliance with regulation more difficult or costly than it otherwise would be. It should also be to ensure that shared jurisdiction does not minimize or reduce the overall effectiveness of regulation in achieving environmental protection and other regulatory objectives.
b. In order to achieve the desired level of cohesion between federal and provincial regulation, Nova Scotia should work to ensure that federal-provincial regulatory collaboration is based on a strong and clear delineation of roles and responsibilities and a clear articulation of the

[104] See ECELAW, Comparative Analysis of Five Aquaculture Regulatory Frameworks at page 25.

regulatory objectives of each level of government.[105] Nova Scotia should work to ensure that collaboration is strengthened by the development of common or shared regulatory objectives that stress regulatory rigour and the avoidance and elimination of unnecessary regulation and of unnecessary regulatory cost, process or administrative burden. To the extent that concerns expressed to us about the unwarranted application of wild fish regulations to aquaculture are valid, Nova Scotia should encourage the DFO, and the federal government more broadly, to take the differences between aquaculture and fishing fully into account in the making or interpretation of federal fisheries laws.

c. Nova Scotia should work with the DFO, and the federal government more broadly, to develop a common list of priorities for the scientific research needed to support and improve the effectiveness of regulation in Nova Scotia's aquaculture industry. Nova Scotia should offer to collaborate with the DFO in developing and implementing a plan for research on these priorities by government or by scientists in the broader research community. In both regards, Nova Scotia should be a leader in proposing a regional rather than a provincial approach that emphasizes
   - the importance of aquaculture to all of Atlantic Canada;
   - the need for research that reflects the particular biophysical, geographic and socio-economic conditions of Atlantic Canada; and
   - the research capacity in Atlantic Canada.

d. To the full extent allowed by constitutional law, Nova Scotia should be willing and prepared to exercise its authority as the primary comprehensive regulator of aquaculture in Nova Scotia to regulate incidentally on matters primarily within federal jurisdiction where it is necessary to ensure the completeness and effectiveness of the regulatory framework.

8. DEPARTMENTAL RESPONSIBILITIES FOR REGULATING AQUACULTURE

In carrying out our review of the current regulatory framework, our understanding was that the activities of the Nova Scotia government in relation to aquaculture are comprehensively housed within the DFA. It seemed to us that this was an understanding shared by those who participated in

[105] At the Roundtable, there was qualified approval for the recommendation that "the Province should continue discussions with the Government of Canada to clearly delineate areas of responsibility for the planning, regulation and management of aquaculture." The expressed reason given by some who qualified their support for this recommendation focused on the types of discussions presently ongoing and therefore the precise meaning of "continue discussions." There was also qualified support for a recommendation that "the regulatory framework should define the roles and responsibilities for the province, federal government, First Nations, the aquaculture industry, communities and other parties directly impacted."

our process. This means the same minister, deputy minister and department have responsibility for supporting the industry as well as for regulating the industry. Both lines of activity take place under the same statute, the *Fisheries and Coastal Resources Act.*[106] The content and tone of this legislation is heavily weighted in the direction of the Minister's role in promoting the economic development of the fishery and aquaculture industries. Putting the combined mandate of the Minister together with the legislation, one could conclude that the Minister is the minister for the industry and likewise that the Department is the industry's department.

The regulation that is applied to aquaculture is overwhelmingly concerned with minimizing or mitigating the industry's impact on the environment. It would therefore not be inaccurate to say the regulatory framework for aquaculture is a kind of specialized environmental regulation. In other words, whereas other industries are subject to environmental regulation under the *Environment Act*, the environmental consequences of aquaculture are addressed in aquaculture regulations.

This legislative, regulatory and organizational model is used across Canada. In British Columbia, where the regulation of aquaculture is largely federal, the DFO is both regulator and supporter of the industry; the same mechanism applies throughout Atlantic Canada, where regulation is either provincial or, in the case of Prince Edward Island, federal with significant provincial involvement.

This also appears to be how the regulation of aquaculture is addressed in jurisdictions outside Canada. In Norway, Scotland, Chile and Maine, the regulation of aquaculture is largely the responsibility of the same government entity that promotes and supports the growth of the industry.

Moreover, this model is a very common approach to regulation across the natural resources sectors of farming, fishing, and forestry. Historically, it was also the approach taken to the regulation of mining, but for many decades, the environmental regulation of mining has been by environmental regulators acting under "generic" environmental legislation.

Concerns about the dual mandate of the Minister and DFA were frequently raised in our process.[107] Many expressed concern about what they perceived to be an unavoidable conflict between the two roles that undermined confidence in the independence, objectivity and rigour of the regulatory process. To put it very bluntly, many told us flatly and unequivocally that they could not trust a regulator of the industry who was also responsible for promoting and supporting the development and growth of the industry. Frequently, we were told that the distrust was accentuated where government provided significant economic development funding to a specific aquaculture business.

We were urged by many to recommend a regulatory framework under which responsibility for regulating aquaculture would be moved to the Minister of Environment. We have thought very seriously about the matter, as in many ways it goes to the heart of the lack of trust at the centre of much of the dissatisfaction with the current regulatory framework. In the end, however, subject to

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[106] SNS 2012 c22.

[107] There was partial support at the Roundtable for a recommendation that "the regulatory framework should ensure that responsibility and accountability for the regulation of aquaculture is clearly separated from the function of industry promotion and marketing to prevent actual or perceived conflict of interest. This may be accomplished by moving regulatory responsibility to a different department or by other means to be determined by the Panel." See also the ECELAW report *Aquaculture Regulation in Nova Scotia* at pages 20–21, which discusses this dual mandate and expresses the same concern.

what we say below (Sec. 10) on the issues of environmental monitoring, we have concluded that responsibility for regulation of aquaculture should otherwise remain with the Minister of Fisheries and Aquaculture. There is, however, an important proviso to this conclusion; it depends on acceptance and implementation of the other elements of our proposed regulatory framework, many aspects of which are designed to address by other means the distrust that exists with the perceived conflict of DFA roles under the current regulatory framework.

We have reached the conclusion that DFA should continue to be responsible for the regulation of aquaculture for the following reasons:

a. First, it is important to note that although the regulation of aquaculture is largely concerned with environmental protection, it is not exclusively concerned with environmental protection. It also concerns the use of a public resource – coastal waters – and the place of aquaculture in the development, use and protection of coastal resources. It may not make sense to reallocate these aspects of the regulatory framework to the Department of the Environment. It would give that department a different relationship to aquaculture than it has to other industries.
b. The result of reallocating the environmental aspects of provincial regulation of aquaculture to the Department of Environment would add to the already complex regulatory landscape that exists within the sector. It would mean that regulatory authority was not only divided between the federal and provincial governments, but then sub-divided between two provincial departments. This might deal with the institutional trust issue but make regulation less cohesive and organized.
c. As discussed earlier, provincial regulation of aquaculture already suffers from a lack of regulatory capacity. We have concluded that the province's regulatory capacity must be increased if Nova Scotia is to have a viable and trustworthy regulatory framework. We think that the capacity gap is more likely to be addressed cost-effectively if the increased capacity is largely concentrated in one department rather than divided between two departments. It is important to recognize that the Department of Environment may currently have very little of the capacity and expertise it might need to become an effective regulator of aquaculture. If the Department were given a broad regulatory responsibility for aquaculture and this lack of capacity and expertise were not addressed, it might have little choice but to rely extensively on the DFA for advice. To avoid this outcome, the Department of Environment might require such a large percentage of the province's increased regulatory capacity as to leave the DFA unequipped to deal with its continuing responsibilities.
d. Dividing regulatory functions between two departments might complicate Nova Scotia's ability to collaborate on aquaculture with other governments in Atlantic Canada, all of which combine industry promotion and support with regulation in one government department that is also responsible for the fisheries mandate.
e. While separating the regulatory role from the industry-development role might improve confidence in the independence and trustworthiness of the regulatory process, it may or may not result in improved regulatory effectiveness. Meanwhile, we are confident that regulatory effectiveness can be improved by the DFA's adoption and implementation of the regulatory framework we have proposed.

f. Even if we were otherwise inclined to recommend assignment of regulatory responsibility to the Department of Environment, the approval process and the environmental assessment process in Parts IV and V of the Nova Scotia *Environment Act* would require significant enhancement to serve as useful regulatory tools under the enhanced regulatory framework we have proposed for aquaculture. Public engagement, and transparency in particular, would have to be enhanced significantly in both processes.

9. RESTRUCTURING THE ADMINISTRATION OF THE REGULATORY FRAMEWORK

While we conclude that the regulatory framework should continue to be administered by and on behalf of the Minister of Fisheries and Aquaculture, we also conclude that important changes need to be made to how the regulatory framework is administered by DFA to address legitimate concerns about its independence, objectivity, dependability and effectiveness. The changes required include much greater levels of openness, transparency and clarity; a transfer of responsibility for the monitoring component of the Environmental Monitoring Program to the Department of Environment; and legislative changes that reduce the regulatory process's dependency on ministerial discretion.

Each of those aspects of the proposed regulatory framework is discussed elsewhere in this report. Here we focus on another set of changes we think will be important to restoring and maintaining confidence in a regulatory framework that is primarily administered by the DFA. These changes are intended to create greater and clearer operational separation between the Department's regulatory responsibilities and the other functions it performs relative to aquaculture, and to formalize the role of departmental officials in the regulatory process.

Regarding the separation of functions, there should be a clear organizational demarcation within the DFA between those who have decision-making responsibilities in the regulatory process and those who are involved in working to grow and develop the industry. To implement and reinforce this, the regulatory function should be led by an official or officials who report directly to the Deputy Minister or to an Associate Deputy Minister as the Deputy Minister's designate.

On the formalization of the role of departmental officials in the regulatory process, we believe the legislation should assign responsibility for leading and managing the regulatory program to a statutory officer who would, by statute, belong to the public service. The position would report directly to the Deputy Minister or to the Associate Deputy Minister as the designate of the Deputy Minister. The Act should set out the mandate of this official with sufficient detail to accomplish three objectives: to make it clear that the mandate is a statutory one, to make it clear the mandate is limited to regulation, and to ensure the mandate encompasses the whole of the regulatory function, subject of course to the general authority of the Minister over the work of the Department as a whole.

We believe that the mandate of the statutory official responsible for regulation should include responsibility for decision making on aquaculture licences. This is the model used in New

Brunswick.[108] Legislation would continue to confer broad powers, ultimate authority and accountability for oversight and policy-making on the Minister. It would, however, assign administrative responsibilities for the regulation of the industry to an "Administrator." Such a legislative model, in which licensing is a public service function subject to ministerial oversight and policy-making, would bring the regulation of aquaculture into line with modern approaches to environmental regulation. Under the *Environment Act* (and environmental legislation throughout Canada), decision making on industrial permits is handled by bureaucratic officials, whereas in the 1970s and 1980s, it would more typically have been done by ministers of environment.

We understand that this will be less of a separation than can be created by placing responsibility for regulation in another department. We also understand that some will say that an organizational separation within a government department will be artificial and therefore ineffective. We do not reject these concerns out of hand but instead contend that they understate the benefits that can come from greater legislative differentiation between the regulatory and industry-development functions of the DFA and legislative allocation of regulatory responsibility to the bureaucratic level. Specifically, we think these benefits can include

a. greater clarity for officials in both branches of the Department's mandate, as well as for those they work with, as to which "hat" they are supposed to be wearing
b. meaningful protection against regulatory responsibilities being subordinated to industry-development objectives and priorities
c. increased independence of decision making by those who have regulatory functions and responsibilities
d. a less political and more professionalized regulatory process

10. ENVIRONMENTAL MONITORING PROCESS

In 2003, the Nova Scotia DFA implemented an environmental monitoring process (EMP) for fin-fish aquaculture. In our process, no one questioned the need for such a process and in our view, it should be continued. We believe, however, that it should be strengthened in six important respects:

1. First, the EMP should be established in legislation. In other words, existence of the EMP should not depend on a decision to be made by the DFA.
2. Second, the parameters of the process should be prescribed in regulations rather than in departmental policy.[109]

[108] For more discussion of this concept as it operates in New Brunswick, see the ECELAW report *Comparative Analysis of Five Aquaculture Frameworks* at page 14.

[109] We have chosen the wording here – "the parameters of the process" – deliberately. We would not want the substance of the EMP defined in such detail in legislation that the program ceases to have the flexibility it needs to evolve and change to deal with changing circumstances. Instead, it is the responsibility to comply with the procedural aspects of the EMP that should be defined in legislation.

3. Third, legislation should make compliance with the process a term and condition of all licences. The mandatory nature of the process should not depend on whether or not it is written into the terms and conditions of specific licences. By "compliance with the process" we refer to the steps a licensee has to take to implement and conduct the environmental monitoring required by the legislation and the regulations. The regulatory action to be taken in light of whatever environmental monitoring reveals about the environmental performance of the site would apply to the compliance of the site with its environmental performance obligations rather than to its compliance with the requirement to conduct environmental monitoring.
4. Fourth, the responsibility for monitoring compliance with the EMP should be transferred to the Department of Environment in order to improve public confidence in the independence and objectivity of the oversight that government brings to bear on industry's compliance with the EMP.[110] This is New Brunswick's approach, and we think it is one that should be adopted in Nova Scotia. This means that capacity and expertise will have to be built up in the Department of Environment. To some degree, this could cause some of the problems associated with multiple regulators and dividing resources between two departments that lead us to conclude that general regulatory responsibility should not be transferred from DFA. Nevertheless, we think these issues will be manageable if the transfer of responsibility is limited to the EMP. In addition, the avoidance of these issues is not important enough to outweigh the importance to the whole regulatory process of the credibility and trustworthiness of the EMP.

[110] During our consultations on our draft report, we were encouraged to consider additional measures to ensure adequate separation between the regulation of the industry and government's non-regulatory work to enable the development of the industry. One particular option was a proposal to move all of the non-regulatory functions from the DFA to the Department of Economic Development and Rural Development and Tourism, thus limiting the DFA to a purely regulatory role. Independently of our receiving this feedback, we were told by the DFA that the movement of responsibility for industry support and development to the Department of Economic and Rural Development and Tourism has largely already happened and that it will be completed in the near future. This led us to think carefully about whether we should reconsider our recommendation that responsibility for administration of the EMP should be moved to the Department of Environment. We recognize that our rationale for this recommendation, which is to create institutional separation between industry promotion and the environmental monitoring part of regulation, could be said to be addressed by the movement of non-regulatory functions away from DFA. In other words, we recognize that institutional separation between environmental monitoring and non-regulatory functions can be achieved either by removing the non-regulatory functions from the DFA or by moving responsibility for environmental monitoring to the Department of Environment. We also recognize that confidence in the option that would see monitoring stay in the DFA as a purely regulatory department could be strengthened if the independent body we recommend later in this report to receive and consider citizen applications to have licences revoked were also given the authority and responsibility to conduct a periodic review of the functioning of the monitoring process through a process that sought public input. Indeed, such an approach might provide greater assurance of the rigour, reliability and transparency of the monitoring process than would movement of the function to Environment. In the end, however, we have concluded that our original recommendation to move administration of the monitoring program to Environment responds more directly to the concern we heard from many that trust and confidence in the EMP was critical to trust and confidence in the overall regulatory process and that a move of the monitoring function to Environment would do much to restore trust and confidence in this critical aspect of the regulatory process. At a later date, assuming trust and confidence in the overall regulatory process has been restored, a different institutional configuration might be appropriate.

5. Fifth, the regulatory monitoring of compliance of operators with the EMP has to be strengthened. More auditing of compliance is required. The auditing process should include random, unannounced audits. Whether directly or through contracted third parties who are independent of industry, regulators should more frequently collect their own samples for analysis – on an unannounced random basis subject only to the advance notice that is required to address biosecurity concerns.
6. Sixth, results from the EMP for each site should be made available to the public in a timely manner. Ideally, this would be done by posting the results to a common government-controlled website.

We were urged to also recommend an expansion of the scope of the EMP.[111] Specifically, it was suggested that the EMP should monitor heavy metal levels in addition to sulphide levels. We have concluded we are not able to make such a recommendation, primarily because of the different views we heard about the cost and feasibility of this monitoring, as well as its usefulness.[112] We do, however, think that expansion of the EMP warrants further consideration, including the possibility of additional parameters.[113] In the meantime, we have made recommendations elsewhere in this document that will require significant reduction of the discharge of heavy metals into the environment.

11. STATUTORY STANDARDS

Our understanding of the current regulatory framework is that there are a number of licensing terms and conditions that go into every licence and a number of leasing terms and conditions that go into every lease. There may also be terms and conditions that go into most licenses and leases. There are, in other words, a number of standard terms and conditions for licences and leases. We think that these standard terms and conditions should be set out in law to improve the transparency of the regulatory framework and general knowledge and understanding of the nature and range of controls that they place on the industry. Two of the most obvious ones would be

- the conditionality of each licence on compliance with the Act and regulations and the terms and conditions of licence and lease, and
- compliance with the Environmental Monitoring Process.

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[111] There was partial support at the Roundtable for the recommendation that "the regulatory framework should require a move away from a narrow focus on sulphides to include the use of a more extensive list of environmental indicators for monitoring. These may include metal contamination, bacterial layers, dissolved oxygen and biodiversity of sediment life. Far-field effects and biological recovery should also be addressed."

[112] See, in part, the notes from the Knowledge Workshop session on February 10, 2014, and the session on March 28, 2014. In response to our draft report, we heard strong disagreement with the view expressed at our Workshop that it would be cost-prohibitive to expand the parameters of the EMP to include monitoring for heavy metals.

[113] Although it was not stated perfectly clearly, some of the feedback we received from the industry suggests this might be regarded as a preferred option to the recommendation we make later to prohibit the use of anti-fouling methods or substances that disperse heavy metals or chemicals into the environment.

In addition, we think the following issues should be addressed in legislation (either in the Act or the regulations made under the Act):

11.1 Obligation to Maintain Oxic Conditions

It should be a basic and fundamental condition for the licensing of fin-fish aquaculture in a marine setting that oxic conditions (normal or specified levels of oxygen in the water column) can be and have been maintained.[114] This would not mean that isolated temporary failures to meet oxic conditions would warrant revocation of a licence. It would, however, warrant taking action to bring conditions back to the oxic level and to be maintained there on a consistent basis.

To ensure that oxic conditions are maintained and that licence conditions are properly calibrated to achieve and maintain that objective, there should be a legislative requirement that terms of the licence will be reviewed following the conclusion of each growing cycle to ensure that the site conditions are suitable for another growing cycle, and to ensure that appropriate adjustments are made to fallowing periods, stocking density and other terms and conditions of the licence.

Where experience suggests that a difficulty in maintaining oxic conditions lies not with the operation of the licensed operation or with its compliance with regulatory requirements, but rather with the biophysical conditions of the site, it should be clear that the appropriate regulatory response is to require removal of the operation from the site or its conversion to a kind or level of aquaculture that is appropriate to the site. For operators who lose their sites in such circumstances, the regulatory framework should be committed to make an alternative and appropriate site available to the operator. This could be facilitated by the proactive identification by the DFA of Green areas for fin-fish aquaculture, using the process for the strategic assessment of coastal areas that we recommend below (Sec. 17)

11.2 Anti-fouling Technology

In marine-based fin-fish aquaculture, nets and other equipment must be regularly cleaned to prevent the build-up or persistence of materials, such as fish waste or uneaten food, that can cause disease to both farmed and wild fish. One of the methods of anti-fouling that have been used is to spray nets and other equipment with anti-fouling substances that contain copper and other heavy metals. We were told by some members of the industry that where anti-fouling is applied it is no longer applied by spraying but by a dip process conducted on land. They also told us that the industry is in the process of transitioning to mechanical cleaning technology.[115]

Copper is a toxic substance, and its release into the marine environment should be minimized or, ideally, avoided. To accelerate the transition already taking place in the industry toward anti-fouling methods that avoid the release of copper and other toxins into the environment and to ensure that the industry in Nova Scotia operates at the leading edge of environmental protection practices, we recommend that Nova Scotia's regulatory framework should prohibit the use of any

[114] It was suggested at the Roundtable that another or different approach would be needed for bodies of water that were not oxic in their natural state. The Bras D'Or Lakes were given as the example.

[115] See Knowledge Workshop notes from February 10, 2014, at page 2.

substance or method of anti-fouling that results in the dispersal of copper, other heavy metals or potentially harmful chemicals into the environment.[116]

11.3 Standard Reporting Obligations for Each Kind of Aquaculture, Including the Following Matters for Fin-Fish Aquaculture:

The legislation should specify the reporting obligations that will apply either to all operators or to all operators licensed to conduct kinds of aquaculture to which standardized reporting obligations on the specified subjects should apply. For fin-fish aquaculture, these standard reporting obligations should cover

- escapes
- fish mortality events and levels
- damage to equipment
- monitoring results
- disease and sea lice outbreaks
- use of permitted treatments to address disease or sea lice

Putting reporting obligations on these subjects into legislation will ensure that they are maintained and enforced on a consistent and continuing basis. It will also contribute to transparency and accountability of the regulatory process and to public knowledge of the regulatory process.

11.4 Standard Requirement Regarding Accommodation of Navigation

We recommend that the legislation require accommodation for boaters to be built into every lease. Where feasible, this could be done by including a "navigational channel" in every lease, which is the approach followed in Prince Edward Island to avoid or at least minimize conflict between aquaculture and other users of coastal waters. We recognize, however, that all or virtually all leases in Prince Edward Island are for shell-fish aquaculture and that this approach may not work with fin-fish leases.[117] If that is the case, an alternative method or methods for ensuring that fin-fish leases do not unduly and unnecessarily impinge on boaters should be considered.

[116] We make no assumption here that heavy metals are present in the benthos because of aquaculture. We are saying instead that as a matter of environmental policy, the cleaning of nets should be done, because it can be done, without discharging heavy metal into the benthic region.

[117] In the feedback it provided to us on our draft report, the ACFFA stated that a navigational channel through "the middle of a lease" was impracticable because movement restrictions are determined under federal legislation, due to biosecurity protocols and the physical structure (cages, grids, anchor lines) on sites. We suggest that in the development of the proposed regulatory framework, work be done to identify options for better accommodating the interests of boaters in ways that address the legitimate concerns of fin-fish lease holders having boaters on or near leases.

11.5 Other Standard Terms

The legislation should clearly specify the matters that have to be addressed in the terms and conditions of each licence and lease.[118] These mandatory items would include but not be limited to terms and conditions on the following matters:

- Species to be grown
- Stocking density
- Fallowing period requirements
- Duration of lease and licence
- Any specific operational procedures and technologies identified during the regulatory review process that could reduce the environmental impact of the operation
- Clear rules for use of medication and pest-control products

By specifying the matters that are required to be addressed in each licence, the legislation will ensure that they are addressed in all licences on a consistent and continuing basis. It will also help to contribute to the transparency and accountability of the regulatory process and to public knowledge and understanding of the regulatory process and the content of regulatory requirements.

12. EXPERIMENTAL OR DEVELOPMENTAL LICENCES

In our draft report, we did not address the question of whether the proposed regulatory framework would provide for experimental licences or developmental licences; that is, for licences that would be granted to applicants who wanted to conduct aquaculture to test or develop new technology or methods or to carry out basic research. In the feedback we received on the draft report, particularly at the public feedback meeting we held at Tatamagouche, we were asked to consider adding an explicit provision for an experimental or developmental aquaculture licence to our proposed regulatory framework.

[118] Some of the feedback we received on our draft report suggests we were not clear in expressing our intent with this recommendation. For example, we were told that our proposed statutory standards were too prescriptive and that a performance-based approach was better-suited to deal with matters such as stocking density and fallowing periods. This feedback suggests that some may have interpreted our recommendation to be that matters such as stocking densities and fallowing periods for specific sites were to be fixed in legislation. That is not our recommendation. Instead, our recommendation is that legislation be explicit in requiring these matters to be addressed in every licence, taking account of variable factors such as velocity of currents, water depth, species and age class. Nor is our recommendation that such matters as stocking densities or fallowing period be fixed irrevocably in each licence. We recognize that the terms and conditions of a licence must be subject to variation if the regulatory framework is to be functional and effective. Our recommendation is that requirements of a licence at any given time on matters such as stocking densities and fallowing periods be clearly stated so that the public can know what they are, and also that terms and conditions be changed, where change is determined to be appropriate, in a way that is transparent to the public.

The *Fisheries and Coastal Resources Act* currently provides for experimental licences. It states that the Minister may grant "a special experimental licence upon such terms and conditions as the Minister deems appropriate." It also states that an experimental licence "shall not be granted for commercial purposes."[119]

We think there is a clear rationale for an experimental licence option where the purpose of the licence would be to allow academic or communal research to proceed. Where that is the purpose of the proposed aquaculture, the regulatory framework should authorize the granting of an experimental licence by way of a simplified application procedure. There should be public notice and an opportunity for public input, but otherwise researchers should not be required to go through as detailed an application process as those who are applying for a commercial licence. Instead, what matters with such a licence is that it comes with terms and conditions that ensure that the aquaculture to be conducted is of limited scale and duration and closely tied to the research question or program. There should also be conditions requiring the results of the research to be made public, ideally through peer-reviewed journals.

We think there is also a rationale for an experimental licence option where the proposed aquaculture is to be carried out by an aquaculture company that wishes to test a new technology or method of aquaculture. The opportunity to engage in such applied and commercially-motivated research may be critical if the industry in Nova Scotia is to become a truly low-impact and high-value industry. In particular, such research can be very important to the ability of the industry to develop technologies and approaches that are better adapted to Nova Scotia's particular biophysical and coastal conditions than are technologies and approaches imported from elsewhere.

The concern with research or developmental aquaculture of this nature is that it not become a way of obtaining a commercial licence without having to go through and comply with the application process that applies to commercial operations. The limitation that an experimental licence should not be granted for commercial purposes should therefore also apply to this kind of experimental or developmental aquaculture. Similarly, as with a licence given to authorize academic or communal research, the aquaculture authorized by an experimental licence given to someone who wishes to test or develop technologies or approaches for commercial deployment should be of limited scale and duration as well as being closely tied to the research question or program.

Ideally, commercially oriented research should also be conducted under an expectation that the results be made public, preferably through peer-reviewed publications. Where that approach is followed, we see no reason why an experimental licence could not be given for such research through a simplified process similar to the one that would be applicable to an application for an experimental licence to conduct academic or communal research.

We understand, however, that private companies invest in research of this sort to gain a competitive advantage. Making an academic approach mandatory could mean that valuable research of potential importance to the development of the industry in Nova Scotia might thereby be precluded. To address this problem, we suggest that the DFA could use the strategic assessment tool we recommend later in this report to conduct one or more strategic assessments to identify

[119] SNS 2012 c22 at s 55(1) and 55(2).

coastal areas that would be suitable for the conduct of experimental or developmental aquaculture under an experimental licence. As we explain later, provided that the strategic assessment were conducted on the clear basis that it could result in the issuing of one or more experimental licences, and provided that the process gives the public an opportunity to participate – equivalent to any opportunity they would receive through the licensing process – a strategic assessment could lead to the issuing of one or more experimental licences through a streamlined licensing process.

The DFA would have the option of going one step further. Assuming an interest from the industry, it could conduct a strategic assessment to identify a suitable location for a fixed aquaculture test facility that would then be available to participants in the industry to carry out small-scale aquaculture for the purpose of testing or developing new technology, management practices or approaches. This could be done in partnership with industry associations. It could perhaps be modelled on the test-site approach taken by Fundy Ocean Research Centre for Energy (FORCE) to the testing and development of tidal power technology in the Bay of Fundy.[120] This approach would, however, be a decision for DFA to make; we are not proposing it as something that DFA would be expected to do under the proposed regulatory framework.

Where an applicant for an experimental licence to conduct commercial research does not wish to abide by the conditions that would allow it to access the simplified application process for experimental licences, and where an applicable strategic assessment has not been completed, the standard licence application process for commercial licences would apply. However, the scale and duration of the aquaculture proposed to be undertaken would typically be expected to be taken into account in the exercise of the procedural discretion provided for in that process. For example, unless the licence sought were to conduct a kind of fin-fish aquaculture in a Red area for that kind of aquaculture, it would be expected that an administrative rather than an adjudicative hearing would be appropriate.

13. REGULATORY TRANSPARENCY

Lack of transparency about the regulatory process and its operation in general, and in relation to specific sites, was a frequently voiced concern in our process. At the Roundtable, there was qualified approval for the following recommendation: “All licence application information pertaining to environmental impact and impacts on other marine resource use and users should be made publicly available.”[121] For members of the Roundtable who qualified their support for this recommendation, the concern was protection of confidential business information.

In addition to concerns about the current lack of transparency and openness, we heard quite a bit about the positive value of transparency and openness in contributing to the effectiveness of

[120] A description of the FORCE test site and how it is governed and operates can be found at http://fundyforce.ca/.

[121] See page 14 of the Roundtable Final Report. Also, there was qualified support at the Roundtable for a similar recommendation that “all Environmental Monitoring Program data should be made publicly available on a website in a timely manner.” (Roundtable Final Report, 29)

regulation. We heard that it is critical to maintaining the regulators' independence of the regulated sector. In other words, it reduces the danger of regulatory capture. We heard that transparency helps to ensure the answerability of regulators for their choices and actions, to regulated businesses as well as to the public, including those who benefit most directly from regulation. We heard that transparency improves both the public's and the regulated sector's understanding of the regulatory process, helping each to contribute positively to regulatory success. In this regard, a number of people expressed the view that greater transparency is a good thing for regulators who regulate effectively and for businesses that comply with the regulations, as it demonstrates that regulation works and makes it difficult for critics to unfairly portray the regulatory process in an inaccurate negative light.

In addition, it is important to note that current distrust and lack of confidence in the regulation of aquaculture in Nova Scotia stems from the perception that the current process is not transparent and open. For a new regulatory framework to enjoy a positive level of trust and confidence, it must be defined by transparency and openness.

Transparency should start by ensuring that comprehensive and easy-to-understand information on the regulatory framework is readily accessible to anyone who wants it. This will address the real frustration and irritation we heard from many, including some in the industry, about the difficulty they had experienced in obtaining clear information about matters such as the steps in the regulatory process, the obligations of applicants for leases and licences and of operators once licensed, their opportunities to participate in the regulatory process, and the actions the DFA can or will take to ensure compliance with the regulations.

The difficulty people experience getting basic information on these and other aspects of regulation is one more factor undermining confidence in the current regulatory process. It contributes to the impression people have that information is withheld and only provided when the right questions are asked. It appears to result in different people being given different information, depending on whom they ask and how they ask for it.

It should be recognized that some of the difficulties being experienced in this regard may reflect the number of agencies involved in the regulation of aquaculture and the appropriately variable nature of the regulatory process. Some of the frustration may also be caused by the probability that not everyone who works for the DFA or in the industry has all of the same information on the regulatory process. Also, our impression is that more information on the process and the operation of the process is available than many people appreciate or are in a position to appreciate because of the less than user friendly way in which it is made available through the government's website.

Nevertheless, we think that much more can be done to make information on the regulatory process and how it works readily available to the public, including through the DFA's website. For example, the DFA should work with other provincial and federal regulators to produce a single shared document that comprehensively describes and explains the entire regulatory process as it works in Nova Scotia. The DFA could work with the Regulatory Advisory Committee, which we recommend in a later section of this report, on improving and better disseminating information about the regulatory process. The DFA should work with the network of existing coastal community organizations with an interest in aquaculture to ensure that good and comprehensive information on the regulatory framework and its operation is regularly shared through that network.

We also think that the DFA needs to ensure that DFA employees have a consistent level of knowledge about how the regulatory process is structured and operates. The DFA also needs to ensure that DFA staff are mandated to share that knowledge in their dealings with those they interact with in the course of their jobs. Instead, or in addition, the DFA could ensure that questions about the regulatory process are consistently fielded by the same members of staff. This is the approach that has been taken by other regulatory agencies.

Transparency and openness should extend beyond general information about the regulatory process. It has to also be the rule in the application of the regulatory framework to each application for a lease and a licence, and to the DFA's ongoing oversight of each licensed operation. As nearly as possible, the objective should be to make application and operation of the regulatory framework an open book.

In keeping with the spirit of the recommendation that received qualified support at the Roundtable, we therefore recommend that the basic principle should be that information relevant to understanding the operation and effectiveness of the regulatory process as it applies to each proposed and approved site should be readily available to the public. This principle should be set out in legislation to ensure that it is binding on the DFA and to ensure that public access to information covered by the principle does not require the making of an application under the *Freedom of Information and Protection of Privacy Act*[122] (FOIPOP) process.

Information that is truly confidential business information should be excluded from this principle under a definition of confidential business information set out in the legislation. But the assumption should be that information is public unless a regulated business clearly establishes that it is confidential business information within the scope of the statutory definition. In other words, the onus to show that information should be kept confidentially in the hands of the DFA because of its confidential business nature should lie with the business that claims that the information is confidential business information.

We do not have the information we would need to give precise advice on how confidential business information should be defined. The definition should, however, be a narrow and precise one, as otherwise the exception might become the rule. In that scenario, legislative provisions intended to require and enable transparency and openness might then end up being a legal barrier to transparency and openness. The concept that should guide the drafting of the definition of confidential information is that information is confidential to a business where, realistically, its release could expose the business or associated businesses to economic harm.

We anticipate that discussion of this approach to limiting the information that can be withheld because of business confidentiality will raise the question of whether companies will be able to withhold information about the kind and quantity of antibiotics that are used in fish feed. The use of antibiotics is one of the significant issues of controversy in relation to marine-based fin-fish aquaculture. We were told by people in the industry and by knowledge experts on the industry that the use of antibiotics is limited and declining.[123] We were also told that releasing information on

[122] SNS 1993 c 5.

[123] In addition, we were told by people in the industry and by knowledge experts on the industry that far less medication is used for aquaculture than for any other farmed animal. This was reiterated to us in the feedback

antibiotics would allow competitors to figure out the feed formula being used, which is regarded as proprietary information in the industry.

We also anticipate another issue that may be of concern to the industry – that open transparency on information pertaining to fish health will adversely affect competitiveness and marketing by creating the false impression that fish farmed in Nova Scotia are susceptible to illness while those farmed elsewhere are not.

We are not dismissive of these concerns. However, we are strongly of the view that the current approach undermines trust and confidence in the industry, the DFA and the regulatory process. The industry's social licence and its ability to respond to and address concerns suffers in consequence.

However confidential business information is defined and protected, we think the principle of transparency and openness should generally apply to the process of applying for a licence and lease or for a variation or renewal of a licence and lease. As a general principle, and subject only to the protection of information that is clearly demonstrated to be confidential business information, the DFA's file on each application should be open and accessible to members of the public. The intent would be to make the information provided by the applicant, and all of the information provided in respect of the application by third parties, open to public scrutiny. It would also be to make all of the documentation generated in the DFA as part of its assessment of an application part of the public record of the application. The conclusions reached on the application, and the reasons for those conclusions, should also be "on the record." The same would apply to the consideration and decision of any appeal that follows from a decision on a licence or lease.

Similarly, once a licence and lease are issued, the ongoing application of the regulatory framework to the approved operation should be, as nearly as possible, an open book. Subject to the protection of information that is established to be confidential, all of the data, information and reports that the operator is required – by the legislation, by the terms and conditions of its licence or by order of an inspector – to submit to the DFA or to the Department of Environment[124] should be accessible to the public. Likewise, all documentation relating to the monitoring by the DFA of compliance with the regulatory framework, or to actions taken by the DFA to ensure compliance or to enforce the regulations, would become part of the file of material available to the public. This would include a copy of all inspection reports and any warning letters or orders written to address instances of non-compliance. The publicly available information should also include all documentation pertaining to complaints received about an approved operation and the action taken by the DFA in response to the complaints.

The objective of our recommendations is a level of transparency and openness that would allow a member of the public to readily ascertain at any given time the status of an application for a licence and lease (or for a change or renewal of a licence and lease) or the standing of an approved operation relative to its regulatory responsibilities. We recognize that implementation of such a

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we received from the ACFFA to our draft report. The ACFFA feedback also stated that "less than three (3) per cent of salmon feed in Canada is medicated," which is the kind of information we refer to in saying that industry and knowledge experts told us that "use of antibiotics is limited and declining."

[124] This assumes acceptance of our recommendation that the administration of the Environmental Monitoring Program should be moved to the Department of Environment.

high level of transparency and openness could divert resources away from regulation and into providing information about regulation. We also recognize that this level of openness and transparency can inhibit the open flow of information between regulators and the regulated, and among regulators, in ways that can be harmful to regulatory effectiveness. Nevertheless, we think the level of transparency and openness we have proposed is what is called for.

First, what we have heard from Nova Scotians leads us to conclude that it will be essential to the trust and confidence they place in any new regulatory framework that it operate under conditions of high transparency and openness. We would go so far as to say that of all that must be fixed with the current regulatory framework from a community perspective, this one is a precondition for the other improvements to be accepted, effective and worthwhile. In fact, the level of transparency and openness we are proposing is an essential complement to other parts of the framework we have proposed. For example, our recommendation that regulatory responsibility remain primarily with the DFA assumes that the DFA will operate under the very high level of transparency and openness that we have recommended here. We would reconsider this and other recommendations if this assumption were mistaken.

Second, our analysis of the regulatory framework in other jurisdictions leads us to conclude that a high level of regulatory transparency and openness has been a core feature to the reforms adopted in recent years in other jurisdictions, including Scotland and Maine. These were the two jurisdictions most frequently cited to us as models to follow, by those who were generally in favour of significant change in how aquaculture is now regulated in Nova Scotia. More broadly, most of the regulators we spoke to in order to learn about their role in the regulation of aquaculture emphasized the importance of transparency and openness, even if they did not work in regulatory systems that have gone as far as Scotland and Maine have gone to make transparency and openness into operational reality.

Third, although we are not dismissive of the administrative concerns about diversion of resources and barriers to the flow of information, we think these issues can be managed. If resources are put into creating good systems that make transparency and openness standard operating procedure, including information systems that make good use of technology, the ongoing diversion of resources can be mitigated. As for concerns that high levels of transparency and openness will inhibit the flow of information, our experience suggests that this is often less of a problem for administrative systems than people responsible for those systems assume it will be. Participants in the regulatory process will adjust their behaviour and interactions to reflect the awareness that they are participating in a process of public administration to which high standards of transparency and openness are applicable. When this happens, the benefits that can flow from transparency and openness will outweigh any challenges it creates.

Finally, because the regulation of aquaculture is a process of public administration relating to the use of public resources by private businesses, it should be conducted under high standards of transparency and openness so that it can be held accountable by Nova Scotians.

14. PROVISIONS ON AQUATIC ANIMAL HEALTH AND WELL-BEING

The conditions under which fin-fish facilities operate, from site selection to stocking density to cage design and maintenance requirements, should be addressed with fish health as a priority objective. It was suggested to us on a number of occasions that ensuring the health of farmed fish is the very best way to avoid, eliminate or reduce the environmental impacts of fin-fish aquaculture that give rise to the greatest concern. It was also suggested that fish health is crucial to the productivity of the Nova Scotia industry as well as to its reputation in the market, and thus to its competitiveness compared to the aquaculture industry in other jurisdictions.

At the Roundtable, there was only partial support for the recommendation that

> the Province should develop an appropriate protocol to address all aspects of fish health and should ensure appropriate expertise is involved. Fish with reportable diseases should be removed from ocean pens as soon as possible. No grow-out should be permitted. Harvesting controls should be instituted until the site has been declared free from the specific pathogen.

However, the reservation expressed by some Roundtable members was not about the idea of a comprehensive approach to fish health. Rather, it was about the prescriptiveness of the recommendation on how that should be done in all cases. In particular, reservation was expressed about an absolute obligation to remove from the water all fish with a reportable disease. There was also concern to ensure that this recommendation would be made in the context of marine-based farming and would not be applicable to shell-fish operations.

In our view, the focus of the regulatory framework on fish health and well-being should definitely be on the outcomes rather than on the specific mechanisms to be used to achieve those outcomes. The goal should be to design and operate fish-growing operations that grow healthy fish, fish that never or very rarely require medication or pest-control treatment, and that have the lowest mortalities in the industry. We understand that it may take some time to reach this ideal. It is important, however, that every pest or disease outbreak be treated as a learning opportunity to reflect on the conditions under which fish are grown in these facilities and to improve those conditions to improve fish health. This will include learning about appropriate versus inappropriate sites, learning about appropriate stocking densities and species at given sites, learning about barriers to minimize disease transfers from wild to farmed fish, and so on.

14.1 Fish Health

Currently, the MOU between the DFA and the DFO states that Nova Scotia will have “the lead role in fish health management and extension work and in intra-provincial surveillance, detection, prevention, control, and regulation of fish diseases in cultured stock.”

The legislative foundation for the DFA’s work in aquatic animal health is limited. It includes Section 5 of the Aquaculture Licence and Lease Regulations, which requires licensees to maintain accurate records on “the presence of diseases,” “the type and amount of food used in relation to aquacultural produce” and “the type of medication, dosage, treatment date, and duration of

veterinarian treatments."[125] It also includes Section 9, which states, "The Provincial Fish Health Veterinarian may isolate, quarantine, order treatment for, restrict the movement of, or destroy cultured fish infected or thought to be infected with a disease that the Provincial Fish Health Veterinarian considers a significant risk to wild or cultured fish stocks."

The DFA's current program in fish health has four components: disease surveillance and the provision of veterinary services, emergency services (where there is unexpected or elevated mortality or abnormal behaviour) and laboratory services to the industry. The DFA acts primarily as an advisor to operators. It provides advice on operational improvements to improve fish health, on treatment of disease and on prevention. These advisory services are undoubtedly an important benefit to the industry. They also foster a relationship of cooperation between the Provincial Fish Veterinarian (PFV) and operators, which the Veterinarian uses to enhance the industry's understanding of and response to health problems affecting the sector.

The DFA's approach also has a regulatory component under Sections 5 and 9 of the Regulations. A key question is whether the DFA needs to increase its regulatory activity in relation to animal health in aquaculture. An associated question is whether this could or should be done while maintaining the advisory approach that is currently the focus for the PFV. These questions arise out of concern that the rigour of an expanded regulatory role might be compromised if the office of the PFV is the provider of veterinarian services to those it also regulates. Conversely, there is a concern that the effectiveness of the advisory service in gaining the cooperation of the industry in addressing fish health would be compromised if the advisory service were provided by veterinarians who also wear a regulatory hat.

In our view, there is really no doubt that the regulatory framework has to deal much more expansively and in greater detail with the health of animals raised in aquaculture. Some of the most persuasive presentations we received argued that the key to aquaculture's future as a sustainable industry that enjoys social licence is a focus on the health and well-being of farmed animals.[126] All of these presentations, which were made from a range of perspectives, recognized that the health of the animals being raised in aquaculture was the ultimate and fundamental barometer of whether aquaculture is or is not being conducted in harmony with its surrounding environment.[127] Put simply, healthy fish mean the health of the surrounding environment is being maintained while sick fish suggest the opposite. Conversely, the nature and extent of the aquaculture industry's use of some of the practices that raise the most concern about the industry's impact on the environment depend very much on the health of the animals raised in aquaculture. When animals are healthy, use of these practices can be reduced or eliminated. When fish are sick or in danger of becoming sick, use of these practices increases.

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[125] N.S. Reg. 15/2000.

[126] One of the most compelling of these was the submission we received verbally and in writing from Mr. Roger Hunka, with the assistance of Mr. Tim Martin, on behalf of the Native Council of Nova Scotia.

[127] This is also broadly consistent with the Ecosystem Approach for Aquaculture articulated by the FAO in *Building an Ecosystems Approach to Aquaculture*, which explicitly examines the issue of animal health standards. See, in particular, pages 76–77, 83–87, 101, and 121–22.

Here, we cannot describe the regulatory provisions we think are needed in detail. We limit ourselves to outlining the matters that we believe should be addressed within these provisions.

First, it has to be understood that the maintenance of health and the prevention of disease are the foundations of the proposed regulatory framework. Although the provisions we are proposing to deal specifically with fish health would deal with the matter more extensively and explicitly than the current regulatory framework does, these elements of the framework are secondary to those intended to keep farmed fish healthy in the first place. Among the elements of the proposed framework that have fish health among their fundamental objectives are those dealing with the following matters:

- Biophysical site conditions that make a site suitable for a particular operation
- Conditions on number of fish on site and on permitted stocking densities
- Fallow period requirements
- The mixing of species on sites
- Limits on the number of and separation between permitted farms in particular bays
- Coordination of production on sites within defined geographic areas
- Vaccination requirements

In addition to all the general preventive measures, the regulations should deal more comprehensively and explicitly than the current legislation does with the mandatory reporting of infectious diseases. Consistent with applicable federal requirements, they should set out the diseases of concern to the province that must be reported to the DFA if identified by labs, farmers, veterinarians or anyone else in the care and control of the animals suspected of having the disease. The regulations should clearly state the time frame within which notification has to be given once the evidence of a notifiable disease is detected. There should be clear penalties stated for breach of reporting obligations, and there should be vigilant enforcement of the obligations, including through prosecution.

The regulations should explicitly address the elements of the disease surveillance system. They should outline the responsibility and authority of the DFA to determine the type, frequency, lots and numbers of animals to be sampled, and to define the tests to be used for detecting the diseases of concern. This can be done in multiple ways and has to be done so as to preserve flexibility and adaptability that a good surveillance system requires. For example, as suggested by CFIA in response to our draft report, the regulations can require the use of a “validated” or licensed” test or a “test prescribed by the Provincial Aquaculture Veterinarian.” As to the sampling method to be used, the regulations could mandate the use of a method that is capable of detecting the absence of disease with a high percentage of certainty. The important thing from our perspective is that the elements of the surveillance system – as opposed to the specific tools that are used to implement those elements – not be left to policy but are instead laid out in legislation.

The regulations should also deal more comprehensively with management of disease outbreaks. We discuss the industry’s capacity to manage disease outbreaks in greater detail below (Sec. 15). Here, our focus is on the responsibilities and associated authority of the regulator. In our view, the regulatory framework should define (or give the regulator authority to define) what constitutes a confirmed positive. The regulations should give broad powers to regulators to access records, to

seize and test animals from at-risk populations, to trace pathogen movements from and to farms, and to isolate, quarantine, treat or destroy diseased fish or fish suspected to be diseased or in danger of becoming diseased. They should impose, or authorize regulators to impose, requirements for biosecure disposal of infected fish and materials and for cleaning and disinfecting infected equipment, other objects and places. There should also be provisions dealing with fallowing, restocking and retesting of sites after an outbreak of disease leads to destruction of diseased fish. The regulations should define breaches of obligations in this area as punishable offences.

The regulations should contain provisions on the biosecurity procedures to be followed to prevent the spread of infectious disease.[128] These should include provisions on biosecurity procedures to be followed on aquaculture sites during harvesting, during transport of animals, and in fish processing. These procedures should cover personnel and equipment, including equipment such as well boats, trucks, grading gear and wharves used in moving fish. The regulations should provide for biosecurity compliance auditing procedures. Non-compliance with biosecurity requirements should be defined to constitute an offence.

Under the regulations, movement of animals to or from a site should be subject to a certificate of health for transfer. The regulations should set out the number, or the authority to determine the number, of veterinary site visits and the types of tests to be conducted before such a certificate can be issued. There should be brood stock testing requirements, requirements on records management relative to the movement of fish and mandatory reporting requirements relative to transfers.

The role of the PFV has caused us some difficulty. On the one hand, the PFV provides veterinarian services to the industry. He or she is, in effect, the industry's veterinarian. This model is similar to the role that provincial veterinarians have played in the agriculture sector. On the other hand, the DFA relies on the PFV in its application, interpretation and enforcement of regulatory requirements relating to fish health. If the regulatory framework becomes more extensive and explicit on fish health, as we recommend it should, this reliance is likely to become more important to the DFA. The perceived conflict between the dual roles of the PFV would seem to be accentuated in a regulatory framework like the one we recommend, which places greater emphasis on the regulation of fish health management and protection as a critical component of the overall framework.

We can understand that the role of the PFV as the veterinarian of the industry enables the PFV to build relationships of trust and confidence with the industry, thus allowing the PFV to proactively identify and address issues before they become problems. In other words, we can understand that the dependency of the industry on the PFV provides the PFV with considerable opportunity to ensure that the industry operates in accordance with the regulations and with fish health best practices. In addition, the current position of the PFV as the veterinarian of the industry is

[128] CFIA feedback to our draft report noted that other sectors had developed national standards on biosecurity and suggested that Nova Scotia should promote this approach for aquaculture. It also brought to our attention that other jurisdictions, Denmark in particular, require aquaculture operators to develop biosecurity plans as a condition for licensing. Both points were made in the context of a broader one – that effective protection for biosecurity cannot be achieved solely by unduly restrictive regulations but also requires industry-developed standards, codes of practice and plans to deal with many of the necessary details. We accept the wisdom of this input but at the same time remain of the view that the nature and scope of responsibilities in the area of biosecurity must be framed in legislation.

undoubtedly an important part of the DFA's system of disease surveillance. A more exclusively regulatory role for the PFV may make crucial surveillance information less available to the PFV than is currently the case. It is also relevant to the discussion that the PFV carries out his or her mandate as a regulated member of the veterinarian profession.

For these reasons, we would not be comfortable recommending that the role of the PFV become an exclusively regulatory one.[129] We are, however, strongly of the view that it can only continue to be a service provider and a regulator if our recommendations on transparency and openness are adopted and if a system of independent third-party periodic review of the compliance of the industry with regulatory requirements relating to fish health is instituted as part of the regulatory framework. This review could be carried out by the independent board that we later recommend should be created to hear and decide applications from members of the public who believe that licences should be revoked because of a site's failure or inability to meet regulatory standards.

14.2 Fish Welfare

Overlapping with the issue of fish health is the issue of the well-being of farmed fish. Only one person spoke to us directly on this concept,[130] but it was implicit in the concern that others voiced about the health of farmed fish.

As under Nova Scotia's *Animal Protection Act*,[131] legislation on the well-being of farm animals typically aims to ensure they receive adequate care. This includes receiving necessary veterinarian care and protection from neglect and abusive treatment. Under the Nova Scotia Act, the definition of "farm animal" includes "fin-fish raised in an aquaculture site for commercial purposes." Our understanding is that the Minister of Agriculture is designated as the minister responsible for the Act in its applicability to fin-fish. Among other things, this makes the Minister responsible for investigations where farm animals may be in distress. It also gives the Minister the authority to appoint inspectors to "carry on such activities and exercise such powers as are necessary or

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[129] In response to our draft report, the CFIA communicated to us that it did not support our conclusion that there is no conflict between the role of the PFV as both service provider and regulator or our conclusion that the PFV "must continue" as both service provider and regulator. To be clear, our recognition of the existence of the conflict is precisely why we make the recommendations we do in this paragraph. Also, we did not conclude that the dual role of the PHV "must continue"; rather, we concluded that it could continue if steps were taken to safeguard against the conflict that can arise between the two mandates. CFIA told us that an expanded role for the private sector veterinary community "is crucial to the maintenance of a transparent and vital aquaculture sector" and that the experience of CFIA is that "the involvement of the private sector actually increases disease detection and acts as an early warning system." It also told us, "This concept and the vital role of the private fish health sector is clearly recognized in international standards and is in fact codified." It is not clear to us whether these comments suggest a wider role for the private sector or an exclusive one. From our perspective, the objective is to ensure that the industry is properly served with veterinary services and properly regulated for compliance with fish health management practices. Our main point is that the status quo is not acceptable because it combines the two functions in one office without sufficient protection against the risk that this will adversely affect one or the other or both of them.

[130] At the Halifax community meeting on April 9, 2013, Professor Vaughn Black of the Schulich School of Law stated that the perception that the welfare of framed fish was less important than other regulatory issues is contradicted by the fact that the applicable law already addresses the welfare of farmed fish, although in his view inadequately.

[131] SNS 2008, c 33.

conducive to preventing, ending or remediating distress to farm animals," including by investigating cases of farm animals in distress, promoting the humane treatment of farm animals and formulating and coordinating the establishment of industry customs and codes of practice supporting the humane treatment of farm animals.

In addition, the federal *Health of Animals Act* requires humane transportation of all species, including aquatic animals, into, within and out of Canada.[132]

This legislative framework is primarily concerned with the prevention of neglect and abuse. This is an important aspect of animal welfare. It is covered not only by provincial and federal animal welfare legislation but also by Sections 445.1 and 446 of the *Criminal Code.*[133]

It was pointed out to us that there have been no prosecutions under the *Animal Protection Act* (or the *Criminal Code*) for violations in relation to fish. This might raise questions about whether existing legislation is being enforced with sufficient diligence and rigour. Our expectation, however, is not that prosecutions should be pursued for the sake of demonstrating that the Act is being strongly enforced. Instead, our concern would be that prosecution is not being considered, where it may be warranted on the facts of particular cases, due to a general view that the matters addressed in the Act are not serious enough to warrant prosecution. Actions should be taken to ensure that such an attitude is not guiding the administration of the Act and that prosecution for violation of the Act is actively considered where circumstances suggest it is the appropriate and proportionate response to a situation of non-compliance.

Our attention was also drawn to Subsection 21(4) of the *Animal Protection Act*, which states that the provisions of the Act that create the offence of causing distress to an animal do not apply if the distress is caused by an activity carried on "in accordance with reasonable and generally accepted practices of animal management, husbandry or slaughter or an activity exempted by the regulations." The key words of this provision are not defined in the Act. They are therefore left to be defined in the administration of the Act. This can result in the words being defined in ways that do not accord with the objectives of the Act, which is to provide animals with meaningful protection against treatment that causes them distress.

A similar but broader concern is that the Act defines distress in Subsection 2(2) in quite general terms. To some extent, this is unavoidable, given the wide range of situations and circumstances the Act must cover. It does, however, mean that the Act provides limited guidance either to farmers (meaning fish farmers in this context) or to regulators. In the case of fin-fish aquaculture, the lack of guidance may be more problematic given that the Act's definition of distress may apply more straightforwardly to terrestrial animals than it does to aquatic animals. For example, the definition refers to adequate water, shelter, ventilation and "reasonable protection from injurious heat or cold." What these parts of the definition require may be easier to determine for terrestrial animals than it is for aquatic animals. Even their applicability to fin-fish may be doubtful, although by the words of the Act they are as applicable to fin-fish as to other kinds of farm animals.

[132] S.C. 1990 c. 21.

[133] RSC 1985, c C-46.

There is a third area of concern. Although the Act contemplates industry customs and codes of practice supporting the humane treatment of animals, it is primarily about protecting animals from neglect and abuse. It says little about the positive level of care that animals are to be provided. All it says in effect is that it must be above the level at which it would cause distress.

We conclude that the regulatory framework should more clearly define the animal welfare standards required in fin-fish aquaculture. It should do this at three levels:

a. By outlining the animal welfare standards that should generally be met and maintained in areas such as
    - water quality
    - stocking levels
    - feeding rates
    - cage design, construction and maintenance
    - general husbandry
b. By better defining distress (i.e., neglect) as it applies to fin-fish aquaculture
c. By better defining what practices of animal management, husbandry and slaughter will be regarded as "reasonably and generally accepted" in aquaculture in Nova Scotia for the purpose of determining the applicability of the statutory provision that creates the offence of causing distress[134]

In feedback to our draft report, the CFIA pointed out that other livestock industry sectors have developed industry sector codes for best management practices relating to animal welfare. It noted that such codes can be referenced in regulations and suggested this is a more effective way to make industry responsible for animal welfare. It also noted that codes can change and evolve as new science becomes available more easily than regulations are likely to change. The CFIA also suggested that the Aquatic Animal Health Code could be referenced in Nova Scotia's regulations until such time as a provincial or national code of practice is developed.

We see the role that industry codes of practice can play in this area. They are contemplated by Nova Scotia's *Animal Protection Act,* and we agree with the CFIA that they should be developed for aquaculture. At the same time, we continue to think that the legislative framework for aquaculture should be more specific in outlining the standards that should be generally met, including by better defining distress and by better defining the practices that will be "reasonably and generally accepted." We also think that to the extent that a code of practice is relied upon for elaborating the applicable standards, the issue of accountability for compliance with the code must

[134] Guidance may be provided here by the *Aquatic Animal Health Code*, which was developed by the World Organisation for Animal Health and is available online: http://www.oie.int/international-standard-setting/aquatic-code/access-online/. Section 7 of the Code deals with "Welfare of Farmed Fish," and more particularly with standards and practices on the welfare of farmed fish during transport, in the stunning and killing of farmed fish for human consumption and in the killing of farmed fish for disease control purposes. We have also been told about developments in New Zealand (which has adopted an animal welfare code dealing specifically with commercial slaughter) and in Europe (where the European Commission has said that farmed fish are covered by EU legislation on the protection of animals during transport and at the time of killing).

be clearly addressed. It is important that the industry's regulatory responsibilities be clearly established and kept separate from the important role that a code of practice can play in ensuring compliance with those obligations. Finally, we note that the CFIA commented to us that its "significant experience in development and use of codes of practice" show that "these codes have more credibility if the development team includes academia, governments and environmental groups in addition to industry."

15. DISEASE CONTROL, MANAGEMENT PROCEDURES AND CAPACITY

In the previous section, we made recommendations on fish health and fish welfare. A related issue is the regulation of the industry by the CFIA, which is responsible under the *Health of Animals Act* for control of aquatic animal diseases as part of its broader mandate over the health of all owned animals and wild aquatic animal populations.[135] To discharge this mandate, the CFIA is in the process of implementing the National Aquatic Animal Health Program.[136]

The CFIA maintains several lists of diseases: reportable, immediately notifiable and annually notifiable. The diseases on these lists reflect international requirements (i.e., diseases that Canada is required to have under surveillance and control) and diseases that Canada has decided to keep under surveillance and control.

Diseases on all three lists must be reported to the CFIA. The difference between the lists is who must report and the time frame in which the reporting must occur. Reportable diseases must be reported to CFIA immediately by anyone who suspects them. Diseases on the immediately notifiable list must be reported by laboratories on suspicion of the presence of disease. Diseases on the annually reportable list must be reported by laboratories on an annual basis.

The DFA operates a system of surveillance for diseases that must be reported to CFIA. This role of the DFA appears to be contemplated by its MOU with the DFO, which had the federal mandate to control aquatic animal diseases before it was transferred to the CFIA.

The system of surveillance and control operated by the CFIA is part of an international system of animal disease surveillance and control based on international agreements. One objective is to prevent the spread of disease across boundaries. In doing this, the system protects international trade by providing assurance that it will not result in the movement of disease across boundaries. Under this system, Canada assesses the systems of surveillance and control in place in other countries to satisfy itself that they are strong enough to permit imports into Canada from those countries. For the same purpose, other countries make the same assessment of Canada's systems of surveillance and control. These assessments, whether by Canada of other countries or by other

[135] *Health of Animals Act*, S.C. 1990, c. 21. For provisions relating specifically to the health of aquatic animals, see Part XVI of the *Health of Animal Regulations*, C.R.C, c. 296, ss. 190–202.

[136] Information on this program is available at http://www.dfo-mpo.gc.ca/science/aah-saa/National-Aquatic-Animal-Health-Program-eng.html.

countries of Canada, are carried out with guidance provided by the World Organization for Animal Health.

Under the *Health of Animals Act*, the Minister responsible for the CFIA has the authority to order destruction of diseased fish.[137] Where the Minister exercises this authority, the Minister has the authority to compensate the grower of the fish that are destroyed. Under current practice, the authority to compensate is exercised whenever the authority to order destruction is exercised.

We heard a high level of anger about the compensation that CFIA pays when the Minister orders the destruction of farmed fish, something that has happened and attracted a lot of media attention in Nova Scotia in recent years.[138] For many, this is using taxpayer money to reward farmers for the bad practices that allowed their fish to become diseased in the first place. Similarly, many expressed the view that if farmers know they will be compensated for producing sick fish, they will be content to make a profit by producing sick fish and collecting compensation after they are ordered destroyed instead of taking the more difficult, expensive and uncertain route of doing what has to be done to produce healthy fish that can be sold for a profit on the market.

We understand and respect the strength with which these views are held. Nevertheless, we think the role of the CFIA in compensating farmers for the fish it orders them to destroy should be put in context. The system under which aquaculture is compensated for fish destroyed by order is similar to the one under which farmers in the agriculture sector are compensated for animals they are required to destroy for disease-control purposes. In both cases, the rationale for the obligation to compensate is the same: to ensure that the awareness that reporting could lead to an order to destroy does not lead to failure to report. This would be more likely if operators knew there was no compensation for destroyed animals or if compensation was not certain. In other words, compensation is paid to protect the effectiveness of the surveillance and control system from the financial incentive to conceal regulated disease that would exist in the absence of compensation.

We were advised by CFIA officials that provinces and the aquaculture industry have been informed that the current approach to compensating for loss due to disease is not sustainable and that a stricter approach will soon be implemented. Under that approach, orders to destroy will not be issued where the disease identified is in an area in which the presence of the disease has been determined to be enzootic, or endemic. The reason is that the purpose of the NAAHP is not to eradicate regulated diseases from areas (watersheds) where they already exist but to prevent their spread to other areas. In that context, an order to destroy serves no purpose where a disease is found in an area in which the disease is endemic. With no order to destroy, there will be no authority to pay compensation. Moreover the rationale for paying compensation – to ensure that

[137] *Health of Animals Act*, S.C. 1990, c. 21.

[138] There was qualified approval at the Roundtable for a recommendation that "publicly funded compensation for catastrophic loss related to disease should not be available except where the effect is industry-wide or the compensation is otherwise required under international agreements relating to reportable diseases." (Roundtable Final Report, 26)

reporting happens when it serves a disease surveillance and control function – will not be applicable.[139]

This stricter approach to eligibility for compensation may provide some assurance to the public that where compensation is given it is because it is serving a disease-control purpose and not simply fixing a problem for a farmer who loses fish. For the public in provinces or areas of provinces where compensation is paid, the payment of compensation is perhaps more likely to be seen as indicating that the disease that has led to the destruction of fish is not endemic in their province or area but generally under effective control.

For the industry as well as provincial governments, the implication of the new approach would seem to be that they will have additional reason to effectively control the incidence and prevalence of regulated diseases. Access to compensation when disease strikes despite best efforts to prevent it will depend under the new approach on whether the disease has generally been kept under effective control. In addition, it would seem to us that aquaculture located in areas designated as endemic for certain regulated diseases might face difficulty in maintaining its markets or in gaining new markets.[140]

The impending changes to the CFIA approach reinforce the rationale for all the recommendations we have made that can play a role in fostering, maintaining and protecting the health of farmed fish. In addition, they show how important it is for industry and government to have the capacity to conduct effective surveillance for disease and to effectively manage outbreaks when they occur, to ensure that disease does not become endemic.

Our understanding of what we were told by CFIA officials is that the CFIA was confident in the strength of the surveillance systems in Nova Scotia, and the Maritimes more broadly, and with their functioning. We understood the agency to express less confidence in the readiness of the industry in the region to manage outbreaks.

To illustrate this concern, CFIA officials explained the difficulties they have observed in the handling of the limited ISA events that have occurred. In the view of the CFIA, necessary equipment was not readily available or readily procurable. For example, there were no boats in the region dedicated to this function and no arrangements made to take boats used for other purposes

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[139] In our draft report, we suggested that providing compensation where stock is ordered destroyed for disease control purposes was required by Canada's international obligations. We were advised by CFIA that this was not correct. Our understanding of the correct position is that providing compensation for stock that is ordered destroyed as a means of ensuring reporting of disease is an important part of Canada's disease surveillance and control system that is subject to evaluation for its consistency with international standards and for its effectiveness by Canada's trading partners.

[140] In the feedback we received on our draft report, it was questioned whether this would be the impact for farmed salmon. We were told that the majority of farmed salmonid produced in Canada is gutted/eviscerated in Canada and exported to the United States, and that this trade is generally regarded as safe because the Unites States has no disease restrictions on eviscerated animals. For this reason, we were told that the statement made in our draft report, that producers could lose much of their market if their geographic area were designated as being one in which disease was endemic, was false as applied to farmed salmon. We take it from this feedback that our statement was accurate as applied to other kinds of fin-fish and to shell-fish, and also that it might be accurate as applied to salmon if US policy changes or if the market for Canadian farmed salmon changes.

out of their normal service to prevent cross-contamination. There were also no arrangements made in advance for biosecure access to docks, which caused undue reliance on land transportation. Another kind of difficulty was in requisitioning the equipment needed to harvest diseased fish. Another was the unavailability of pre-approved disposal sites. This raised concerns about the treatment that would be applied to the effluent from the rendering of destroyed fish. The CFIA has also found that the expertise needed to write the standard operating procedures needed for a response plan and process was generally not available.

CFIA officials expressed concern about an absence of urgency in addressing these gaps in capacity and readiness. They expressed concern that the cooperation needed to ensure that the needed capacity and infrastructure is in place and available to all is not evident, even though the scale of the industry is, in their view, such that the needed capacity and infrastructure can be available only if it is developed and maintained on an industry scale. We were told that this collective approach has been taken on the west coast, where the industry is much larger and is a primary reason why the readiness to effectively manage disease outbreaks is more advanced on the west coast than it is on the east coast.

16. SITE SELECTION AND UTILIZATION FOR FIN-FISH AQUACULTURE

16.1 Nature and Rationale for a Classification System

We have been told by industry, community members and other stakeholders that proper site selection and utilization is critical for an effective regulatory framework for marine-based fin-fish aquaculture.[141] We agree. A suitable site is one that has appropriate biophysical conditions while being compatible with other economically, socially, and culturally important activities. Using concepts from the *Environmental Goals and Sustainable Prosperity Act*, it is a site that can make a net contribution to sustainable prosperity if it is responsibly developed and managed in a manner that maximizes benefits while minimizing risk and negative impacts.

Biophysical conditions in Nova Scotia are different than in many other jurisdictions with marine-based fin-fish aquaculture operations. We have many geographically protected coastal waters around Nova Scotia as well as areas with strong tidal currents, but we also tend to have shallower waters than other jurisdictions, and water temperatures are not always suitable. Wild salmon populations in Nova Scotia have traditionally had economic and social significance, but are in a perilous state. In addition, many of our rural communities have long-standing economic reliance on coastal waters for their livelihoods, largely in terms of fishing and tourism. Compatibility with

[141] There was partial support at the Roundtable for the recommendation that "the regulatory framework should establish siting criteria to include water depths, current flows, distances from wild fisheries and harvest areas for Irish moss, sea urchin, shellfish, etc., distances from salmon rivers, migration paths, fishing grounds, other marine resource uses, natural conservation areas, and spacing of aquaculture sites." (Roundtable Final Report, 20)

other uses of coastal waters and social acceptance of the industry are therefore critically important considerations in site selection.

Under the current regulatory framework, the suitability of coastal areas for fin-fish aquaculture is determined largely if not exclusively through the licensing process. This approach may be inefficient and resource-intensive for both industry and regulators. It may also lead to avoidable conflict to the extent that it results in applications for licences and leases being made for sites that would be identifiable as being generally unsuitable if a more general process of characterization and categorization of the suitability of coastal areas for fin-fish aquaculture were carried out. In addition, too much reliance on the licensing process to determine the suitability of coastal areas for fin-fish aquaculture may lead to mistakes that could be avoided or reduced if the licensing process were supplemented by a classification of coastal areas for fin-fish aquaculture suitability either before a licence is applied for or before an assessment of an application for a licence begins.

Following the approach that is central to Scotland's relatively new regulatory framework, the basic approach we recommend is a process of evaluation of coastal areas for the purpose of determining whether they are generally suitable, marginally suitable or generally unsuitable for fin-fish aquaculture.[142] The result of this process would be a designation of coastal areas as being either Green, Yellow or Red areas for the purposes of fin-fish aquaculture.[143] In general terms, these designations would have the following meaning:

- *Green* areas would be areas found to be generally suitable for fin-fish aquaculture.
- *Yellow* areas would be areas that have potential to be suitable but are not ideal and would require a more careful approach to site selection, a more rigorous assessment in the licensing and leasing process, and stricter or more limiting terms and conditions for approval and additional regulatory oversight.
- *Red* areas would be areas that are unlikely to be suitable (i.e., that are generally unsuitable) for fin-fish aquaculture.

The basic idea is that regulatory approval for fin-fish aquaculture would be unlikely in Red areas and less likely in Yellow areas than in Green areas.[144] Whether approval would be given for a site

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[142] For a detailed analysis of Scotland's regulation of aquaculture, see Cecilia Engler's paper, *Analysis of Aquaculture Legislation and Regulation in Scotland*, available on our website under "Updates." See especially pages 15–32, which discuss, among other things, Scotland's development plan with regard to aquaculture. "Development plans should identify areas which are potentially suitable for new or modified fish farm development and sensitive areas which are unlikely to be appropriate for such development; sensitive areas are unlikely to be suitable for fish farm development unless adverse impacts can be adequately mitigated." (p. 20)

[143] In rudimentary form, a similar concept is currently provided for in the *Fisheries and Coastal Resources Act*, which permits the Minister of Fisheries and Aquaculture, with cabinet approval, to designate sub-aquatic lands as a "closed area . . . not suitable for aquaculture." Also, the broad concept of some kind of red, yellow, and green classification system for decision making with regard to aquaculture siting has been proposed before: see Barry T. Hargrave, "A Traffic Light Decision System for Marine Finfish Aquaculture Siting," *Ocean and Coastal Management* 45: 215–35.

[144] One of the reactions we received to our draft report was the concern that our use of Green, Yellow and Red as the labels for our three proposed classifications would cause confusion and mistaken expectations. The concern was that people would assume that a Green designation for a certain kind of aquaculture would

in a Yellow or Red area at all would depend on whether the applicant for a licence and lease in a Yellow or Red area is proposing a fin-fish operation that is suitable for a site having Yellow or Red area characteristics. For example, a small-scale or low-density operation might be suitable in a Yellow area, whereas a larger-scale and higher-density operation would not be. It would be less likely that even small-scale and low-density fin-fish aquaculture would be found suitable for Red areas. But to be suitable, it would have to be an operation with less impact than the operations that would be suitable for Yellow areas. For example, an operation that is smaller scale and lower density than those suitable for Yellow areas, and which also is required to operate under stricter regulatory control, might be suitable in some Red areas.[145]

Another key consideration in application of the coastal classification system would be the kind of fin-fish aquaculture that is proposed.[146] This is addressed below under the heading "Relevance to Classification of Differences between Kinds of Fin-Fish Aquaculture."

The starting point for considering which of the three categories a coastal area of Nova Scotia falls under should be the biophysical conditions, such as water depth, current speed, oceanographic and benthic circulation patterns, proximity to salmon rivers, etc. Social, cultural, and economic implications would also be considered in categorizing Nova Scotia's coastal waters based on its suitability for fin-fish aquaculture; however, these considerations will feature more prominently in the review of individual proposals for aquaculture operations. Finally, understanding of what makes for a suitable site will undoubtedly evolve with science, changing conditions as a result of climate change, new technologies, changes in industry practice, changing markets and the industry's evolving place in rural communities. This means that the categorization must remain

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mean that all applications for that kind of aquaculture would be approved (even though we have made it clear that an application in a Green area must still meet the criteria and standards applicable to licensing) and that a Red classification would mean that no aquaculture would be approved (even though we have made it clear that licensing of aquaculture in an area designed Red for that kind of aquaculture would be unlikely but possible). It was suggested that these mistaken assumptions could be avoided or minimized by using more neutral terminology to describe our classification system, such as Level 1 (instead of Green), 2 (instead of Yellow) and 3 (instead of Red). The key consideration is not the terminology but the underlying concept, which is that coastal areas will be found to be generally suitable, marginally suitable or generally unsuitable for specific kinds of fin-fish aquaculture, and classified accordingly. We would note however that use of a more neutral terminology would have to address the opposite concern that the result of an area's classification as generally suitable, marginally suitable or generally unsuitable might not be taken seriously enough if it were expressed in neutral language rather than in the "traffic light" language we have proposed.

[145] In providing feedback on our draft report, some asked us to recommend a prohibition of fin-fish aquaculture in Red areas. We continue to think the better course is to leave open the possibility that aquaculture could be permitted in a Red area if it were designed to appropriately address the limited suitability of the area for fin-fish aquaculture. This is because the purpose of the classification system is not to absolutely bar aquaculture from coastal areas based on their classification but to ensure that licensing decisions appropriately reflect the relative suitability of different coastal areas for different kinds of fin-fish aquaculture. In Red areas, this will generally mean that fin-fish aquaculture will not be approved, but it will not mean that fin-fish aquaculture cannot be approved.

[146] In the feedback we received on our draft report, we were asked on a number of occasions to clarify that our proposed classification system for fin-fish aquaculture might apply differently to different kinds of aquaculture, depending on the level and nature of risk of adverse impact associated with particular kinds of fin-fish aquaculture. We have therefore strengthened the clarity of our description of the classification system on this point.

open to adjustment but based on strong, open and transparent processes; clear criteria; and good evidence.

16.2 Classification Criteria

It will be critical to apply the classification system on the basis of clearly established criteria. Concern was expressed in the feedback we received to our draft report that a lack of clear criteria would produce conflict that could be avoided or minimized. Another concern was that a lack of clarity would delay and prolong decision making. A third kind of concern expressed was that a lack of clarity in the criteria of classification would lead either to licensing where it was inappropriate or to unwarranted refusal to license.

In light of these concerns, we were asked, at the public feedback meeting we held on our draft report in Yarmouth, to include specific classification parameters in our final report. For example, it was suggested that we should specify the objective water depth and current-speed parameters that would lead to a coastal area being designated as Green, Yellow or Red. It was also proposed by the EAC that we should develop a list of general criteria for each classification and a mechanism to weight certain criteria more heavily where necessary or warranted to achieve the protective purposes of the classification system.

We agree that clear and reasonably fixed criteria for differentiating between coastal areas for classification purposes will be critical to the workability of the classification system we have proposed. We also agree that greater clarity should be possible relative to the biophysical criteria than those of a socio-economic nature.

We are, however, also very aware of the limits of our expertise relative to the specific parameters that should be built into the criteria and how they should be weighed against one another in specific situations. Therefore, we limit ourselves to indicating the kinds of parameters that should be included in the classification criteria and the standards that should be applied to evaluating those parameters.

This is also our response to the feedback we received from some in industry, and in particular from the Atlantic Canada Fish Farmers Association (ACFFA). From that perspective, our draft report was criticized for suggesting biophysical conditions for classification that were based on opinion and not science, as well as for proposing a system in which classification would depend on single determinative factors rather than on the cumulative impact of multiple factors. Our response to these points is that we are only proposing the kind of parameters that should be used in the classification criteria, in the full understanding and expectation that more work is needed to develop the more specific criteria required to make the classification criteria fully functional. We have proposed a general breakdown between biophysical parameters and socio-economic parameters (absence, presence and nature and level of conflict with other uses and values) because these were the two categories of factors that virtually everyone who spoke with us during our process said were relevant to good site selection.

At the same time, we stress three points:

1. The development of the specific parameters for classification should be evidence-based, precautionary, and transparent. Where science indicates a specific parameter that can be used

to ensure that the classification system achieves its objectives, that parameter should be adopted until further development of scientific knowledge suggests a better parameter.

2. Our concept of classification is not one in which a single variable determines classification but rather one in which classification is determined by the combined effect of the multiple variables that are relevant to determining biophysical and socio-economic suitability.
3. The Regulatory Advisory Committee and the mechanism for advice from knowledge experts on a continuing basis that we recommend later in this report could both play important roles in the further work that will have to be done to develop the criteria we propose into fully functional criteria.

16.2.1 Classification Criteria for Green Areas

It is our recommendation that Green areas for fin-fish operations in coastal waters for salmon or for other fin-fish species be determined based on criteria that include the following:

a. Biophysical conditions such as water temperature, water depth, current speed, frequency and other hydrological and bottom conditions show that fin-fish aquaculture can be conducted in the area with confidence that it will meet or exceed environmental standards; and
b. Coastal conditions show that fin-fish aquaculture can be conducted in the area with confidence that it will not significantly conflict with other uses or values,[147] such as
    - the recovery effort of an endangered species
    - a clearly competing use that is of significant economic, social or cultural value[148]
    - the protection of wild salmon
    - the protection of land that is under legal protection

For clarity, the intended effect of (a) and (b) is that a Green area would be shown to be suitable for fin-fish aquaculture under both criteria because it possesses suitable biophysical conditions and because of the absence of significant conflicts with other uses and values.[149]

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[147] In providing feedback to our draft report, the Mi'kmaq Rights Initiative pointed out that the meaning given to the word "significant" would be critical. We agree. We do not, however, believe we are in a position to propose a specific definition, for much the same reasons as we do not think we can recommend the specific biophysical parameters that should be used in the classification criteria. We can, however, say that "significant" would have to be interpreted and applied in a way that is consistent with achieving the overall objectives of the proposed regulatory framework, which is to provide a high level of protection against adverse impacts.

[148] In the feedback received on our draft report, concern was expressed that specific industries were not listed. For example, we were asked to confirm that interference with tourism or a lobster fishery would be interference relevant to deciding on the classification of a coastal area. Our choice not to list the uses that would be capable of being considered competing uses is a deliberate one, as we think this has to be worked out in the detailed development of the regulatory framework and in the operation of the framework once it is implemented. However, given what we say in the rest of this report relative to the lobster fishery and tourism, we have little difficulty in being explicit that the impact of fin-fish aquaculture on lobster fishing and on tourism would be taken into account in the classification process.

[149] In providing feedback to our draft report, some expressed concern that the designation of a coastal area as a Green area would result in that area being inundated with aquaculture. This outcome would be prevented by the regulatory framework we have proposed, which would require licensing in Green areas to address a

16.2.2 Classification Criteria for Yellow Areas

Yellow areas would be coastal areas where there is reason for caution, but there may still be potential for productive low-impact fin-fish aquaculture, provided that it is conducted on terms, or subject to limitations, that specifically address the area's limited suitability for salmon or another kind of fin-fish aquaculture. Conditions that would result in an area being designated as a Yellow area would include the following:

a. Biophysical conditions show (for example) that fin-fish aquaculture for salmon or another species should not be authorized unless it is authorized on terms and conditions (such as terms and conditions on scale and density) that address the specific biophysical limitations of the area.
b. The presence of significant potential for conflicts between fin-fish aquaculture for salmon or another species and other uses or values would have to be addressed before aquaculture could be authorized or conducted. Examples include
    - a reasonable fear that a fin-fish operation for salmon or another species would interfere with the recovery effort of an endangered species
    - interference with a clearly competing use that is of significant economic, social or cultural value
    - proximity to a salmon river or to land that is under legal protection
c. Both the biophysical conditions and the potential for conflict with other significant uses or values indicate that the area is properly classified as a Yellow area.

16.2.3 Classification Criteria for Red Areas

Red areas would be coastal areas considered to be unlikely to be suitable for salmon or another kind of fin-fish aquaculture. Conditions that would result in an area being designated as a Red area would include the following:

a. Biophysical conditions show that it is highly unlikely that fin-fish aquaculture for salmon or another species can be conducted in the area in accordance with environmental standards, particularly in light of current technology and aquaculture practices.
b. The presence of serious conflicts between fin-fish aquaculture for salmon or another species and other significant uses or values, such as
    - a clear risk to the recovery effort of an endangered species
    - a proven threat to an important industry in the area
    - immediate proximity to a salmon river or to land that is under legal protection
c. Both the biophysical conditions and the presence of serious conflicts with other significant uses or values indicate the area is properly classified as a Red area.

Although Red areas would be generally off limits for fin-fish aquaculture, the regulatory framework should not preclude the possibility that fin-fish aquaculture could in exceptional

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range of factors or conditions, including the cumulative effect of aquaculture already approved, which would be harder to satisfy as the number of aquaculture projects in a Green area increased.

circumstances be authorized in a Red area. It would, however, place a heavy onus on the DFA in its assessment of an application for a licence and lease to satisfy itself and to demonstrate that any aquaculture project proposed for a Red area fully addresses the conditions or the combination of conditions that warrant designation of the area a Red area and generally off limits to fin-fish aquaculture. This approach is consistent with the approach taken in Scotland.

16.2.4 Potential Conflict with Mi'kmaw Fisheries and Protection of Submerged Archaeology

In the feedback we received on our draft report from the Mi'kmaq Rights Initiative, concern was expressed that we did not specify the relevance to the classification process of protection for Mi'kmaw fisheries conducted for food, social or ceremonial purposes, or for submerged archaeology of importance to the Mi'kmaq. This is an important issue that should be addressed in discussions between the province and the Mi'kmaq as the DFA proceeds with developing the regulatory framework we propose. In addition, it should be emphasized that protection for these important interests is relevant not only to the classification of coastal areas but also to the licensing process.

16.3 Processes for Classifying Coastal Areas for Fin-Fish Aquaculture

The ultimate objective of the regulatory framework should be a comprehensive classification of the suitability of the coastal areas of Nova Scotia for fin-fish aquaculture. To achieve that objective, the DFA should take a three-pronged approach.

First, it should undertake a proactive classification process that operates in parallel to the licensing and leasing process. Although we are not in a position to say exactly how we think this process should be organized and conducted, we can say that the process should have the following characteristics or elements:

a. The process should be evidence-based, open and transparent. People with local and traditional knowledge of coastal areas should have opportunities to contribute that knowledge to the process. They, along with all Nova Scotians, should have the opportunity to comment on the process as it proceeds.
b. The process should draw on the knowledge and research of experts in scientific and other disciplines from within and outside government, including those in the scientific community who have worked on classification systems such as the one we have recommended as well as on the work and knowledge of those who have done research relevant to developing and applying such a system.[150] Knowledge experts could be asked, for example, to provide advice on how the criteria for Green, Red and Yellow areas could be refined and how they can be applied in a range of contexts and conditions.

[150] Later, we recommend that the regulatory framework include a mechanism such as a formal network, standing committee or "knowledge" roster, though which the DFA can receive advice from experts on science relating to aquaculture on a continuing basis. One of the uses of this mechanism could be to involve knowledge experts in the process of classifying the coastal areas of Nova Scotia relative to their suitability for fin-fish aquaculture.

c. The process should build on the large body of existing research that has been done, in and outside government, on coastal conditions and on the relationship between diverse coastal conditions and the suitability of coastal areas for fin-fish aquaculture, particularly salmon aquaculture, when it is conducted at different scales, under different management systems and with different technologies.[151] With as much transparency as possible, the process should utilize the modelling system for evaluating the environmental impacts of aquaculture, which is widely used in the regulation of aquaculture across Canada and in many other jurisdictions.

d. The process should build on previous successes in similar undertakings. One example is the success of the Colin Stewart Forestry Forum on development of a plan or framework for achieving Nova Scotia's objectives in wilderness conservation while ensuring the availability of fibre to the forestry industry.

Due to the high-level nature of such a process, it would likely only be useful for classification of coastal areas that can be classified with no or limited controversy. For example, it is more likely to be useful for areas that are clearly Red areas than it would be for Green areas. For the latter classification to be accepted, a more focused process is likely to be needed.

For this reason and because of the potential advantages of more targeted approaches, the regulatory framework should authorize the DFA to undertake strategic assessments of particular coastal zones on a more targeted basis. In the following section, we outline the process and function of such assessments. The process would be the second way in which coastal areas could be classified as Green, Yellow or Red for a particular kind of fin-fish aquaculture. It would be in the nature of a strategic environmental assessment, which has been effectively used in Nova Scotia in evaluating proposed development of the tidal power potential of the Bay of Fundy.[152] With regard to function, such assessments may be especially applicable in differentiating between Green, Yellow and Red areas within a particular coastal region that cannot easily or sensibly be classified as entirely Green, Yellow or Red. More specifically, strategic assessments may be helpful in identifying Green areas in which the DFA can encourage fin-fish aquaculture, and in more clearly differentiating those areas from coastal waters in which fin-fish aquaculture is less likely to be suitable.

Lastly, until a comprehensive classification is completed, the DFA will have to classify sites on an individual basis whenever an application is made for a licence and a lease in an area that has not yet been classified either in the general classification process or through a strategic assessment. This is explained in more detail in Section 18 of this report on the licensing (site approval) process. The rationale for permitting classification to happen in response to an application for a licence is twofold. First, we do not think the regulatory process should be held in abeyance until the

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[151] At the Roundtable, there was partial support for the recommendation that the province should "collate existing coastal planning information and make it publicly available to assist with decision making regarding aquaculture siting." Despite its receiving only partial support, we believe this recommendation has merit when adopted in the context of a classification process that operates at the three different levels we propose. At the Roundtable, in contrast, the recommendation was discussed in the context of a larger discussion about making decision making about aquaculture part of a larger comprehensive coastal planning process.

[152] See Meinhard Doelle, "The Role of Strategic Environmental Assessments (SEAs) in Energy Governance: A Case Study of Tidal Energy in Nova Scotia's Bay of Fundy" (2009) 27 *Journal of Energy and Natural Resources Law* 112.

classification process has been completed. Second, we do not think the licensing process can go forward without regard to the important role that we think classification must play in the licensing process.

The relationship between each of these processes for making classification decisions should be dynamic. Classification choices made in the general process or through strategic assessment will be taken into account as a fundamental input to the licensing process. At the same time, classification choices made through strategic assessment or in the licensing process would add to the overall progress toward comprehensive classification of the coastline, which will be the main concern of the general or overall classification process.[153]

In addition, in light of the feedback we received to our draft report, we think it important that we stress what we are *not* recommending relative to the process of classification. Specifically, we are *not* recommending a prohibition on licensing until a complete and comprehensive classification of the entire coastline of Nova Scotia or of regions of the coastline have been completed. We are recommending instead that three distinct processes be used in parallel to achieve that comprehensive classification. One of them is the licensing process to be applied to individual applications for approval of specific fin-fish projects. Where classification happens in that process, it will be because the project is proposed for a location that has not already been classified in the general classification process through a strategic assessment or a prior licensing process. When classification happens in the licensing process, the critical point is that classification of the suitability of the site for the proposed kind of fin-fish aquaculture must happen before the licensing decision on the specific project. This is critical because the rationale for a classification system such as the one we have proposed is that classification must inform licensing and not be determined by licensing.

16.4 Effect of Classification as a Green, Yellow or Red Area

Designation of a part of Nova Scotia's coastline as Green, Yellow or Red for particular kinds of fin-fish aquaculture will have a variety of implications for the regulatory process as it applies to applications for approval of specific sites and projects.

First, if a proposed project is in an area designated in the general process or a strategic assessment, it will not have to go through a classification process during the licensing and leasing process. Projects proposed in areas that have not been previously designated will require a determination from the regulator in the licensing process as to whether the site is a Green, Yellow or Red area site. Such a designation of an individual site at the licensing and leasing stage may usefully serve as a starting point for initiating a designation process for the wider area, particularly if there is reason to believe that there is broader interest in operating aquaculture facilities in the area.

Second, the designation of an area as Green, Yellow or Red will have implications for the process of reviewing individual applications for a lease and licence to operate an aquaculture facility in the

[153] We agree with the suggestion we received from the EAC that data and mapping (if those are the correct terms) produced to determine an area's suitability for aquaculture should be accessible to the public and added or connected to other publicly available information in a way that permits people to integrate the information and use it for other planning and decision-making processes.

area. As set out in more detail below, the regulatory process in Green areas will be more streamlined, whereas the process in Red areas will be most onerous.

Third, the likelihood of an application for operating an aquaculture facility being granted will differ. In Green areas, it would be reasonable to expect that licences would be granted for well-designed operations that are sensitive to other users and are proposed in suitable locations. Conversely, the likelihood of a successful application in a Red area would be low.

Fourth, the terms and conditions under which aquaculture facilities would be licensed to operate would vary. Because of the biophysical constraints and the potential social and economic concerns in Yellow and Red areas, operations that do get approved in either will have to meet additional terms and conditions, such as additional monitoring and reporting obligations. They would typically also be approved on terms and conditions that would be more restrictive of the scale and/or density of the aquaculture that can be conducted than would typically apply in Green areas and require additional measures to reduce the higher risk of adverse impacts present in Yellow and Red areas.

Finally, in light of the feedback we received on our draft report, it is important that we be more explicit than we were in our draft report that we envisage that classification of a coastal area could change where there is a good and defensible reason for that to happen. To begin with, the regulatory framework needs the capacity to fix mistakes where it is realized that mistakes have been made. This is part and parcel of a regulatory framework that is committed to learning from experience and making corresponding improvements. In addition, classifications may have to change to reflect changing conditions, including those caused by climate change. Also, a reconsideration of classification decisions may be warranted because of changes in technology, business practices or research-generated understanding of the impacts of fin-fish aquaculture and the options for eliminating, reducing or mitigating those impacts.

16.5 Relevance to Classification of Differences between Kinds of Fin-Fish Aquaculture

Although we have outlined a process for fin-fish aquaculture, the reality is that the rationale for such a system is primarily found in the concerns associated with salmon farming or, more broadly, with the farming of salmonids. We have been told by experts in the field that a number of these concerns are not relevant at all or to the same extent to other kinds of fin-fish aquaculture, such as halibut or cod aquaculture.

In the classification framework we have proposed, these differences can be taken into account in either of the following ways. First, the framework can be applied by taking the differences between salmon and other kinds of fin-fish aquaculture into account in how the framework is applied. Under this option, the result could be that areas that may be Yellow or Red for the purpose of salmon aquaculture might be Green (or Yellow instead of Red) for other kinds of fin-fish aquaculture. Alternatively, other kinds of fin-fish aquaculture could, like shell-fish, be exempted from the classification system.

In our view, unless it can be said that the concerns that exist with respect to salmon aquaculture are non-applicable to other kinds of fin-fish aquaculture, the first option would be the better option. It would ensure that the differences between salmon farming and other kinds of fin-fish farming are

taken into account in the application of the classification system without assuming that those differences justify an entirely different treatment of other kinds of fin-fish aquaculture.

17. STRATEGIC ASSESSMENT OF COASTAL AREAS

In this section, we will outline the process for evaluating and determining the suitability of coastal areas for aquaculture at a regional scale, using the strategic assessment process identified above as one of the three processes that can lead to the classification of a coastal area as a Green, Yellow or Red area for aquaculture of salmon or another fin-fish species. For shell-fish aquaculture, this process could be used to proactively identify areas that are or are not suitable for the development or growth of that kind of aquaculture.

We refer to this process as a strategic assessment of coastal areas because we think it could be used not only for assessing the suitability of coastal areas for fin-fish aquaculture but also for exploring their development potential. In contrast to the general classification process that might be used to classify areas that can be readily classified at a more regional scale and the classification that will happen as part of the licensing process, strategic assessment is a process to be carried out at a more intermediate scale, keeping in mind which areas are most likely to be of interest to operators, and which areas are connected from a social and ecological perspective.

In the case of fin-fish aquaculture, the strategic assessment process should have two primary goals in any locality in which it is carried out. One goal would be to identify Green, Yellow and Red areas for fin-fish aquaculture. A second goal would be to identify any specific sites that are particularly suitable and promising sites for the development of aquaculture because, in addition to meeting the criteria for Green areas, they are located in or close to communities in which there is significant support for fin-fish aquaculture development under the proposed regulatory framework. This second goal would also provide the rationale for strategic assessments in relation to shell-fish aquaculture.

For the process to be effective, it has to be transparent and flexible, and it also has to fully engage all interested parties in the region in question, including Mi'kmaw communities,[154] potential aquaculture operators, other users of the coastal area, industries, interested residents and all levels of government. A key goal of the process should be to integrate biophysical, social and economic aspects, and their interactions, and to identify to what extent the area in question is a suitable area for aquaculture in light of the overall goal of ensuring that aquaculture in Nova Scotia minimizes environmental impacts while maximizing social and economic benefits to Nova Scotians.

[154] There was qualified support at the Roundtable for the following recommendation: "Both the Province and the proponent should carry out meaningful consultation with KMK, other First Nations umbrella groups, First Nations leaseholders and with First Nation communities near a proposed site to ensure a solid understanding of the proposed aquaculture venture and address community concerns and rights issues. The consultation should follow KMK guidelines." There was also unanimous support for the idea that "First Nations food, social and ceremonial fisheries must be addressed through the siting criteria and throughout the siting process." (Roundtable Final Report, pp. 16 and 20, respectively)

The process should be carried out in a manner consistent with the following principles and elements:

a. Broad scoping and information gathering to ensure that the full range of biophysical, social and economic impacts, benefits, risks and uncertainties of each form of aquaculture under consideration are identified[155]
b. Careful review and analysis of the information gathered to properly designate coastal areas within the study area in accordance with the classification criteria for Green, Yellow and Red areas
c. Documentation of the results of the analysis for public comment
d. Decision making in light of the analysis and comments received
e. Public engagement and transparency throughout

We recommend that the process be initiated with a background report prepared by the DFA (with input from relevant provincial and federal departments) that considers the general biophysical suitability of the area for each type of aquaculture under consideration. The Background Report should also include information about other users of the coastal area, and any other information that could be relevant to the consideration of the suitability of the area for aquaculture operations. The Background Report should focus on providing information. It should not seek to reach conclusions or suggest designation of areas as Green, Yellow or Red areas.

The report should be shared with communities, stakeholders, and members of the public in the area under consideration. This should be followed by a flexible process of engaging with all interested parties to assist in the designation of the coastal area under consideration according to the classification criteria. The process should consider whether any sites within the area are particularly suitable for aquaculture, so as to warrant a proactive call for proposals by the DFA to interested operators, the possible issuing of one or more experimental licences or the establishment of an aquaculture research or "test" facility.[156]

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[155] The information gathered for a strategic assessment would be like the information gathered for a strategic environmental assessment. Accordingly, a strategic assessment would be conducted in accordance with the recommendation that received unanimous support at the Roundtable: "Detailed habitat and water chemistry data for a proposed site must be provided as part of the EIA process and a reference site identified for comparison. The data should be applicable to the Environmental Monitoring Program process" (Roundtable Final Report, 17). Strategic assessments would also be broadly consistent with the related recommendation that "the EIA process should include a risk analysis for all existing fisheries in the proposed site area, followed by a bay carrying capacity study," which received partial Roundtable support, and the recommendation that "the best available prediction model to assess site suitability" and "the best available prediction model to predict levels of settled organic wastes below fin-fish cages" be used in assessing sites for suitability for aquaculture, both of which received qualified support at the Roundtable. (Roundtable Final Report, pp. 17, 20 and 21, respectively)

[156] We note that a similar process – strategic environmental assessment – appears to have been used to identify suitable locations for aquaculture development areas in South Africa: see K. Hutchings et al., *Strategic Environmental Assessment: Identification of Potential Marine Aquaculture Development Zones for Fin Fish Cage Culture*, which was prepared for the Directorate for Sustainable Aquaculture Management: Aquaculture Animal Health and Environmental Interactions and the South African Department of Agriculture, Forestry and Fisheries.

We do not want to be overly prescriptive on the nature of the engagement process once the background document is released, particularly in light of our recommendation that it be implemented at a local or regional level rather than at a provincial level. The process should be sufficiently flexible to be suitable and effective in different parts of the province and potentially at different scales. We do suggest, however, that the public and stakeholder engagement process used to develop this report and the 2008 Fundy Tidal Energy Strategic Environment Assessment process can serve as general guides on how to effectively engage with interested members of the public.

At the conclusion of the public engagement process, it will be up to the DFA to decide on the appropriate designations for the coastal area under consideration. The DFA would prepare a draft designation decision for public comment, after which the Minister would make the final decision. The designation should be reviewed periodically through a process that is similar to the process followed for the original designation.

Where strategic assessment identifies areas particularly suitable for the development of either kind of aquaculture and the DFA opts to put out a call for bids on those sites to proactively encourage their development, strategic assessment could lead to the designation of aquaculture development areas as currently contemplated by the *Fisheries and Coastal Resources Act*.[157] Where bids are called, they could be called on the basis that the selected bidders would go through a more streamlined version of the licensing process described below. For this to happen, the strategic assessment process would have to provide residents in local communities with ample opportunity to participate in the assessment process, and it would have to be transparent from the outset that a streamlined licensing process was a potential outcome of the strategic assessment. In addition, the process would have to conclude not only that the area was a Green area (or an area suitable for shell-fish aquaculture) but that the development of the area for aquaculture enjoys high levels of community support. In other words, the absence of concerns about conflicts with other users would not be enough. Positive support for development would have to be established through a very open strategic assessment process before a licence could be issued outside the normal licensing process.

18. LICENSING (SITE APPROVAL) PROCESS

18.1 Introduction

Under the current regulatory framework, aquaculture is regulated through a licensing process that works in conjunction with a leasing process. Under this mode of regulation, aquaculture is prohibited unless licensed. Once licensed, it has to be conducted in accordance with the terms and conditions set out in the licence.

[157] SNS 2012, c 22. We note that an important question was raised by the feedback we received from ACFFA on our draft report, which was whether the proactive development of aquaculture sites is an appropriate role for the DFA as a regulatory organization. Their concern is the involvement of the DFA very directly in the developmental aspect of the industry, with possible adverse consequence to public trust and confidence. We recognize the concern but on balance believe it is addressed by the transparency and accountability that would be applicable due to the requirement for a strategic assessment that establishes compliance with Green area classification criteria and the existence of significant community support.

In addition to a licence, an operator needs a lease if the licensed aquaculture is to be carried out on Crown waters. Most marine-based aquaculture is conducted on Crown waters. A lease is not authorization to conduct aquaculture. Rather, it confers an exclusive right to use the leased space for aquaculture when and if a licence is obtained. Licensing and leasing tend to be used interchangeably in describing the process, perhaps because most sites need a lease as well as a licence and because the *Fisheries and Coastal Resources Act* provides that the lease is to be issued on the same terms and conditions as the licence.

Our review of regulatory frameworks for aquaculture in place across Canada and in other jurisdictions shows that the model of regulation consistently used is a licensing model. Under this model, aquaculture is prohibited unless licensed. Once licensed, the regulatory framework requires aquaculture to be conducted in accordance with the requirements and limitations that are either written into specific licences or present in the licensing statute, in which case they are applicable to all licensees operating within the scope of the statutory requirements.

The licensing mode of regulation should continue to be the mode of regulation used in Nova Scotia. However, we think it should be conducted in accordance with the following improvements.

18.2 Licensing and Environmental Assessment

As noted earlier, the regulation of aquaculture deals with many issues that otherwise would be addressed under environmental regulation. Determining the impact a proposed aquaculture project would have on the environment is a critical component of the evaluation that must be undertaken before a licence is issued, renewed or amended.

For this and other reasons, it was proposed to us that we should recommend that licensing be subject to environmental assessment conducted under the *Environment Act*.[158] Some pointed out that until recent changes made to the *Canadian Environmental Assessment Act*, some aquaculture projects were subject to environmental assessment at the federal level.[159] As this is no longer the case, some have suggested that this strengthened the case for a provincial environmental assessment under the *Environment Act* to assume the function of the federal environmental assessment that will no longer occur.[160]

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[158] There was qualified support at the Roundtable for the recommendation that "the regulatory framework should include a requirement for environmental impact assessment to be carried out by the Province as a part of the licensing process, including consideration of environmental, economic and social issues."

[159] In the ACFFA feedback to our draft report, we were told that this was a mistaken understanding of the history, in that environmental assessments of aquaculture projects under *CEAA* were discontinued before changes were made to *CEAA* on the basis of a determination that aquaculture projects did not warrant environmental assessment. If so, the question in our view remains: should environmental assessment therefore be incorporated into provincial assessment of aquaculture projects? On that question, we understood ACFFA to be responding to our proposal that the aquaculture licensing process should be conducted as a kind of specialized environmental assessment by saying, in effect, that aquaculture does not warrant environmental assessment. We do not share this view and find support for the contrary view (that assessment for environmental impact should occur whether or not this is in a distinct environmental assessment process) in the literature. See, for example, the various chapters in VanderZwaag and Chao, *Aquaculture and Law*, and in particular, the chapters by VanderZwaag and by Howarth.

[160] ECELAW, Aquaculture Regulation in Nova Scotia.

Our review of the regulation of aquaculture in other jurisdictions indicates that environmental assessment separate and apart from the licensing process is not typically part of the assessment of a proposed aquaculture project.[161] In addition, it should be kept in mind that the federal environmental assessments that applied to aquaculture were typically conducted as screening reviews carried out by the same federal agency that was called on to make a regulatory decision in respect of the proposed project. They were not environmental assessments conducted by an independent third party.

Consistent with our conclusion that the regulation of aquaculture should generally continue to be the responsibility of the DFA, we have concluded that the provincial environmental assessment process should not be applied to the assessment of aquaculture projects. Instead, we think assessments of an application for a licence should be conducted by the DFA on the understanding that the assessment must cover all of the ground that an environmental assessment would cover, as well as whatever additional ground it must cover from a general licensing and resource utilization perspective. It should, in other words, be conducted and be understood as a kind of specialized environmental assessment, which, like the federal environmental assessments that have been conducted in the past, is conducted within the regulatory approval process.

So conducted and so understood, environmental assessment would be built into the regulatory framework in somewhat the same way as environmental assessment was built into federal decision making in respect of aquaculture before the recent changes to the *Canadian Environmental Assessment Act* were made. The end result should be one regulator that is in a position to integrate environmental, social and economic considerations in an overall determination on how to maximize net benefits to all Nova Scotians in a manner that is fair and equitable.

18.3 Statutory Licensing Principles

The legislation governing the licensing process should set out the principles that are expected to guide that process. Putting the principles in the legislation will mean that the DFA has a legal duty to address the principles in its assessment and decision making on applications for licences.

The principles would inform and guide but not determine the outcome in any particular licensing decision. They should be set out in the Act or the regulations using a non-exhaustive approach to drafting to avoid the implication that the listed principles are the only ones relevant to licensing no matter the circumstances of a particular licence application, variation or renewal. Our process leads us to conclude that the principles should address the following matters:

a. Compatibility with public rights of navigation

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[161] See the two reports prepared for us by East Coast Environmental Law, available on our website, under "Updates": *Comparative Analysis of Five Regulatory Frameworks in Canada*, comparing NB, PEI, NL and BC to Nova Scotia, and *Comparative Analysis of Aquaculture Regulatory Frameworks in Maine and Nova Scotia*. A much broader survey of environmental impact assessment practices in aquaculture is provided in A. Wilson et al., "Review of environmental impact assessment and monitoring in salmon aquaculture," in *Environmental Impact Assessment and Monitoring in Aquaculture: Requirements, Practices, Effectiveness and Improvements*, FAO Fisheries and Aquaculture Technical Paper 527. This paper considers Canada, Chile, Ireland, New Zealand, Norway, the United Kingdom and the United States, and specifically notes the absence of explicit consideration of socio-economic costs and benefits in the EIA process of the jurisdictions covered, with the partial exception of Scotland (p. 524).

b. Compatibility with fishery activities, including the lobster fishery
c. Compatibility of the nature and scale of a proposed operation relative to the biophysical, oceanographic and community context[162]
d. Compatibility with the activities of other users or beneficiaries of the public waters in question
e. Responsiveness to the cumulative effect of aquaculture in the area
f. Contribution of the proposed project to net community socio-economic benefits

For fin-fish aquaculture, the application of these principles would be framed by the classification of the area of the proposed operation as a Green, Yellow or Red area for the kind of fin-fish aquaculture being proposed in the application for a licence.

We received feedback on our draft report that licensing principles were redundant or unnecessary given our proposed regulatory principles. In our view, both are important. The regulatory principles apply to the design and operation of the whole regulatory framework and are therefore necessarily quite general. The licensing principles are more specific because they have a more specific function, which is to structure the discretion of the DFA to either approve or reject an application for a licence. Their role is to provide more specific guidance to licensing than the general principles by themselves could provide and also to enable and facilitate the accountability of DFA for its licensing decisions, including through the appeal process.

Our proposal is similar to the approach that has been taken in Maine. In that state, the Commissioner responsible for licensing is required by law to consider the following factors:

a. Impact on riparian owners
b. Interference with navigation
c. Interference with fishing or other water-related uses
d. Intensity and frequency of other aquaculture in the area
e. Impact on the ability to support wildlife or marine habitat
f. Fish health practices
g. Impact on public use and enjoyment of the area
h. Lighting, noise and visual impacts[163]

This approach is different from the one we have proposed in three respects: instead of licensing principles, it lays out the factors that must be considered; it lists the matters that must be taken into account in a more specific way than does our list of licensing principles; and it explicitly addresses some matters, such as lighting, noise and visual impacts, that might not be encompassed within our list of more general principles.

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[162] The Roundtable expressed unanimous support for the recommendation that "the regulatory framework should require the determination of the carrying capacity of a proposed site and its reference site, in order to maintain oxic conditions. Licensing should include maximum biomass levels based on carrying capacity." There was further qualified support for the recommendation of using "the best available prediction model to assess site suitability" in the context of a decision support system. (Roundtable Final Report, 20)

[163] Maine Department of Marine Resources, *Aquaculture Lease Regulations*, 131 88 CMR ch 2, at s 2.37.

The advantages of a guiding principles approach is the flexibility it creates to address variation between cases, as well as change and evolution over time. It may also have greater capacity to encompass issues of concern that are relevant to particular cases but are not included in a specific list of the factors that must be considered in all cases, although this could be addressed by adding a "basket clause" to the list of specific factors. The other advantage of a guiding principles approach is that it goes beyond identification of the factors that should be considered, to indicating how those factors should be taken into account in the decision-making process.

Either approach would accomplish our core objective, which is to ensure that those interested in a decision on an application for a licence have a stronger basis than they do under current legislation to hold the DFA accountable for addressing the issues that licensing should, as matter of law, address. On balance, however, we favour a guiding principles approach.

18.4 Universal Elements of the Licensing (Assessment) Process

For all kinds of aquaculture, the licensing process would generally have the elements laid out in this section. The content of the elements would differ depending on whether the application is for a shell-fish or a marine-based fin-fish project and depending on whether the proposed fin-fish site is in a Green, Yellow or Red area. The content of the elements will also vary to reflect the differences between the risks of adverse impact associated with specific applications within these broad categories or branches of aquaculture.

In our draft report, the linkage or relationship between the licensing process and the strategic assessment process described above was not fully developed or explained. As a result, some of the feedback we received was that the licensing process we describe here would involve a repetition or duplication of much that would have already happened in strategic assessment. Two important points therefore should be stressed. First, the strategic assessment process will only be used where the DFA decides to use it for the purpose of applying the classification system to coastal areas. Where no strategic assessment has happened, there will by definition be no duplication between strategic assessment and the licensing process. Second, where a licence application does relate to an area already classified by a strategic assessment, the result may be that the steps in the licensing process will be adjusted or streamlined to take account of the ground already covered in the strategic assessment. This is explained in more detail below in subsection 18.6, Licensing and Strategic Assessment.[164] In 18.6, it is also pointed out that even where strategic assessment does not lead to reduction in the number of steps in the licensing process, it will normally mean that there is less work to be done in many of the steps of the licensing process for an application for a licence in an area that has been classified in a strategic assessment.

[164] As indicated in section 12, Experimental or Developmental Licences, a streamlined application process would also apply to applications for experimental or developmental licences to conduct aquaculture for academic or communal research purposes, as well as for commercial research where the results of the research are to be shared publicly. A streamlined process would also be followed where the application was for an experimental or developmental licence issued after a strategic assessment.

18.4.1 Introduction of an "Option to Lease"[165]

One of the concerns pressed on us most strongly is that too many project proponents do not seek input from the public until they are required to do so by the licensing process. By then, a lease is in place and project plans are quite advanced. It was said that this denies the public a meaningful opportunity to make their views known when they are most likely to have the greatest impact on planning by proponents and decision making by regulators. It means that public participation occurs only when the community is faced with what looks like a done deal between the proponent and the regulator, which contributes to fostering distrust and community opposition. It may also mean that the project has been developed without input that could have improved the project in ways that would both make it more acceptable to the community and also a better project overall.

Industry representatives explained that proponents must do a lot of preparatory work to determine the suitability of a site for aquaculture and the kind or scale of aquaculture that would be suitable for a particular site. They explained that if proponents included open consultations with the community in this preparatory work before securing a lease, information about the site and the proponent's plans for the site would make its way to competitors, who could then use it to apply for a lease before the proponent has an opportunity to do so.

We think the process of developing aquaculture projects and the regulatory process would both work more smoothly and effectively if community involvement were able to start from early in the planning process and, in particular, before a lease is applied for. To facilitate this, we recommend that the regulatory framework should follow the recommendation that received qualified support at the Roundtable, that "there should be a regulatory requirement to notify the public early to incorporate local knowledge and public input into licence applications."[166]

At the same time, we think this will be feasible only if proponents can inform the public of their intentions and engage with communities with reasonable confidence that competitors cannot use the information proponents share with communities to pre-empt the proponent in applying for a lease. In other words, the regulatory framework should address the main concern of those members of the Roundtable who qualified their support for the recommendation quoted in the previous paragraph, which was protection of the interests of a prospective operator if knowledge of their interest in, and plans for, a particular site become generally known prior to their application for a licence and lease.

To strike this balance, Nova Scotia's regulatory framework should adopt the "option to lease" concept that is part of the regulatory framework for aquaculture in Scotland.[167] Under this concept, except in circumstances where a streamlined licensing process applies, the regulatory process should always begin with an application for an option to lease. Once an option to lease is issued, only the holder of the option could apply for a lease of the site while the option is in effect. This

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[165] There are situations where the applicant for a licence does not require a lease because it owns the land on which its project is to be conducted. In that situation, the industry concern that the option to lease is intended to address does not arise because the proponent does not risk losing its site to a competitor.

[166] See Roundtable Final Report at page 14.

[167] For more analysis of this concept in the Scottish context, see the discussion of the "lease-option agreement" at pages 33–37 of Cecilia Engler's report on the aquaculture framework in Scotland.

allows the holder of the option to engage with stakeholders in developing its project with security that competitors cannot use its work to apply for a lease ahead of the option holder. The basic idea is that an option to lease would give a particular proponent priority access to a particular site over all other proponents, without offering any guarantees that a lease or licence will ever be issued to the proponent for the site.

The option to lease would give proponents a limited period of time, during which they would have the exclusive right to submit a project for regulatory consideration. Based on what we have heard, this should remove a key barrier to engagement with communities in the early stages of project development and planning.

Given its limited effect and purpose, the option to lease should be easily obtained with minimal process. Essentially, it should be granted when it is applied for unless the DFA has some very specific reason to deny the application, such as the ineligibility of the applicant to apply for a licence and lease. To avoid the temptation businesses may have to "sit" on an option to lease, an option to lease should only be issued where there is reason to believe that the proponent has the intention and the capacity to move forward with their work on the site reasonably quickly. In addition, an option to lease should expire after a set period of time.

18.4.2 Clearer/Stronger Notification and Information Provision Requirements

As soon as the option to lease is issued, the public and interested stakeholders would be immediately notified by the DFA. The public notice of the option to lease in essence constitutes the initial public notice of the start of the licensing process. From this point on, the licensing process should be designed to proactively engage interested members of the public and of affected communities, and to be as transparent as possible. The commitment to openness and transparency should continue beyond the initial step of the lease and licensing process and endure for as long as the site is considered an active aquaculture site. The DFA should create a webpage for each aquaculture site under option or lease on the DFA website that provides all relevant information to interested members of the public about the status of the site and, for every approved site, the terms and conditions under which it is permitted to operate, monitoring results and any other relevant information. This same webpage could serve to facilitate full and timely transparency throughout the operation of the facility.

In these ways, the new regulatory framework will be responsive to several recommendations that received qualified support at the Roundtable: first, that there should be a regulatory requirement to notify the public early and to incorporate local knowledge and public input into the licence applications; second, that all licence application information pertaining to environmental impacts and impacts on other resource use and users should be made publicly available.

18.4.3 Mandatory Pre-application Scoping Process

To apply for a licence, the holder of an option to lease would be required to initiate and conduct a pre-application scoping process in the community or communities in close proximity to the proposed aquaculture project. The DFA would be responsible for ensuring appropriate notification of the process, but the process would normally be conducted by the proponent. The purpose of the scoping process would be twofold. First, it would address the desire for community members to know about and to have an opportunity to provide input to the development of the project before it

goes too far into the regulatory process. The process would give local residents a chance to learn about the proposed project, to express their early support or opposition for the project to the proponent and to provide local knowledge to the proponent that may discourage or improve the application for a licence and a lease.[168] The second objective would be to ensure that the proponent has access to local knowledge that may be relevant to its decision whether to proceed to the application stage and, where it does decide to proceed, to the content of its application.[169]

In broad terms, this new stage of the process, which is similar to what may happen informally and inconsistently under the current framework, is based on the Pre-Application Scoping Session that applicants must conduct before applying for a licence in Maine.[170] Under that approach, the regulator must be satisfied that the applicant for a licence has fairly and seriously conducted the pre-application scoping process before it agrees that the application for a licence is complete and ready for consideration. We think this should be the approach adopted in Nova Scotia.

To that end, we recommend that applicants for a licence be required to include a section on how the pre-application process was conducted and what was learned from the process and from preparing the background document (or scoping report) that we say below should be a required part of every application. This portion of the report would be expected to address matters such as

- overall levels of support and opposition to the proposed operation
- views on the proposed location, scale, species, operator, technology, etc.
- views on compatibility with existing activities in the area
- views on impacts, benefits, risks and uncertainties
- views on what the operation should be required to do to minimize its impact on the natural environment and on other uses of the coastal area

By requiring information learned in the pre-application scoping process to be included in the report that the applicant must submit with an application for a licence and lease, the regulatory framework would be responsive to a recommendation that received qualified support at the Roundtable – that there should be a regulatory requirement to incorporate local knowledge and public input in licence applications.

18.4.4 Filing of Background Document (Scoping Report)

As in Maine, applicants for a licence and lease in Nova Scotia should be required to submit a background document (or scoping report), which would become the primary factual foundation for

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[168] This is consistent with ECELAW's conclusion that "community members need to be engaged in the licensing process before a license is issued" in order to allow meaningful public engagement in the process: see *Aquaculture Regulation in Nova Scotia*), 21–22.

[169] The Roundtable expressed qualified support for a recommendation that "there should be a regulatory requirement to notify the public early and to incorporate local knowledge and public input into license applications," among general agreement that early public input was vital.

[170] For more discussion of this scoping session in the Maine context, see ECELAW's report *Comparative Analysis of Aquaculture Regulatory Frameworks in Maine and Nova Scotia*, at pages 18 and 21. This report is available on our website under "Updates." See also Maine Department of Marine Resources, *Aquaculture Lease Regulations*, at s 2.07.

the application. The background document, or scoping report, would be a document available to the public. As such, one of its functions will be to enable meaningful public participation in the formal stages of the licensing process. One of the other functions of this report will be to enable the assessment of the application to encompass and address the matters and issues that would typically be covered in a process of environmental assessment. In the case of fin-fish aquaculture, another function of the report (in combination with public feedback on the report) will be to give the DFA as much as possible of the information it will need to either classify a proposed site in the Green, Yellow or Red classification system or, where the site has been previously classified, decide how an application will be assessed and decided given its prior classification in the Green, Yellow or Red classification system.

The information that a background document or scoping report will include will vary with the kind of aquaculture being proposed and with the location of the proposed operation. It should, however, include the information derived from the pre-application scoping process outlined above. It should also include information on the following matters:

a. A detailed description of the proposed lease site and of the proposed operation (including scale/size, location, species and stocking density)
b. Biophysical conditions at the proposed site of relevance to the suitability of the site for the proposed operation, including bottom characteristics, tide levels and current speed and direction, and resident flora and fauna
c. An overview of all current and recent activities in the area that have the potential to be affected by the proposed operation or that have the potential to interact cumulatively with coastal ecosystems that have the potential to be impacted by the proposed operation (including fishing, angling, tourism, recreation, land-based industrial and agricultural operations)
d. The presence of any endangered species in the area potentially affected by the proposed facility
e. Specific measures the proponent intends to take in terms of operational practice and technologies to reduce the environmental impact of the operation and to ensure the suitability of the proposed operation for the proposed site
f. Any other matter on which the DFA specifically asks for information[171]

The background document (or scoping report) requirement and the requirement that such a document be a public document will help to ensure that the regulatory framework responds in an organized and consistent fashion to the recommendation of the Roundtable, which received

[171] In developing this list of items to be addressed in the background document or scoping report, we have noted that in Maine, the application must address a description of the proposed lease site; a list of species to be cultured and the source of the organisms; an environmental evaluation of the site including bottom characteristics; resident flora and fauna, tide levels and current speed and direction; a description of the recreational and commercial fishing activity in the vicinity; evidence of technical and financial capability; and any other information the Commissioner may require.

qualified support, that "all licence application information pertaining to environmental impact and impacts on other marine resource use and users should be made publicly available."[172]

18.4.5 Application Screening Process

Once an application for a licence and lease is submitted to the DFA, the Department would carry out an initial screening. This screening would allow the DFA to consider whether the application is complete and ready for a hearing. But it would also determine whether the application has a reasonable prospect of success if it were moved on to the next stage of the process. The screening would take into account public comments made to the DFA on the application through a notice and comment process described below.

The decision options available to the DFA at this stage of the process would be to send the application back to the applicant if the DFA determines that the application is incomplete, to reject the application if the DFA determines it has no reasonable prospect of success, or to send the application on for a hearing. Where the decision was to send the application back or to reject the application on the basis that it had no prospects for success, the DFA would be required to explain the basis for its decision. A decision to reject an application at this stage on the basis that it has no prospects for success would be subject to appeal due to its final nature. Other decisions made at this stage would not be subject to appeal.

To address files where incompleteness or absence of prospects for success are clear, the DFA would have the authority to send back or to reject on a summary basis without seeking public input or input from other regulators. Otherwise, there would be a 30-day public comment period during this stage of the process. In other words, the public would have a 30-day period in which to give its comments to the DFA on the application submitted by the applicant. For that purpose, the screening period would be initiated by posting of the application to the DFA's website. Where an application passes the screening stage, the public comments received become part of the file for the purpose of the hearing.

The consultations of the DFA with other regulatory agencies would also happen at this stage of the process, again unless the DFA sends the application back or rejects the application solely on its own assessment. The consultations could become part of the basis of a decision to send back or to reject. Where they do not have that effect, the consultations would become part of the file for the purpose of the hearing.

For fin-fish applications that are in locations that have already been categorized as Green, Yellow or Red, that prior characterization would be taken into account at this stage for the purpose of deciding whether the application will proceed to a hearing. For fin-fish applications in locations that have not been categorized, part of the analysis to be done at the screening stage is whether the application includes the information needed to categorize the location as Green, Yellow or Red.

For applications that pass the screening process and on which there is a discretion to be exercised as to the kind of hearing that will be held, this discretion would be exercised in the application screening process. So, for example, if there were a discretion to choose between what we

[172] Roundtable Final Report, 11.

subsequently call an administrative style of hearing and an adjudicative style of hearing, that discretion would be exercised at this stage.

The screening process will also give the DFA the opportunity to identify the issues that it believes must be addressed by the applicant in the hearing. This will help to ensure that the hearing is organized, productive and efficient.

18.4.6 Mandatory but Variable Hearing

Under the current regulatory framework, the Minister of Fisheries and Aquaculture is authorized but not required to conduct a hearing before licensing a project and issuing a lease. The Act is very open-ended as to the kind of hearing that the Minister can conduct when he or she decides to conduct a hearing.

Under the new regulatory framework, a hearing would be part of the process for every application for a licence. What would vary would be the kind of hearing conducted in each case. We envisage two basic kinds of hearings, with some room for variation as to how each is conducted in specific cases. One would be an *administrative* style of hearing and the other would be an *adjudicative* style of hearing. Administrative hearings would be conducted largely through a process in which participants are given the opportunity to comment, ask questions and make submissions in writing. Adjudicative hearings would be conducted through a process that includes a formal hearing conducted in person before the person who is designated to either make the decision or conduct the in-person portion of the hearing on behalf of the decision maker.

For shell-fish applications, the legislation would leave the choice of which of the two kinds of hearing will be used to the DFA, but it would lay out the kind of factors the DFA would be required to take into account in deciding on the form of hearing to be held in particular cases. We would anticipate that most hearings for shell-fish applications would be administrative hearings. The DFA would nevertheless have the discretion to order an adjudicative hearing in particular cases. Its exercise of this discretion would be subject to appeal.

In contrast, for fin-fish applications, the legislation would specify that the hearing to be held must be, with two possible exceptions, an adjudicative hearing. One exception would be for applications in Green areas where the classification of the area as Green has been determined through a strategic assessment or a previous licensing decision. In those cases, which would include applications being made in response to a call for proposals issued by DFA after a strategic assessment, the DFA would have the discretion to conduct the hearing for a fin-fish licence in a Green area as an administrative hearing. The exercise of that discretion would be subject to appeal. The second exception would be where the application was for an experimental or development licence, where the hearing would normally be an administrative hearing. In addition, in those cases, the hearing would be expected to be a streamlined administrative hearing where the research to be conducted is academic or communal research or commercial research to be conducted with public disclosure of the results.

Both kinds of hearings would be required to meet essential procedural protections to ensure fairness. For example, participants in both kinds of hearings would have access to the information needed to make their participation in the process meaningful. In other words, the access of participants to the application file would be the same in administrative and adjudicative hearings.

In both kinds of hearings, the exception would be information that would be withheld because the applicant established that it is confidential business information. As explained in our earlier discussion of transparency, the onus of establishing the business confidentiality of information should be on the applicant, under a statutory definition of confidential information that is narrow and restrictive.

In both kinds of hearings, participants would have the opportunity to present whatever information or make whatever submissions they wanted, subject only to showing its relevance and adhering to reasonable limits required to ensure that the hearing is conducted efficiently and economically.

In both kinds of hearings, there would be two requirements: that the decision be made on the basis of the information considered at the hearing and that the reasons for the decision be released publicly and to everyone who participated directly in the hearing.

In these respects, the regulatory framework would be responsive to the Roundtable recommendation that "a public hearing should be a mandatory requirement with formal procedures."[173] We recognize that this recommendation only received partial support. We have tried, however, to address at least one of the reasons that prevented some from supporting the recommendation, which was "past experience with public meetings that were poorly run without formal procedures." We have not addressed the other reason that was given for those who were not able to support the recommendation, which was the view that a public hearing should not be necessary where a proponent had carried out effective consultation. Our view, however, is that such a proponent will usually be rewarded with an efficient and positive hearing experience.

Our recommendations on the openness of the hearing process respond to the Roundtable recommendation that, "all licence application information pertaining to environmental impact and impacts on other marine resource use and users should be made publicly available." This recommendation received qualified support, the qualification relating to protection of sensitive business information. In addition to the protection for confidential information that we have proposed, we also note that the recommendation specifies public access to "information pertaining to environmental impact and impacts on other marine resource use and users."

18.4.7 Written Reasons for Decision

The DFA would be subject to a statutory duty to give reasons for its decision following a hearing. The legislation would specify that the decision and the reasons for the decision must be posted on a website and otherwise made available to participants in the hearing and to the broader public. This would be consistent with the recommendation from the Roundtable, which received qualified support, that "government should be required to respond to the issues raised during the public hearing process."

This is another aspect of procedural rights that would be the same in administrative and adjudicative hearings. To ensure that it is a meaningful tool of accountability and transparency, the

[173] Roundtable Final Report, 11. This recommendation received qualified support, with the qualification reflecting the concern of some about the protection of business confidential information, which we have addressed to the extent we think it can be addressed given the overriding need for "open book" regulatory transparency.

legislation would specify that the reasons for the decision would have to explain how the licensing principles were taken into account and how the decision advanced the principles and the goals of the broader regulatory framework.[174]

18.4.8 The Role of Third Parties in Conducting the Process

The DFA would have the authority to require a proponent to use a third party to facilitate the pre-application scoping process.

The DFA would have the authority (as it does now) to commission a third party to conduct a review of any application before rendering its decision on the application. This could be done before the hearing. In that case, the report from the third party would be considered in the hearing. Alternatively, a report by a third party could be commissioned after a hearing. In that case, participants in the hearing would be given an opportunity to comment on the report before it could be taken into account in deciding the application. In both cases, the report from the independent third party would be posted on the webpage created for the aquaculture site under consideration, located on the DFA website.

Utilized in this way, third-party reports would serve somewhat the same function as focus studies perform under the *Environment Act*. They would generally be of a fact-finding nature but could also be mandated to include recommendations. They would be a device the DFA could use where it requires additional information or information from a neutral source or from someone with a particular expertise. They could be used to assist with the rebuilding of trust where views have become polarized and where relationships have become adversarial. Third parties could also be engaged to consult with potentially affected communities, including Mi'kmaw communities, stakeholders and interested members of the public, to inform them of what is proposed and to solicit their views on the proposed facility.

Third parties could also play a role in the conduct of the hearing. The DFA could assign responsibility for the hearing to an independent third party or to a panel of independent third parties. Alternatively, an independent third party could be included in the conduct of the hearing with DFA members.

[174] In Maine, the Commissioner who is authorized to determine applications for leases can only grant a lease if satisfied that the lease will not unreasonably interfere with ingress and egress of riparian owners; the lease will not unreasonably interfere with navigation; the lease will not unreasonably interfere with fishing or other uses of the area; the lease will not unreasonably interfere with significant wildlife habitat and marine habitat or with the ability of the lease site and surrounding marine and upland areas to support existing ecologically significant flora and fauna; the applicant has demonstrated that there is an available source of organisms to be cultured at the site; the lease does not unreasonably interfere with public use or enjoyment within 1,000 feet of beaches, parks or docks owned by government; the lease will not result in unreasonable impact from noise or light at the boundaries of the lease site; and the lease complies with visual impact criteria relating to colour, height, shape and mass. This is a more prescriptive approach, which mirrors the list of things the Commissioner is required to consider. We have considered this approach since issuing our draft report and concluded that the more general approach we have proposed strikes a good balance between transparency, accountability, consistency, rigour and flexibility in decision making.

18.4.9 Appeal to the Minister (or to Independent Board)

As under the current framework, proponents should have the statutory right to appeal to the Minister the decision to refuse a licence, and opponents of projects should have the opportunity to appeal to the Minister on a decision to grant a licence.[175] Appeals would have to be made within 30 days of public notice of the decision being made, and the Minister would be required to decide the appeal within 60 days of receiving the appeal. While this is all a continuation of what is currently provided under the existing framework, the difference would be that under the new framework the Minister would not be both the licensing official and the person being appealed to. This is because under the proposed framework, the licensing and leasing decision would be made by the official in the DFA delegated the authority to make those decisions.

Later in this report, in response to feedback we received on our draft report, we propose the creation of a board to consider applications from the public to have a licence revoked where there is clear evidence of a site's biophysical unsuitability or of a pattern of substantial non-compliance with regulatory requirements. This is a change from our draft report, where we proposed that these applications would be to the Minister. Once created, this board could also be given the jurisdiction to hear appeals from licensing decisions. This would be consistent with our conclusion that the operation of the regulatory process should be separated from the Minister's general authority for the overall governance of the regulatory process and for policy matters.

18.4.10 Appeal to the Nova Scotia Supreme Court

Where an appellant to the Minister (or independent board) is unsatisfied with the Minister's (or the board's) determination of an appeal, they would have the right to appeal to the Nova Scotia Supreme Court within 90 days of public notice of a decision of the Minister. This is a change from the current situation, where a party dissatisfied with a ministerial decision has to apply for judicial review; that is, for the permission of the court to challenge the Minister's decision. It would make the legislative framework for review of aquaculture projects consistent with the *Environment Act* in this respect, except that we are recommending that people be given 90 days rather than the 30 days usually provided in legislation to decide whether or not they will appeal and to prepare their appeal.

18.4.11 Procedural Clarity and Certainty

One of the concerns about the current regulatory framework that we heard from industry is that it is procedurally uncertain and sometimes unwilling or unable to reach decisions or to stick with decisions once made. These concerns could increase under the proposed regulatory framework if it does not function in a predictable fashion, given the significant additional work the framework will require from proponents at the early stages of the process.

We heard a similar set of concerns from community members, even though it was often expressed from the perspective of those who perhaps expected different decisions from the process than

[175] There was partial support at the Roundtable for a recommendation to this effect: "The public and the potential operator should have the right to appeal a decision to issue or renew a licence or a refusal to issue a licence." (Roundtable Final Report, 31)

would typically be expected by those in the industry. The unpredictability of the current process is a concern for everyone, even though different players may be concerned for different reasons.

We think the new regulatory framework should respond to these concerns. It should contain elements of process certainty for those who will have invested time and resources in the development of an aquaculture project under a licensing and leasing process that will impose higher demands and costs on applicants than the current framework does. At the same time, care must be taken to ensure that the regulatory framework addresses process certainty in ways that reflect and respect the differences that will exist between individual applications. Therefore, the approach should be to achieve certainty within the context of the relative scale, complexity and disagreement associated with each application.

To address these objectives, we recommend that the legislation subject the DFA to the following three procedural obligations:

- It must specify and abide by a maximum length of time for reaching a decision on an application once it concludes that an application passes the screening stage of the process.
- It must specify a maximum length of time for the completion of the hearing stage of the process at the commencement of that stage of the process, and it must complete the hearing stage of the process within that period of time.
- It must specify a maximum length of time within which a decision will be reached and released once a hearing is completed.

We also recommend that the legislation provide applicants with the option of applying to the Nova Scotia Supreme Court for an order requiring a decision to be made on an expedited basis where it has not been made within the time specified at the conclusion of the hearing for the making of the decision or where the time specified for the making of a decision at the end of the hearing is beyond the time specified at the screening stage of the process for the completion of the overall process.

18.5 Variations in the Licensing Process

18.5.1 Between Fin-Fish and Shell-Fish Aquaculture and Between Shell-Fish Applications

The licensing process will have the same elements (or steps) when applied to fin-fish aquaculture as it will have when it is applied to shell-fish aquaculture. The main procedural difference will be that the hearing will be an adjudicative hearing for fin-fish applications unless the application relates to a Green area that has been determined to be a Green area through a strategic assessment or a previous licensing process in which an adjudicative hearing was held. In that scenario, an administrative hearing may be held for a fin-fish application. In contrast, the hearing will typically be an administrative hearing for most shell-fish applications.[176]

[176] In its feedback to us on our draft report, the ACFFA objected to a "two-tier" system in which some licence applications are put through what we have described as an adjudicative hearing and others are put through what we have called an administrative hearing. We would agree if the difference were an arbitrary

This will not, however, be the only difference in how the licensing process applies to fin-fish and shell-fish applications. The common elements of the licensing process will typically require more from the applicant and from the DFA where the application is for a fin-fish application than it typically will require from both parties where the application is for a shell-fish operation. For example, although both the proponents of a fin-fish operation and a shell-fish operation would be required to submit a background document with their applications, the document submitted for a fin-fish operation will typically be expected to identify more potential environmental impacts that have to be addressed than would the report submitted with a shell-fish application. This will mean that the applicant for a fin-fish licence will typically have to address more issues and more difficult issues in the screening and hearing stages of the process than most applicants for a shell-fish licence and lease.

It follows that the applicant for a fin-fish licence will typically have more work to do to show that the licence would be consistent with the statutory licensing principles, even though the licensing principles would be the same as for an applicant for a shell-fish licence. Similarly, although the onus the legislation would place on the DFA to justify a decision to licence would be legally the same in the consideration of fin-fish and shell-fish applications, it would in practical terms usually be more demanding where the application is for a fin-fish operation.

Such differences in what is practically demanded of applicants and of the DFA when the universal elements of the licensing process are applied to fin-fish and shell-fish applications will generally increase where the fin-fish application is for a licence in a coastal area that is Yellow or Red. In other words, there will typically be a greater difference between what is expected of applicants and the DFA in fin-fish and shell-fish applications where the fin-fish application is for an operation in a Yellow or Red area than there will be where the fin-fish application is in a Green area.

Nothing here should be interpreted as indicating that all shell-fish applications will be easily approved or that some shell-fish applications will not present difficult issues or face significant opposition. We heard directly from members of communities who are very concerned about shell-fish aquaculture, and more particularly about its expansion and scale, particularly in relation to its potential to adversely affect other users of public waters and shorelines.

Here, our only point is that the licensing process we have proposed will generally operate differently when applied to fin-fish and shell-fish aquaculture in ways that reflect the differences that generally exist between those two branches of aquaculture, particularly as regards their respective potential to adversely affect the environment. Meanwhile, we believe the licensing process we have proposed is one that can accommodate the real differences that can exist between the potential impacts of different shell-fish operations, considering issues such as their different scales, the technology they use and the degree and nature of their potential impact on other users of public waters.

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one, but we do not think it is – rather, we think it generally reflects the nature and level of the issues typically to be considered in the kinds of applications that will usually or always get adjudicative hearings and the kinds of applications that will normally get administrative hearings. The discretion that is left to the DFA to choose between which kind of hearing to conduct where a hearing could be adjudicative or administrative will provide scope to address situations where the rationale for generally allocating the two kinds of applications to the two kinds of hearings do not apply.

18.5.2 Between Fin-Fish Applications in Green, Yellow and Red Areas

As already indicated, the licensing process will be different for fin-fish applications depending on whether they are in areas designated Green, Yellow or Red for the kind of fin-fish aquaculture proposed. This subsection discusses those differences in more detail. First, we point out again that the starting place for the licensing process will be different depending on whether or not an application relates to an area or a site within an area that has been previously classified. Where the site has been previously classified, that classification will be the starting place for the licensing process. Where the application relates to a site that has not been previously classified, the starting point for the licensing process is for the DFA to apply the criteria for identifying Green, Yellow and Red areas to classify the specific site that is the subject of the application.

The general rule should be that applications for the licensing of fin-fish aquaculture should be determined through an adjudicative hearing. As we have already indicated, an administrative hearing may instead be used where the application relates to a site that was previously classified, in either a strategic assessment or a previous licence application process, as a Green area or in a Green area. The rationale for this is that the level of public participation that would have been provided though the earlier process justifies the use of an administrative hearing in the subsequent process. The DFA would, however, have the discretion to conduct an adjudicative hearing and the duty to consider whether case-specific factors warrant an adjudicative hearing despite the earlier participation opportunities.

Regardless of whether an administrative or adjudicative hearing is used to consider an application in a Green area, the starting assumption for the licensing process in Green areas is that the proposed site is well suited for fin-fish aquaculture and that there are no significant competing use issues that cannot be resolved. One procedural consequence may be that the DFA sets a relatively expeditious timeline for the completion of the hearing process and a rendering of a decision. However, the process would be expected to address information brought forward or raised in the licensing process that calls into question the assumption of the site's suitability for the proposed fin-fish operation. Such issues could be identified by the DFA or by members of the public. In either case, the licensing process would have to address them just as it would if they arose in applications for sites in Yellow or Red areas.

For applications in areas previously classified as Yellow or Red areas, or for sites that are classified as Yellow or Red in the licensing process itself, an adjudicative hearing would be mandatory. The question will be what kind of adjudicative hearing is called for and what additional procedural steps should be taken to ensure that applications for sites in Yellow or Red areas are analyzed with sufficient rigour and opportunities for community and public input.

The starting assumption for Yellow areas would be that there are significant questions about the biophysical suitability of the proposed operation and/or with its potential impact on other resources or uses. The expectation is that no licence will be granted unless these significant questions are satisfactorily answered. At the same time, the assessment of applications in Yellow areas would be expected to take seriously the possibility that the concerns present in Yellow areas are capable of being addressed by operations that are carefully designed, implemented and managed to address the characteristics that warrant a Yellow area classification.

The starting assumption for applications for Red areas is that fin-fish aquaculture will only be licensed in exceptional circumstances. This assumption reflects the rationale for a Red area classification, which is that it is biophysically inappropriate for fin-fish aquaculture or that there is clear proof that fin-fish aquaculture will harm other important activities. While the licensing process would need to be open to the possibility that an applicant has developed a proposal for a fin-fish operation in a Red area that satisfactorily addresses these serious concerns, it would require very convincing proof before a licence for a fin-fish operation could be issued in a Red area.

In short, the licensing process must give a level of scrutiny to applications for fin-fish licences in Yellow and Red areas that is proportionate to the questions, issues and concerns raised by such application. This is the primary reason why we have said an adjudicative hearing would be required for all such applications. In addition, the framework we have proposed will give the DFA additional tools to ensure such applications are scrutinized with appropriate rigour. Some examples:

- It could use the screening stage of the process to ensure that applications for Yellow or Red areas do not proceed to the hearing stage unless there is some prospect for their success at that stage of the process.
- It could engage in more-extensive and more-detailed consultations with other regulatory agencies than would typically be the case for applications in Green areas or for shell-fish applications.
- It could appoint an independent third party or parties to conduct consultations on the proposed aquaculture operation, provide independent analysis on the proposal's technical aspects, provide other kinds of specialized technical advice, or conduct some or all of the hearing.
- It could determine that assessment of an application requires focused and more-detailed scientific work on the biophysical conditions of the proposed site or on the site's broader ecosystem, or further socio-economic research on the potential impact on the uses and users of other resources.
- It could specify a longer timeline for the completion of the licensing process and for the completion of the hearing stage of the process than it typically would for fin-fish applications in Green areas or for shell-fish applications.
- It could provide greater latitude for participants in the hearing process to challenge the applicant than it might in a case involving an application for a licence in a Green area – by, for example, allowing wider cross-examination than would normally be allowed.
- Where it determines after a hearing that a licence may be appropriate, it could issue its decision in draft form to provide the public an opportunity to comment (for example, of 30 days duration) on the draft decision, after which the DFA would make its final decision.

In addition, the duty to give reasons for its decisions will of course be applicable to the DFA in Yellow and Red area applications just as it will be for Green area and shell-fish applications. In practical terms, however, it will impose a heavier burden of justification on the DFA where it decides to grant a licence, given that it will be harder to show that the licensing principles are addressed where a licence is given for a Yellow or Red area than it will be for a licence given in a Green area. This is simply because there will be more room to question the appropriateness of

licensing in Yellow and Red areas. This means that there will typically be more room to question the justification provided by the DFA through the appeal processes, and outside those processes, than there would be in Green area or shell-fish licensing decisions.

It should also be kept in mind that in addition to adjusting the process for consideration of applications in Yellow or Red areas, the DFA will have the authority where it decides to licence an operation in a Yellow or Red area to do so on terms and conditions that go beyond the terms and conditions that would be applied to licences in Green areas or to shell-fish licences. Given the higher risk of harm to the environment or to other uses that will be present when fin-fish aquaculture is licensed in Yellow or Red areas, it is expected that these additional terms and conditions would impose a more stringent level of regulatory control than would be the case with operations in Green areas.

18.6 Licensing and Strategic Assessments

We have stated earlier that under the proposed regulatory framework, strategic assessment can be used not only for the purposes of applying the classification system for fin-fish aquaculture to a particular part of the coast line but also for the additional purpose of determining whether a proactive call for proposals for the development of aquaculture at a particular site should be issued by the DFA. This would be done only where strategic assessment shows not only that a site is suitable for the kind of fin-fish aquaculture in question but also that there is significant community support for the development of a site or locality's good potential for aquaculture development.

Similarly, we have indicated that strategic assessment might be used to evaluate the suitability of a site for the issuing of one or more experimental licences, with or without the establishment of a site that would be licensed for the limited purpose of testing new approaches to aquaculture, be they based on new technologies, new species, or new managerial or operational approaches.

In either of these cases, our concept is that licensing could happen through a licensing process that is streamlined to reflect the process completed and the participation opportunities already provided in the strategic assessment process. We have concluded that such streamlining would be appropriate because strategic assessment would, under the framework we have proposed, be akin to a process of strategic environmental assessment. It would therefore cover some of the ground that we see licensing covering once it is conceived – as we recommend it should be – as a kind of specialized environmental assessment for aquaculture.

However, as indicated above, the framework should permit the streamlining of the licensing process after strategic assessment only where it is made clear at the beginning of the strategic assessment process that the assessment could lead to streamlined licensing. Further, the regulatory framework should specify that the opportunity given to the public to participate in a strategic assessment and a streamlined licensing process should together provide participation opportunities equivalent to those that would have been received in the standard licensing process. In particular, it should be clear that from the two processes, members of the public will have notification of the process, access to file information, opportunity to participate, written explanation for the decision, and rights of appeal equivalent to what they would have had in the standard licensing process.

The extent and nature of the streamlining that might occur in a particular case could differ on the basis of a number of factors. For example, greater streamlining may be appropriate where the

licence in question is an experimental or developmental licence. Where the licence at issue is for commercial operations in an area that has been identified as appropriate for proactive development of aquaculture, the streamlining would normally mean that applicants would not have to start at the option to lease stage, given the public awareness and input that would already have been accomplished through the strategic assessment. A scoping process and a scoping report would also be either unnecessary or limited to issues not already fully or adequately addressed in the strategic assessment. A hearing would typically be of the administrative variety, not of the adjudicative variety, in light of the process already conducted in the strategic assessment. The substance of the hearing might be limited to issues not already fully addressed in the strategic assessment process. It would also be expected that the timeline set at the beginning of the licensing process for its completion would be shorter than it would have been in the absence of a completed strategic assessment.

Three further points may help to avoid misunderstanding.

First, while we think the option of using strategic assessments to identify sites that could be proactively licensed through a calls-for-proposal process or that are suitable for licensing for "test sites" purposes should be part of the regulatory framework, we are not saying that strategic assessment should be used only for those purposes. The primary rationale for strategic assessment in the regulatory framework being proposed is that it is one of the processes that can be used to classify coastal areas as Green, Yellow or Red for the purposes of different kinds of fin-fish aquaculture.

Second, while the framework should provide that an experimental or developmental licence can be issued through a streamlined process following a strategic assessment, the availability of such licences should not depend on the willingness of the DFA to conduct a strategic assessment. Instead, an experimental or developmental licence should be a licence that can also be applied for through the normal licensing process. When that happens, the licensing process should apply in a way that reflects the differences between a site to be licensed on a limited scale for a limited time to conduct research or to test new technologies or approaches and a site being proposed for licensing for the conduct of commercial operations. For example, as indicated earlier, this would normally mean an administrative rather than an adjudicative hearing except in the case where the proposed site is in an area classified as a Yellow or Red area.

Third, the most important way in which a well-designed and -implemented strategic assessment will streamline the licensing process is by informing affected communities, by providing accurate and complete information to those with an interest in aquaculture development in a given area, and by resolving issues at the strategic level that otherwise could be in dispute at the project licensing stage. Care will have to be taken to balance appropriate streamlining with the importance of retaining the essential approach of full transparency and public engagement throughout the licensing process.

19. CHANGES IN THE LEASING OF AQUACULTURE SITES

In our process, people referred to licensing and leasing as closely associated or even as interchangeable concepts. This makes a certain amount of sense given that a lease is currently required to include the terms and conditions contained in a licence. Presumably, this is to ensure that the DFA has the power to revoke a lease when a licence is revoked and vice-versa, although we think this could be done more directly by making the holding of a lease conditional on holding of a licence.

We heard a number of valid concerns that to our mind are distinct to leases and how and when they are issued, monitored and enforced. The following discussion summarizes the concerns and the corresponding recommendations.

First, concerns were raised about the number of leases that are issued and left in the hands of individuals and businesses that are not making active use of the leased waters. One part of the concern is that this practice prevents development of the site by others. Another is that it creates an apprehension in communities that they are surrounded by potential aquaculture development. There is a related concern that applications for a licence are predetermined when made by an applicant who already has a lease to the proposed aquaculture site.

To address these concerns, we recommend that a lease be issued after and only when a licence to conduct aquaculture has been granted. We also recommend that leases return to the Crown when a licence is revoked, lapses or is relinquished.[177] This approach will emphasize that the licence is the fundamental authority to conduct aquaculture that and the distinct role of the lease is to give the licence holder possession of the site where they intend to conduct the aquaculture authorized by the licence.

Second, we heard concerns about the difficulty people have in obtaining information about the location and boundaries of leases. To use but one example of the kinds of difficulties created by the current inaccessibility of this information, purchasers of a residential property may learn that the property is immediately adjacent to an aquaculture lease only after they have completed the purchase of the property and the site is later activated or reactivated. Another kind of example we were frequently given related to the problems boaters have experienced in obtaining information about the extent of leases in relation to navigational routes.

The DFA must take steps to make information on the location and breadth of leases much more readily available to landowners and users of the coastal waters than is currently the case. Although leaseholders should be required to do more in this regard, the DFA should take a much more proactive role in making information on leases of what is a public space readily available to the public, such as through a map available on the Internet.

[177] There was qualified support at the Roundtable for a related recommendation that "the current system of lease tenure should be reviewed to ensure that decisions to allow the maintenance of a lease on an inactive site balance the interests of the leaseholder, other aquaculture businesses that may wish to develop the site, the adjacent communities, and other marine resource uses and users." The support for this provision was nearly unanimous.

Third, greater clarity must be provided on the rights of leaseholders in relation to rights of others in leased waters. Although a lease of Crown waters for aquaculture gives a significant degree of control over those waters to the holder of the lease, it does not give the leaseholder ownership of the waters. In other words, waters that are leased for aquaculture continue to be public waters. In various community meetings and in meetings with a number of stakeholders, we were told that one of the problems with the current regulatory framework is that leases give, or are interpreted by leaseholders to give, leaseholders too much control over leased waters. Most frequently, the issue was the restriction of boating in or in proximity to the lease area.

From an industry perspective we heard that restricting access to the leased area was needed to protect equipment and stock and to comply with essential biosecurity protections.

Based on what we have heard, our conclusions on the rights of the holders of aquaculture leases and the limitations that those rights place on public access to leased waters by others are as follows:

- There is not as much clarity as there should be on exactly what rights are conferred by a lease and on the nature and extent to which those rights limit the rights of others in respect of what are still public waters even when leased. The extent and exclusivity of the rights of possession and use given under a lease relative to uses other than aquaculture is the key question. This should be one of the issues addressed in the terms of a lease, along with the requirement to hold and comply with a valid licence.
- There is not as much clarity as there should be on the rationale for the restrictions that aquaculture leases place on the rights of others, which in turn perpetuates the perception that the restrictions are arbitrary and unjustified.
- More care should be taken to ensure that the rights given to leaseholders to control public waters for the purpose of conducting aquaculture are only as restrictive of the continuing access of others to public waters as is necessary to address the legitimate needs of the industry.
- The law should require that all leases be configured in such a way as to provide reasonable accommodation for boaters. The approach used in Prince Edward Island, where a mandatory navigational channel is incorporated into every lease, may be an approach to emulate in Nova Scotia.
- Assertion by leaseholders of rights of control over public waters that go beyond their actual rights should be treated by the DFA as a regulatory issue.

Fourth, we also heard questions about lease boundaries and their enforcement. For example, in several communities, we were told that anchor lines for aquaculture pens extend beyond the boundary of the operator's lease but that neither provincial nor federal regulators have done anything about it. Those who raised this with us objected to what they saw as obvious non-compliance with the law. For those owning land in close proximity to aquaculture sites close to land, extending anchor lines beyond the lease area may mean that aquaculture is taking place closer to their land than might otherwise be the case. An additional concern is that aquaculture companies were being allowed to limit the use of public waters by others beyond what was authorized by their leases.

We are not in a position to say what is or is not happening in the enforcement of leases. We think it obvious, however, that lease boundaries should be enforced whether or not the violation of the boundaries interferes with the activities of others. Moreover, we think it important to emphasize that the DFA is responsible for enforcing the boundaries of the leases it issues whether or not an alleged violation of those boundaries also violates laws enforced by the Coast Guard or other federal regulators.

We were also asked to consider a number of concerns about the transfer of licences. We deal with most of these later in the section headed "Transfers, Expansions, Other Changes." Here, we deal only with the concern expressed by some that the transfer of a lease (or a licence) should be something that has to be approved under the regulatory framework. We agree with that viewpoint.

20. LICENSING AND LEASING FEES

We heard complaints about the fees that aquaculture companies are charged for their leases and their licences. In general, the complaint was that the fees are woefully small relative to the exclusive control of a public resource that is given by a lease, and given the harm that aquaculture can cause to those resources and the interference it can create with other uses of coastal waters. In the feedback we received on our draft report, which did not deal with the level of licence and lease fees, we heard concern about the cost to taxpayers of the proposed regulatory framework. For some, this provided an additional rationale for higher licensing and lease charges. In the submissions made on our draft report, we were asked to recommend a linkage between the anticipated cost of the new framework and the level of fees charged to operators or, alternatively, to recommend an increase in fees sufficient to off-set the cost of the new framework to taxpayers, or at least of the cost of compliance oversight and actions.

Currently, the licence and lease fees charged are as follows: an annual licence fee of $386.50 (subject to a rebate of $120.95 for U-fish ponds); an annual lease fee of $12.90 per hectare for leased areas; an application fee of $666.15 for a lease or licence; an assignment fee of $257.65 for a lease or a licence; a lease or licence renewal fee of $386.50; and a lease or licence amendment fee of $128.80.[178]

We agree that these seem like low charges for licences and leases that give control over significant public resources to private interests. We agree with those who think they should be higher. However, we are not in a position to recommend the specific increase that would be appropriate. Instead, we recommend that the DFA carry out a review to determine the level of the licensing and leasing fees to be charged under the proposed framework. This review should include looking at the comparable charges levied in neighbouring jurisdictions.

In addition to reconsidering the level of the fees, the Department should articulate the rationale for the fees it proposes to charge after the review is completed. Our thought behind this recommendation is that much of what we heard about the fees currently charged is that they lack

[178] Aquaculture Licence and Lease Regulations, N.S. Reg. 103/2013, s. 6.

any possible and defensible rationale. A closely associated view was that the current fees imply that the resources being leased, resources that are of high value to coastal communities, are not valued very highly by government or the industry. On this view, higher charges would better reflect the value Nova Scotia places in its coastal resources and may encourage operators in aquaculture to attach greater importance to their responsibilities as stewards of those resources.

Whatever the level of the applicable fees, we believe that people in coastal communities, and the public more generally, are entitled to know the basis on which the fees charged are determined. This is supported by one of the submissions we received on this issue after the release of our draft report, which was that a consistent framework or methodology should be developed and used for calculating "resource rents" in aquaculture and other resource industries.

While agreeing that the current fees should be reviewed and that there is a case to be made for an increase in fees, we think the following points should be kept in mind:

a. The level of the fees charged should not make participation in the industry cost-prohibitive to Nova Scotians that would like to start a business in the industry.
b. Similarly, the fees charged should not create a disincentive for those who want to start or operate a business in the industry that will be less profitable than others precisely because it operates in ways that have lower impact than is the norm with companies that may yield higher profits.
c. The cost of doing business under the regulatory framework proposed in this report will be higher than it is under the current regulatory framework. The combination of this increase in operating expense with an increase in fees will increase the financial barrier that Nova Scotians and others will face in doing business in aquaculture in Nova Scotia.
d. All things considered, while we agree that the industry should be paying higher fees, we think the more critical issue at the present time is to have the capacity of the industry concentrated on the implementation of the proposed regulatory framework.
e. On the other hand, there may be a valid concern that enterprises that are attracted to, or not discouraged from, participating in aquaculture due to licence and lease charges may not have the capacity to conduct aquaculture in accordance with the proposed framework.
f. Differential fees, reflecting differences in scale of operations and between kinds of aquaculture (i.e., between the nature and the extent of the use to be made of coastal waters), may be appropriate and helpful in creating an optimal balance among all the applicable considerations.
g. Differential fees based on the environmental performance of operations on clearly established parameters could be an effective way to further encourage careful site selection and innovation, and could motivate operators to make ongoing efforts to reduce environmental impacts beyond regulatory compliance.
h. Finally, caution should be exercised in linking the level of licence and lease charges too closely to the cost to the government in developing and implementing the proposed regulatory framework, as some proposed. This is because of the widely shared concern that such approaches contribute to regulatory capture and a lack of public trust and confidence in the regulatory process. From this perspective, an increase in licence and lease charges that

defrays the incremental cost to government of the proposed framework would be preferable to one that is determined by these incremental costs.

21. SECURITY OF TENURE FOR GOOD OPERATORS AND SITES

We were told by industry representatives that one of the major problems created for the industry by the current regulatory framework is the limited tenure it provides to licensed operators. In Nova Scotia, a first licence is issued for 10 years. Each subsequent licence lasts for 5 years. In contrast, in New Brunswick, licences are for 3 years; however, leases are issued for periods of 10 years for shell-fish and 20 years for fin-fish. In addition, approvals to operate under the *Clean Environment Act* are issued for 5 years. In other jurisdictions, there is a great variety of approaches to the duration of licences, leases and approvals.

The problem that short licensing periods create for industry is one of financing. We were told that financing is more difficult and expensive than it otherwise would be due to the concern of lenders that a licence may not be renewed before the operator has the opportunity to repay the amount that typically has to be borrowed to finance aquaculture operations. We were told that the barrier this creates for growth in the industry is accentuated by the fact that the government does less in Nova Scotia to support the industry's access to working capital than do the governments of each of the other Atlantic provinces.

We assume that the current framework starts with a 10-year licence as an accommodation to the financing needs of industry. It is, however, difficult to understand why it subsequently limits renewals to 5 years, since the need for financing will remain, and given that the decision to renew can be made with the benefit of better information on both the operator and the site than would be available for the initial licensing decision.

We think the licensing framework should give longer security of tenure to aquaculture businesses. However, it should do so by creating stronger connections between the duration and renewal of licences and the ability of licence holders to demonstrate their suitability as operators and the suitability of their operations for their location. The concept is one of "progressive licensing," under which operators who successfully develop sites in accordance with the regulations, and operators who achieve highest standard third-party certification earn renewal under longer-term licences and associated leases. In contrast, operators who by their performance show they are not willing or able to operate in compliance with the regulations and are not showing leadership in low-impact aquaculture either lose their licence or are limited to renewal on more limited terms, depending on the nature and the extent of their failures to meet and maintain regulatory requirements.

Specifically, we recommend that the tenure of approved aquaculture operations be structured as follows:

a. The initial licence would continue to be for 10 years. The initial lease would be granted for 20 years, subject to the holder of the lease continuing to hold a licence.

b. The initial licence would be comprehensively reviewed after the first growing cycle[179] to ensure aquaculture in accordance with the licence as originally granted generally meets regularly requirements, including environmental performance requirements. While termination of the licence (and lease) could occur at this time (as it could at any other time where warranted by sufficiently serious non-compliance or failure to meet environmental performance standards), the more typical outcomes would be for either the continuation of the licence on its original terms and conditions or an amendment of those terms and conditions to better align the scale and nature of the licensed activities with the biophysical and other conditions of the site.

c. Renewal of licences would be decided by an open, transparent and participatory process, which would give members of the public ample opportunity to be informed about and to contribute to the process. Licenses should be renewed, and the regulatory framework should be clear they will be renewed, where operators have conducted business in compliance with the regulations.

d. The appropriate length of licence renewals should be determined based on the environmental performance of the site under previous licences and the compliance record of the operator. The licence given on renewal would be for a term that is comparable to the maximum terms for which aquaculture sites are licensed in other provinces of Atlantic Canada for well-performing sites with compliant operators. Operators with less than ideal track records that are still considered to be capable of operating responsibly and within acceptable parameters would be granted shorter renewals. Leases would generally be renewed for a 20-year term, which could be increased if the operation of the site has a solid track record of compliance and of meeting or exceeding environmental performance standards.

e. Any licence would of course be subject to revocation for regulatory infractions or a pattern of regulatory non-compliance that would make revocation an appropriate, fair and just sanction.

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[179] In the feedback we received on our draft report, two concerns were raised about this recommendation. One response, from an industry perspective, was that a licence that expires after the first growing cycle would be one that nobody would want and that no banker would finance. To be clear, the recommendation is not that licences expire after the first grow-out cycle but that they be reviewed after the first grow-out cycle. If site selection and licensing are done effectively, the result of this review should typically be confirmation that the aquaculture continues as originally licensed. Sometimes (again, assuming proper site selection and licensing) the result would be an adjustment in terms and conditions to bring it better into line with site conditions. This should contribute to the longer-term stability of the licensed operation. Where review leads to a decision to revoke, this will be due to problems that cannot be fixed by an adjustment of licence terms. In other words, it will be because of problems that should lead to revocation whether or not there is a review after the first grow-out cycle. The other response we received was that a review after the first growing cycle was too early to identify certain kinds of issues that typically only occur or are only detectable later in the development of a site. We accept that this is the case. However, the logic of suggesting a review after the first grow-out cycle was early detection and correction of problems or potential problems that are detectable at that stage. The authority and responsibility of the regulator to detect and take action on issues that arise subsequently would in no way be affected or reduced. On the other hand, the core objective of our recommendation is that a comprehensive review happen during the first licence period prior to the review that happens when the licence is due to expire. If there is a more logical time for that review than after the first growing cycle, then by all means the review should happen at that time.

22. TRANSFERS, EXPANSIONS AND OTHER CHANGES

We have discussed the importance of social licence in various parts of this report. The relationship between the operator and those who have a stake in how an operation is run is critical to social licence. The relationship between operator and the community can also depend on the nature and scale of the operation. Changes in operator or in licence terms and conditions therefore have the potential to disrupt relationships and injure social licence if they are not done carefully and in an open and transparent process that gives people the opportunity to know what is proposed, to express their views on the proposed changes and, in the case of transfers, to establish a relationship with the proposed operator.

The other consideration is the risk that decision making on transfers or on the revision of terms and conditions can undermine the trust and confidence placed in, and the effectiveness of, the front-end licensing process. A rigorous licensing process that provides ample opportunity for participation and accountable decision making will be less effective in accomplishing its objectives and in gaining and maintaining public trust if the outcomes are undone or substantially changed through subsequent decision making on transfers or on revision of terms and conditions that is not open and transparent.

As a result, it is important that the process for transfers in ownership or operator and for change in terms and conditions be clear, and that it be open and transparent.[180] In our view this means that any request for transfer or for a material change in terms and conditions should be made public as soon as it is received and considered. There should be an opportunity for meaningful public input into the decision-making process. Depending on the circumstances, a notice-and-comment-style procedure may be appropriate. In other circumstances, a more extensive engagement process may be called for where, for example, the proposed changes to the scale or nature of the operation are more significant. Where the changes proposed are transformative of the licensed operation, there will be a strong argument for a process that would be akin to the process that would apply to the application for a new licence. In all applications for transfers and requests for material change to terms and conditions, careful consideration will have to be given to whether the proposed changes have the potential to increase the impact on natural systems or on other coastal users.

A key factor in approval of a transfer in ownership or operator is whether the proposed operator or owner can demonstrate their capacity and readiness to interact constructively with other coastal users and affected communities. Where the new operator or owner is already an owner or operator of other sites, another key consideration should be their compliance record at those sites.

[180] There was partial support at the Roundtable for a recommendation that "if a site lease is transferred between operators or there is a change in species grown and there may be a substantial change in environmental impact, a review of the licence or permit should be carried out including public input. There should also be a public comment period at the time of licence renewal." (Roundtable Final Report, 15)

23. PROTECTION FOR WILD SALMON POPULATIONS

As we have explained, it is clear to us that the regulatory framework for aquaculture must pay particular attention to the potential interactions of marine-based salmon aquaculture with wild salmon. It is clear that concern for wild salmon populations is an important part of the global work taking place in multiple forums to reduce the environmental impact and improve the sustainability of fin-fish aquaculture, including by improving the regulation of aquaculture.[181] If Nova Scotia wants to be part of this path for the industry's future, it needs to be doing its part to ensure that aquaculture is conducted in Nova Scotia with due regard for the health and well-being of Nova Scotia's wild salmon populations.

The protection of wild salmon populations is one of the objectives of the current regulatory framework. We believe, however, that the framework must be stronger in relation to this objective. This is one of the reasons why we have recommended the explicit inclusion of precaution into the regulatory framework. More broadly, the legitimate concerns about how the growth and conduct of the industry might impact wild salmon are among the concerns that have led us to make the recommendations we have made elsewhere in this document on a number of core elements of the regulatory framework, including site selection and utilization, fallowing and stocking densities, and fish health and well-being. Although all our recommendations on these and other topics are designed to ensure that the regulatory framework contributes to the industry's general progress toward a low-impact/high-value future, they are intended more specifically to ensure that aquaculture is conducted with due regard for the health and well-being of Nova Scotia's wild salmon populations.

The regulatory framework should, however, also include a number of elements that are more specifically directed to the protection of wild salmon. To that end, we have already recommended that protection of wild salmon populations be listed in the legislative framework as one of the criteria to be considered in leasing and licensing decisions. Here, we make two further recommendations for specific protection of wild salmon.

First, the regulatory framework should be clear and explicit about the need for appropriate physical separation between marine-based aquaculture and salmon rivers and known salmon migration

[181] See, for example, the Williamsburg Resolution of the North Atlantic Salmon Conservation Organization (NASCO), Resolution by the Parties to the Convention for the Conservation of Salmon in the North Atlantic Ocean to Minimise Impacts from Aquaculture, Introductions and Transfers, and Transgenics on the Wild Salmon Stocks. This includes a commitment to develop and apply appropriate risk assessment methodologies in accordance with the precautionary approach, and more specific commitments, such as to minimize escapes of farmed salmon and to minimize disease and parasite transmission to wild salmon stocks as a result of aquaculture activities. Specific guidelines to achieve these aims include the possible "establishment of 'wild salmon protection areas' where salmon aquaculture is restricted or prohibited" (p. 7). NASCO has additionally provided a separate document, Guidance on Best Management Practices to address impacts of sea lice and escaped farmed salmon on wild salmon stocks. It is "intended to supplement the Williamsburg resolution and to assist the Parties and jurisdictions: in managing salmon aquaculture, in cooperation with their industries; [and] in developing future NASCO Implementation Plans," among other matters. Sea lice and escaped salmon are specifically identified as "continuing challenges both for industry and the wild stocks" (p. 1). Lastly, see also NASCO Implementation Plan for the period 2013-2018 (Canada). In this report, Canada's main objectives are listed as "1. Safeguard the genetic diversity of wild Atlantic salmon; 2. Maintain habitat and ecosystem integrity; and 3. Manage fisheries for sustainable use and benefit" (p. 4).

routes.[182] This could be a fixed separation distance. Such an approach is attractive because it is simple and does not depend on the exercise of regulatory discretion. The problem with such approaches however is that they invariably provide too much restriction in some applications and too little in others. They tend not to reflect the variable circumstances that can call for more restriction in some cases and less restriction in others than would be provided by an across-the-board rule. The other difficulty is that such approaches often do not evolve as circumstances (such as evolving technology) change. We think a better approach would be one that allows the extent of the physical separation that is specified in the licensing of any particular site to be determined on a case-by-case basis, but under a legislative framework that makes it clear that appropriate distances between marine-based aquaculture and wild salmon must be established and maintained through the leasing and licensing process.

Of course, the DFA would continue to be bound by any decisions taken by the DFO in relation to minimum protection for wild salmon. Where the DFO does not make a decision but instead provides advice to the DFA, it would continue to be the case that the DFA would rely heavily on that advice. But as we have discussed earlier, it should be a clear element of the regulatory framework that the DFA will go beyond what is recommended by the DFO where the DFA determines that an additional level of protection for wild salmon is called for.

Our second recommendation for specific attention to the protection of wild salmon is that the regulatory framework should deal more extensively with the prevention of escapes.[183] The current framework requires licensees to report every escape, which is a more demanding reporting requirement than in other jurisdictions, which only require escapes to be reported when they involve a certain number of fish. Nevertheless, concerns were expressed about whether this requirement is being complied with or enforced. There is also scepticism about whether it could be enforced. The more serious concern in our view is that the regulatory framework should do more to ensure that escapes are being prevented. It should require operators to adopt, implement, and track and report on the performance of a comprehensive containment system that aims – to the greatest extent practicable using best management practices and best available technology – to prevent escapes.

Many encouraged us to recommend an approach in Nova Scotia similar to the one in place in Maine. The following is a description of what is called a containment management system in that state:

> A CMS is a process control system built on seven principles which, when implemented together, form a logical and realistic system for minimizing the escape of farmed salmon. CMS systems are based on a Hazard Analysis Critical Control Point (HACCP) system and the aquaculture industry's October 1998 Code

[182] We note that research is being led by scientists is the region on biocontainment options that would complement physical separation and escape prevention measures: see DFO report by Tillman J. Benfey, "Biocontainment measures to reduce/mitigate potential post-escape interactions between cultures European-origin and wild native Atlantic salmon in Newfoundland."

[183] In addition to the sources cited earlier in this report, see Eva B. Thorstad et al., *Incidence and Impacts of Escaped Farmed Atlantic Salmon* Salmo salar *in Nature*. This paper raises concerns about the genetic impacts of interbreeding, and other concerns.

> of Practice. HACCP systems were originally developed by NASA to ensure quality control and safety in the space program. The HAACP approach has been adopted by the Food and Drug Administration Food Safety Program and has been used widely in the seafood processing industry. It is therefore familiar to the industry and the federal regulators. HAACP systems consist of a company specific, business confidential HAACP plan, a paper trail that documents operational performance, and an auditing system. A standard Containment Management System will be developed for the Maine salmon farming industry based on the following seven principles: 1. Assessment of the hazards and risks. 2. Determination of critical control points. 3. Establishment of critical limits and tolerances. 4. Establishment of limit monitoring procedures and schedules. 5. Establishment of predetermined corrective actions. 6. Establishment of record keeping systems and procedures. 7. Establishment of a verification system.[184]

The following provisions from the general discharge permit under which individual aquaculture operations are approved in Maine spells out the obligations of approved sites with respect to the adoption of a containment management system as follows:

> 6. Containment management system. The permittee must employ a fully functional marine Containment Management System (CMS) designed, constructed, operated, and audited so as to prevent the accidental or consequential escape of fish to open water.
>
> a) Each CMS plan must include a site plan or schematic; site plan description; procedures for inventory control, predator control, escape response, unusual event management, and severe weather; provisions for employee training, auditing methods, and record keeping requirements. The CMS must identify critical control points where escapes could potentially occur, specific control mechanisms for each of these points, and monitoring procedures to verify the effectiveness of controls.
>
> b) The permittee must prepare a written CMS plan prior to fish being first introduced into a facility and must maintain a current copy of the plan at the facility.
>
> c) The CMS must be audited by a qualified third party at least once per calendar year for all facilities with fish stocked in net pens.
>
> d) No later than December 31 of each calendar year, the permittee must submit a written report of each annual audit required by Section 6(c) of this condition to the Department.
>
> e) The CMS must also be audited by a qualified third party within thirty (30) days of a reportable escape required by Section 7 of this condition or notification that a commercially-reared Atlantic salmon is found in a river within the range of the Gulf of Maine distinct population segment of Atlantic salmon, as defined by the [Fish and Wildlife] Services. The Department, in consultation with the Army Corps of Engineers and the [Fish and Wildlife] Services, may exempt a facility from any

[184] Penobscot Bay Watch, Framework for a Salmon Aquaculture Containment Policy in the State of Maine.

> additional third-party audits when the facility from which the fish escaped can be identified or when circumstances preclude the possibility that the facility was the source of the escaped fish. The permittee must submit a written audit report to the Department, with a copy to the Services, within thirty (30) days of the facility becoming aware that an audit is necessary.
>
> f) Any time that a CMS audit identifies deficiencies, the written report must contain a corrective action plan, including a timetable for implementation and provisions for re- auditing, unless waived by the Department, to verify completion of all corrective actions.
>
> g) The permittee must maintain for a period of at least five (5) years complete records, logs, reports of internal and third-party audits and documents related to the CMS for each facility. The submission of standing inventory at the facility, including all transfers in and out, losses associated with disease, predation or escapes as reported to the Department of Marine Resources at the pen level of detail on a monthly basis pursuant to the requirements of Leases and Special Licenses, 12 M.R.S.A. § 6077, must meet the requirements of the CMS.[185]

An additional element of Maine's system is that all farmed salmon are required to have a genetic marker that allows recaptured fish to be traced back to the farm from which they escaped. We have been told and we have read that this is a very powerful regulatory tool for monitoring the effectiveness of each company's containment system. Indeed, we have been told that this requirement accounts for the virtual elimination of escapes from Maine's farms.

We note the Roundtable recommendation that "the regulatory framework should include a salmonid Containment Management Code similar to the Maine Model, which includes marking fish for site-specific identification. The Code should address the use of high-quality twine resistant to UV to prevent escapes."[186] This recommendation received only partial support. There was a concern on the part of some Roundtable members that they did not have enough information about Maine's system, and also a concern that regulations should not prescribe the use of a certain kind of twine.

We understand that Maine's system to prevent escapes is an elaborate one that could be expensive to adopt in Nova Scotia. This may be especially true of the genetic tracking system. We recognize that not all of the Maine system may be required, suitable or feasible for adoption in Nova Scotia. We also recognize that a Nova Scotian version of Maine's approach would have to be implemented over time. Nevertheless, we think that the regulatory framework for salmon aquaculture in Nova Scotia should encompass a system to prevent escapes that is comparable to the one that has been successfully implemented in Maine, recognizing that it would not be expected to be identical to Maine's system in all respects. The key is to develop and implement a comprehensive and

[185] Maine, Department of Environmental Protection, *General Permit – Net Pen Aquaculture* at 19–20. The full permit can be accessed at http://www.maine.gov/dep/water/wd/atlantic_salmon_aquaculture/MEG130000-2014permit.pdf.

[186] Roundtable Final Report, 24.

integrated system that is equally effective as the Maine system is in preventing escapes, not to duplicate the mechanisms Maine has used to achieve that outcome.[187]

24. MONITORING COMPLIANCE AND ENFORCEMENT PROVISIONS

Concern about the will and capacity of the provincial government to require the industry to comply with regulations was one of the concerns we heard most frequently. This concern lies at the centre of the scepticism that many have about whether a new regulatory framework will make a difference.

In our view, a new regulatory framework will not obtain the public trust and confidence it needs to be successful unless it includes a strong commitment to effective monitoring of compliance and to effective and transparent enforcement. Without this commitment and sustained action that matches the commitment, regulation will not make the contribution to the social licence of the industry that regulation must make if the industry is to develop with stronger support than it currently enjoys in the communities in which it operates. In addition, although we were not tasked to conduct the kind of operational analysis of the current regulatory framework that would allow us to independently evaluate its effectiveness, what we have heard in our process leads us to conclude that monitoring and enforcement must be significantly elevated and enhanced if the regulatory framework we have proposed is to accomplish the range of objectives in this sector that regulation must accomplish.

We have already made many recommendations that are either intended to improve monitoring and enforcement or that will have a positive effect on monitoring and enforcement if they are effectively implemented. For example, we have recommended the following:

- A significant increase in regulatory capacity is required, a good deal of which should go directly into monitoring and enforcement.
- The Department of Environment should become responsible for the administration of the Environmental Monitoring Program to ensure the independence and rigour of that aspect of monitoring of the industry's activities.
- The DFA's regulatory activities should be separated within the DFA from its non-regulatory activities in supporting the development of the industry.[188]

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[187] In response to our draft report, the CFIA expressed support for our recommendation that the regulatory system address the risk of escaped animals through a "written, verified and audited containment management system." It suggested that Nova Scotia should familiarize itself with the requirement that CFIA places on "all regulated parties" to have a "preventive control plan" that deals with "all regulated hazards/risks the business enterprise could encounter" to ensure that the approach adopted in Nova Scotia is in line with the Canadian federal approach. This makes sense so long as there is a specific and targeted focus, on the part of Nova Scotia's regulatory framework, on addressing the problem of escaped salmon along the lines of what has been done in Maine. That is the matter of critical concern in the protection of wild salmon.

[188] There was some indication to us during consultations on our draft report that the DFA either has stopped or plans to stop getting involved in the non-regulatory aspects of the government's role in the development of

- The legislative framework should rely less on regulatory discretion and more on clear legislative statement both of regulatory requirements and of the process to be used in key parts of the regulatory process, including the leasing and licensing process.
- Transparency should be mandated to make regulators accountable for how they exercise their regulatory mandate and the industry more accountable to the public for its compliance with regulatory requirements.
- The renewal of licences and leases should take into account the track record of operators in complying with regulations.

In this section, we make recommendations more directly related to how compliance with the proposed regulatory framework should be monitored and enforced.

Our information is that the DFA has six inspectors and that only one of these is fully trained for inspections on aquaculture. More fully trained inspectors need to be employed and put into the field.

Currently, there is a minimum of one scheduled inspection in each year for each site. Other inspections happen in response to complaints. The number of inspections should be increased. Scheduled inspections should be complemented by a significant number of unscheduled inspections. The capacity of the DFA to respond in a timely way to complaints must be increased.

Inspection should be automatic after changes to gear configurations or to the setup of a site. They should also be automatic after significant storm events.

The DFA should have additional options for carrying out inspections. It needs additional vessels or more access to vessels other than the vessels of the industry. It should explore the role that aerial surveillance could play in the monitoring of the industry.

As compared to other kinds of aquaculture, marine-based fin-fish aquaculture should generally be subject to more inspections, more unscheduled inspections and generally a higher level of regulatory scrutiny.[189] This is because of its greater potential to cause environmental harm in addition to harm to wild fish and marine animals if it is not conducted in accordance with regulatory requirements.

Within each sector of aquaculture, the level of regulatory attention that each operation receives should reflect its track record of compliance. It should also reflect its relative potential to cause serious harm to regulatory objectives if it is not conducted in accordance with the regulations. For example, a fin-fish site operating in a relatively open bay with a high rate of flushing and a relatively deep bottom would receive less attention than a site operating in a setting where the

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the industry. We would see this as a very positive step toward establishing the credibility of the DFA as the regulator of the industry.

[189] We received feedback on our report that our view that the level of regulatory scrutiny should generally be different between fin-fish and shell-fish operations and as between operators with different compliance track records would create an unfair two-tier system that was biased against fin-fish aquaculture. Our view is that recognition of these differences is critical to making the regulatory system proportionate, risk-based and effective.

maintenance of oxic conditions may be more difficult even when the circumstances of the site are properly taken into account in the terms and conditions on which the site was approved.[190]

Essentially, what we are recommending is an approach to inspections that includes more inspections but targets the increased inspections to the kinds of aquaculture and operator that warrant an additional level of scrutiny. To do that, an approach such as the HACCP (Hazard Analysis and Critical Control Point) approach might be used to calibrate the relative amount and kind of monitoring and enforcement that would be directed to different parts of the industry and to different operators based on their track record and particular circumstances. In our view, this would be consistent with the unanimous recommendation of the Roundtable, to "establish a QMP/HAACCP [sic] compliance model that clearly establishes industry and government responsibilities for monitoring and compliance."[191]

Currently, where there is non-compliance, a warning may be issued to the operator. If the warning does not achieve compliance, a Ministerial Order may be issued, requiring that the non-compliance be addressed. A broader range of enforcement options is called for. Inspectors should have their own authority to issue orders. It should be clear that non-compliance with orders can lead to prosecution or, as discussed below, to termination of lease and licence and refusal of applications for new leases and licences.

Decision-making authority relative to the pressing of charges should lie at the bureaucratic level of the DFA, which would, like other regulatory bodies, be advised by the Public Prosecution Service. Where conviction occurs, the court should have the authority to impose significant penalties where the court determines that they are warranted on established sentencing principles for regulatory offences. The sentencing discretion of the court should also encompass what is generally referred to as creative sentencing, which can, among other things, include sentences that require a company to take responsibility publicly for its actions, to have owners, managers or employees undergo training or adopt other measures to prevent reoccurrence, or to make presentations at industry gatherings on what it has learned from being prosecuted and the steps it is taking to ensure future compliance.

In addition, it should be clearly understood that monitoring and inspection is conducted on the understanding of the following:

- A strong and positive compliance record should be a precondition for being able to acquire the right to operate additional sites, either by applying for new sites or by acquiring an existing site from another operator. Demonstrated unwillingness or inability to comply with applicable regulatory requirements should make an operator ineligible for a significant number of years.

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[190] With regard to the maintenance of oxic conditions, the following recommendation obtained qualified support at the Roundtable: "The current Environmental Quality Objective of the Environmental Monitoring Program to maintain oxic conditions should be enforced. Enforcement measures could include a change in licence conditions, remediation or licence cancellation. The current NSDFA formula used to categorize the environmental status of a site should be changed to ensure that Oxic (Normal), Hypoxic (Polluted), and Anoxic (Grossly Polluted) conditions are fairly represented." (Roundtable Final Report, 28)

[191] See Roundtable Final Report at page 29.

- The ultimate penalty for serious non-compliance or persistent refusal to address non-compliance is licence and lease revocation.

We think these recommendations are consistent with the unanimously supported recommendation of the Roundtable, that "Regulations and licence requirements must be enforced. Penalties must be significant to act as a deterrent. Ongoing lack of compliance should be associated with lease termination."[192]

Another unanimous recommendation from the Roundtable on monitoring and enforcement was that "community members should be encouraged to participate in monitoring as observers in field sampling in order to increase transparency and build trust."[193] We agree with this recommendation but recognize that it would have to be implemented in ways that are consistent with industry responsibilities in areas such as biosecurity and fish health.

Finally, we recommend that members of the public be provided with an opportunity set out in legislation to apply to have a lease revoked where there is clear evidence of biophysical unsuitability of the site, or where there is a clear pattern of substantial non-compliance with terms and conditions of the licence. In our draft report, we proposed that such applications would be made to the Minister of Fisheries and Aquaculture. The feedback we received on our draft report pointed out that this was in conflict with our recommendation that administration of the regulatory framework be moved from the ministerial level to the administrative level of the DFA. As a result, we recommend that an independent board be established to consider licence revocation applications. As indicated earlier in this report, this board could also have the role of conducting or overseeing a review of the role of the DFA in regulating compliance with fish health requirements while also providing veterinarian services to the industry. It could also have the jurisdiction to hear appeals from licensing and leasing decisions.

25. INDEPENDENT AQUACULTURE REVIEW BOARD

In the previous section, we recommended the creation of an independent board to hear and determine applications from the public to have a licence revoked where there is clear evidence of biophysical unsuitability of the site, or where there is a clear pattern of substantial non-compliance with terms and conditions of the licence.[194]

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[192] See Roundtable Final Report at page 30.

[193] See Roundtable Final Report at page 29.

[194] In providing feedback to our draft report, people and associations in the industry expressed concern about our recommendation that members of the public could apply to have a licence revoked. We understand the importance of this concern to the industry. It should, however, be noted that we are not, contrary to what was said in some of the feedback we received, recommending that the public have authority to revoke a licence. We are recommending they have the opportunity to apply to have a licence revoked. The rationale is to provide an avenue of recourse within the regulatory system for those who think the DFA is not revoking a licence where revocation is appropriate. The standard applicable to the determination of such an application would be the same standard as would apply to the exercise by the DFA of its authority to revoke a licence on its own motion. The standard would be a high one, as we have tried to indicate in the language we have used

As to the constitution, jurisdiction, powers and make-up of this board, we are only able to provide general guidance, as follows:

- To ensure its independence, jurisdiction and authority, such a board would have to be established in legislation.
- The jurisdiction and powers of the board would also have to be set out in legislation.
- One of the matters to decide is whether the authority of the board on applications to revoke should be limited to granting or denying the application or expanded to include broader powers to order changes in the management or conduct of the licensed operation.
- The legislation should make it clear that the process to be used by the board in considering applications for licence revocation should be at the high end of the procedural fairness spectrum, in light of the serious issues at stake for both the licensed operator and those concerned about the operation.
- The legislation should address the scope of the board's ancillary powers, such as whether or not it is to have the authority to order costs.
- The board should be required to give written reasons for its decisions.
- The legislation should deal with the number of persons who can be appointed, and it should deal with the authority of the board to hear applications (or appeals if it is given the authority to hear appeals from licensing decisions) in panels. We anticipate that a board with five members would be both large enough for the workload and small enough to be kept staffed on a continuing basis. We think the board should have the authority to hear matters as a full board or in panels of three, and it should have the option of allowing procedural (case management) matters to be dealt with by the Chair or a single board member.
- Qualifications for appointment to the board should be generally described in the legislation. Relevant expertise based on a combination of education and experience should be the main qualification. Board members should have expertise in law, regulation, relevant science disciplines, environmental regulation or management, aquaculture, or in regulated industries more generally.
- Appointment to the board would be on a part-time basis for a specified term of duration adequate to allow board members to develop their expertise.
- The board should have the authority and ability to engage the service of third-party advisors where that is necessary for the fair and informed adjudication of a revocation application (or an appeal from a licence decision or the conduct of a review of the work of the Provincial Fish Veterinarian, if the board is given those additional mandates).

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in our report when referencing the enforcement mechanism of revocation. As in other regulated industries, revocation would be justified only in circumstances where it is the fair and proportionate remedy. Revocation, whether by the DFA on its own motion or on application from the public, would be subject to appeal to the courts. Finally, where revocation happens because of a determinations of the limitation of the site, the regulatory framework would require the DFA to make another site available to the licence holder. This applies whether the revocation results from an application or by the DFA's own action.

- Decisions of the board on revocation applications, as well as on appeals from licence decisions if the board is given that jurisdiction, should be subject to appeal to the Nova Scotia Supreme Court.

26. EMERGING ISSUES

The regulatory framework we have recommended must carefully consider emerging issues. The key emerging issues that have been brought to our attention are discussed below.

The use of genetically modified organisms (GMOs) in Nova Scotia aquaculture seems to us to be inconsistent with the precautionary approach, and would likely undermine efforts to position the Nova Scotia industry as a high-value, low-impact industry with high social licence. While we did not hear much about this issue, our recommendation would be to not permit GMOs in Nova Scotia aquaculture.[195]

Offshore aquaculture appears to be on the verge of becoming technically viable. Moreover, Nova Scotia entrepreneurs that have been highly successful in the development of other sectors are playing leading roles in its development. In designing its regulatory system and in discussions with federal regulators, we recommend that Nova Scotia consider carefully how this emerging sector should be developed and regulated, should opportunities for its development in the Nova Scotia offshore materialize. An important starting point will be to determine whether such operations would be subject to federal regulation only, or whether the province will play a role in the regulation of offshore operations.

As the industry diversifies, it is reasonable to expect that additional species of fish will be proposed for farming in Nova Scotia. This will put increasing pressure on regulators to consider the risk of invasive aquatic species. The literature is clear that prevention of introduction is the only effective method for controlling invasive aquatic species.[196] We therefore recommend that a precautionary approach be taken to invasive species. In our view, the appropriate approach would be to not permit the introduction of non-native species, except in rare circumstances where there is clear scientific consensus that the species in question will not become invasive in Nova Scotia's waters.

We have been told that integrated multi-trophic aquaculture (IMTA) holds much promise with respect to the management and minimization of environmental impacts of fin-fish aquaculture in coastal waters.[197] In particular, there appear to be opportunities to reduce benthic impacts from fin-

[195] Our understanding is that triploid stock or eggs are not GMOs, although they were sometimes mistakenly referred to as such in our process.

[196] See, for example, M. Doelle, "The Quiet Invasion: Legal and Policy Responses to Aquatic Invasive Species in North America."

[197] For a discussion of IMTA in the context of southwest New Brunswick, see DFO, "Review of the Organic Extractive Component of Integrated Multi-trophic Aquaculture (IMTA) in Southwest New Brunswick with Emphasis on the Blue Mussel," which examines IMTA developmental pilot-scale work and "address[es] questions related to factors influencing the ecological effects/effectiveness of IMTA, the ability of IMTA to reduce benthic loading, the scale at which impacts of salmon aquaculture might be mitigated, and the scale at

fish operations through the use of IMTA. While more experience is needed to fully understand its potential, we do feel that the regulatory system should be designed in anticipation that IMTA will be increasingly used in the future to reduce the environmental impact of aquaculture.

As noted earlier, the consequences of climate change for aquaculture have to be monitored, studied and addressed. The issues include the role that climate change may have on aquaculture's environmental impact as well as the impact it may have on the potential for the different kinds of aquaculture in the coastal waters of Nova Scotia.

27. SITE CLOSURE AND CLEANUP

The issue of the cleanup of aquaculture sites when production comes to a close or a business is wound up was raised on a number of occasions during our process. People in local communities referenced situations where gear has been abandoned in the water and debris left floating in the water and on shorelines. They also referenced situations in other jurisdictions, where the apparatus for conducting aquaculture has been simply left in the water when operations at a site have come to an end. In response, people from the industry often commented that the industry conducts itself very differently now in these respects than it did formerly. That said, they also acknowledged that not all operators are responsible in cleaning up their sites. They also generally acknowledged the normative point, that operators should be responsible for leaving their sites in a clean condition when their operations come to a close.

In addition, it would be typical for a regulatory framework that authorizes physical infrastructure to be built in a public space for the purpose of economic activity that uses public resources to require those who are authorized to construct the infrastructure to remove it and all associated debris when the operation comes to an end.

At the Roundtable, the following recommendation received unanimous support: "The regulatory framework should require operator responsibility for decommissioning and remediation standards for both on and off-lease clean-up, including shoreline remediation."[198] We agree with this recommendation.

We also think that the regulatory framework should authorize the Minister of Fisheries and Aquaculture to undertake necessary cleanup where an operator fails to do so at all or to the standard required by the Minister. As under environmental and natural resources legislation in other sectors, the cost incurred by the Minister in doing cleanup work that is not completed by the operator should be a debt owed by the operator to the Minister. To ensure that the Minister can recover on this debt, licensed operators should be required to post a bond with the DFA when they

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which IMTA might have measurable impacts on other aspects of the ecosystem." See also the range of research projects on IMTA being pursued by the NSERC Canadian Integrated Multi-Tropic Aquaculture Network, described at http://www.cimtan.ca/.

[198] See Roundtable Final Report at page 27. Also, there was partial support for the recommendation that "bottom sampling at the time of decommissioning should be carried out, to be paid by the operator," though some members of the Roundtable stated that this specific requirement already exists.

are licensed, in an amount proportionate to the cost likely to be incurred in cleaning up their site should their operations come to an end.[199] This would be repayable where the cleanup is completed by the operator to the satisfaction of the Minister.

In addition, failure to clean up a site to the standard acceptable to the Minister should preclude the operator in question from being given any new licences or having existing licences renewed.

28. RELATIONSHIP OF REGULATION TO INDUSTRY CODES OF PRACTICE

A code of practice is typically a set of standards that an industry develops for itself and that businesses belonging to that industry adopt voluntarily or as a condition of their membership in an industry association. Often, the existence of a code of practice leads regulators to adopt more limited or more general regulations than might otherwise be the case. In this way, a code of practice often starts where a set of regulations leave off. Sometimes, the existence of a code of practice takes the place of state regulation altogether.

Codes of practice can be integrated into a regulatory framework in various ways. Sometimes compliance with some or all of a code of practice is a regulatory requirement. Sometimes provisions of a code of practice are written into regulations, and sometimes regulations incorporate provisions of a code of practice by reference. Another scenario is where regulations are written to give regulated businesses a choice between complying with a provision of the regulations or with a provision of a code of practice that deals with the same issue.

We have thought carefully about whether the regulatory framework for Nova Scotia's aquaculture industry should provide for the development and implementation of an industry code of practice.[200] This is the approach taken in Scotland, which is generally regarded as having a very progressive regulatory framework. In that jurisdiction, the law requires the industry's association to develop a code of practice that meets with the approval of the regulatory authority. Various provisions in the code of practice are made mandatory by the regulatory framework. Other provisions in the code

[199] This recommendation is consistent with the following one, which received qualified support at the Roundtable: "The framework should require the operator to post a bond at the time the licence is issued to cover the cost of remediation." Those who gave qualified support asked about the success of bonding arrangements and consideration of other types of financial instruments. If other kinds of financial arrangements can be shown to work as well as or better than bonding arrangements, they should certainly be considered as alternatives to a bonding approach. On the effectiveness of bonding, this may depend on the willingness of the regulatory authority to require adequate bonds and to insist upon meaningful remediation, as well as on other factors. (Roundtable Final Report, 27)

[200] We are speaking in this section of a general code of practice that aims to guide industry practice on many different aspects of the conduct of aquaculture. Such a code of practice is distinct from a more specialized code of practice to deal with a specific issue or set of specific issues, such as biosecurity or fish health. As discussed earlier in this report, the regulatory framework we are proposing would encompass or provide for a number of the latter kind of codes of practice.

have to be implemented unless the business achieves the same objective by another means. A third category of provisions is treated as purely voluntary.[201]

The Aquaculture Association of Nova Scotia is in the process of developing a code of practice that its members would be required to follow. We regard this as a very positive step on the part of the Association. We have considered whether this project should continue outside and in parallel to the regulatory framework or whether it should instead be carried on within the regulatory framework with a view to some or all of it being adopted as part of the regulatory framework.

Regulatory frameworks that include an industry-developed code of practice or that work in conjunction with such a code of practice are thought to have various strengths. For example, standards set in codes of practice may be superior to those set by regulators due to the superior knowledge that people in the industry may have of the industry and the options for achieving regulatory objectives. Furthermore, businesses may simply be more inclined to comply with, or less inclined to ignore, standards that are developed by peers instead of by politicians or bureaucrats. In addition, by requiring or utilizing a code of practice, a regulatory framework essentially makes the industry responsible for policing itself and its individual members. It is said by some that this can generate a sense of internal responsibility, which leads to higher levels of compliance with regulatory obligations.

These strengths of a code of practice as a regulatory tool depend on the reality that codes of practice are instruments of self-regulation. This is what leads others to lack trust and confidence in any regulatory framework that significantly relies on a code of practice. Regulators can try to address these concerns by assuming control or oversight of the process through which the code of practice is developed or by requiring the industry to include other stakeholders in the process. These actions can, however, reduce the effectiveness of a code of practice in gaining industry's cooperation with the regulatory process.

In Nova Scotia's aquaculture industry, low trust and confidence in the current regulatory framework is one of that framework's core weaknesses. We do not think this problem can be addressed by the adoption of a new framework under which regulation of the industry would be through a code of practice developed by the industry.[202] In part, this is because trust and confidence in the industry is not high at this time, but more fundamentally, it is because of the widespread view that the industry is already too heavily self-regulating. In addition, we are concerned that the Nova Scotia industry may not currently have the capacity it would need to play the kind of role that the Scottish industry played in developing the code of practice that is the basis of Scotland's regulatory framework.

We wish, however, to reiterate that we are very supportive of the Association's work on a code of practice. This is the kind of initiative needed from the industry if it is to gain and maintain the trust and confidence of the communities in which it is located, and of the people of Nova Scotia more broadly. If done effectively, it can help to ensure that trust and confidence in the industry depends

[201] For more discussion of Scotland's approach to industry codes of practice, see pages 9–13 of Cecilia Engler's *Analysis of Aquaculture Legislation* report on the aquaculture framework in Scotland.

[202] Neither did the Roundtable, which did not support a recommendation that, "the regulatory framework should incorporate industry Codes of Practice." (Roundtable Final Report, 26)

on more than compliance with regulations. An industry-developed code of practice can also play an important role in helping to ensure that a new regulatory framework is effectively implemented throughout the industry. It can be particularly helpful in making regulatory compliance feasible and cost-effective for smaller businesses. For these reasons, we think the DFA should be supportive of the efforts of the Association to develop a code of practice.

It is particularly encouraging that the Association is working on codes of practice through an open process that welcomes participation and contribution from communities, municipalities, lobster fishers, salmon anglers and environmentalists. A good first step in this direction was taken by the Association when it invited members of the Roundtable to attend a discussion on codes of practice held in conjunction with the Association's recent AGM and annual conference. We encourage the Association to stay on this course. Such an approach will help to ensure not only that a strong code of practice is developed but also that it is developed through a process that builds and strengthens relationships between people in the industry and people who are interested in the industry. In this way, the process and the code of practice it produces can contribute to the stronger social licence the industry needs. By the end of our process, we saw tangible evidence of this happening, as some community members spoke positively to us about the positive interactions they have had with the Association since the beginning of our process.

29. RELATIONSHIP OF REGULATION TO THIRD-PARTY CERTIFICATION

There have been important developments with respect to third-party certification in the aquaculture sector over the past decade. As is the case in other industry sectors, certification has become an important governance tool to improve the environmental and social performance of the industry. We are encouraged by recent developments in this regard, particularly with respect to fin-fish aquaculture. Consistent with the goal of maximizing value while minimizing risk and negative social and environmental impacts, we feel strongly that certification with third-party certification bodies that offer industry-leading standards and practices should be encouraged.

At the same time, we do not think that it would be appropriate to formally link the regulatory process in a significant way to third-party certification. Our reasoning for this conclusion is essentially the same as our reasoning for concluding that the regulatory framework should not require or incorporate industry codes of practice. Rather, the regulatory process should stand on its own, while supporting and rewarding where appropriate efforts by operators to demonstrate leadership through third-party certification that involves industry-leading standards and practices.

At the same time, while certification should not be required or relied upon as a regulatory instrument, industry and regulators should be encouraged to follow certification developments and adopt best practices. In particular, the province should identify appropriate leading-edge certification standards as a precondition for financial assistance. Furthermore, certification could be one of the factors regulators can take into account in regulatory decisions, such as in considering applications for a licence or determining the length of licensing period on licence renewals.

Of the certification standards we had the opportunity to review, the Aquaculture Stewardship Council (ASC) standard appears to be the current leading standard.[203] Others may have superior standards in particular areas, but overall, the ASC standard appears to be, and to be recognized as, the leading standard in the industry. We recognize, of course, that this may change over time, as other standards evolve and as industry practice and technology catches up and perhaps overtakes this standard. We also recognize that the ASC standard is not the standard for what the regulatory framework in Nova Scotia should demand of operators. For example, it does not require maintaining oxic conditions, as our proposed framework does. It does however appear to be the leading third-party certification standard for marine-based salmon farming. We therefore conclude it would be better in terms of the industry's development in the direction of low-impact and high-value aquaculture if the regulatory framework, as well as decision making in areas such as eligibility for provincial assistance with working capital, rewarded companies for being certified to or above the ASC standard.[204] The important proviso to this is that certification would not be a substitute for compliance with regulatory requirements. Specifically, it would not excuse certified operators from complying with any regulatory requirement, such as the one we propose on oxic conditions, that is higher or more demanding than the ASC standard.[205]

With the same qualifications clearly in place, the ASC standard would appear to us to be a potential source of standards for the selection of additional regulatory standards for Nova Scotia as the regulatory framework continues to evolve in future. Among the issues addressed in the ASC standard that Nova Scotia should look to are the following, while considering carefully for each standard whether the ASC's chosen threshold is sufficient in light of the regulatory goals and principles set out in this report:

- Standards on benthic biodiversity and benthic effects
- Standards on water quality, including biological oxygen demand (BOD)

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[203] The *ASC Salmon Standard* (version 1.0 June 2012) can be found at http://www.asc-aqua.org/upload/ASC%20Salmon%20Standard_v1.0.pdf. There was partial support at the Roundtable for the recommendation that "any finfish operation in Nova Scotia should be required to meet the Aquaculture Stewardship certification standards and conditions," though discussions on this point later suggested that more-appropriate regulatory tools are available. Nevertheless, there was recognition that such certification programs will likely contribute to the development of best management practices in the industry. (Roundtable Final Report, 28)

[204] We understand we do not have the authority to prescribe which certification standard should be recognized by Nova Scotia. Ours is a purely advisory role. In that role, our advice is that the regulatory framework should give credit in the ways we have suggested to companies that are certified under a high certification standard, and our advice is that the ASC standard be used for that purpose.

[205] In the feedback we received at the public meeting we held in Halifax and from the EAC, concern was expressed that we were recommending adoption of the ASC standard. One concern was that the ASC standard does not require maintaining of oxic conditions. The broader concern was that the ASC standard is not an acceptable certification standard despite being the currently most demanding standard. We are not recommending adoption of any certification standard. The standards required of the industry under the proposed regulatory framework will be those contained in the regulatory framework, including the one we have proposed on oxic conditions. We are simply saying that in making decisions on which discretion is to be exercised, or in areas beyond but closely related to the operational regulation of the industry, the DFA and other decision makers should take account of whether or not a company is certified to the highest available certification standard, which currently is the ASC but which in future may be another certification standard.

- Standards on nutrients, with a focus on “fines” from feed
- Standards on interaction of operations with wildlife, such as birds and mammals, including the use of acoustic harassment devices, mortalities from entanglement, a focus on non-lethal deterrence, and transparency on efforts and results
- Transparency about unexplained loss of fish
- Requirements for net strength testing to prevent escapes
- Fish meal and fish oil ratios in feed
- Veterinary service standards
- Transparency on any treatment of fish to the public and to buyers of the product
- Requirement for only single-year classes of fin-fish on any site

30. BAY MANAGEMENT

We heard a variety of perspectives on bay management. It seems that bay management has been an effective tool in some jurisdictions, such as New Brunswick, to manage disease and pest outbreaks.[206] At the same time, we have heard that bay management approaches have created challenges for smaller operators, contributing to the consolidation of the industry in some jurisdictions. Furthermore, a number of participants in our process have expressed the view that the industry in Nova Scotia is currently not large enough or sufficiently concentrated to warrant a large-scale application of bay management.

In light of these views and considerations, we conclude that a wide-scale application of bay management in Nova Scotia is not warranted at this stage of the industry. However, it would seem prudent to experiment with bay management in areas that are particularly suitable for pilots, such as bays with multiple operators and multiple grow-out sites.

It is important to note that bay management is a tool to achieve alignment between the assimilative or carrying capacity of a bay and the aquaculture operations that are licensed to take place in that bay. What is critical for an effective regulatory framework is that it insist upon this alignment, whether it uses bay management or other tools to achieve it.

It is also important to note that from everything we heard, we understand that fallowing is critical whether or not it is combined with or done through comprehensive bay management.

[206] This view of the effectiveness of bay management in New Brunswick was questioned in the feedback we received on our draft report. We have stayed with the language we used in our draft report because it is tentative language that does not state a firm conclusion but is consistent with most of what we heard about bay management in New Brunswick. In any event, the larger point is that overall we heard different views about the effectiveness of bay management and its potential applicability in Nova Scotia. That is why we have not recommended its general or widespread adoption but instead have suggested it might be tried where it does seem to have application. It is also why we have not suggested that bay management where it is tried would be in place of any part of the regulatory framework we have recommended.

31. ONGOING REGULATORY ADVISORY COMMITTEE

Our process benefited greatly from our Roundtable and our Advisory Committee. Both committees offered invaluable insights into the range of perspectives that have to be considered in developing fair processes and reaching fair conclusions on issues related to the regulation of the aquaculture industry. We also feel that both committees served as important forums for mutual learning among some of the key parties involved in and affected by the industry.

The DFA's effectiveness as a regulator would benefit if a mechanism were created to establish an ongoing multi-constituency forum for the discussion of the regulation of aquaculture. We therefore recommend that an ongoing Regulatory Advisory Committee (RAC) be struck to continue to meet at least once a year to advise the DFA on the implementation of aquaculture regulations, on possible changes to the regulatory framework in the future, on significant policy issues relating to regulation as they arise and on the overall effectiveness of the regulatory framework. The RAC could also be a forum for the discussion of emerging issues in the regulation of aquaculture or in the aquaculture industry that may call for a regulatory response. The RAC should be made up of approximately 10 members and include representation from the Mi'kmaq and the following interests:

- Municipalities
- Aquaculture industry
- Fishing industry
- Coastal communities
- Environmental and conservation organizations
- Economic development and tourism interests

The RAC should be independently facilitated. It could play an important role in ensuring that regulations keep up with science and technology and, more generally, that they continue to be updated in pursuit of the regulatory goals set out in this report. In our view, it would help to ensure the continuing improvement of the regulatory framework as it is being applied. We note in this regard that improvement of the new regulatory framework on an ongoing basis should not wait until it is time for the five-year review, which we subsequently recommend. We also note that at the Roundtable there was qualified support for a five-year review but unanimous support for the recommendation that "the regulatory framework should include a process to strive to ensure continuous improvement, rather than waiting for a five-year review."[207]

Another important benefit of the creation of an RAC is that it could ensure that the dialogue on the regulation of aquaculture that has taken place in this process continues and develops after our process comes to an end. By itself, this would be an important reason for having an RAC. It could help to ensure that issues that have the potential to be polarizing and divisive have a forum in which they can be proactively and constructively discussed and addressed before they actually become polarizing and divisive.

[207] Roundtable Final Report, 22.

32. SCIENCE ADVISORY COMMITTEE/NETWORK/MECHANISM

The Panel has been fortunate to have the benefit of access to first-rate scientific and local knowledge advice through the Knowledge Roster we established as part of our process. We have had access to academic and community experts in a range of fields relevant to the aquaculture industry and the regulation of aquaculture.

We recommend that the DFA establish an ongoing mechanism for consulting with experts on the science of aquaculture and its regulation.[208] This could be a standing advisory committee or a broader network such as our Knowledge Roster or some combination of the two approaches. Alternatively, the DFA and experts who are willing to participate may identify a third and superior mechanism. However constructed, the idea would be that a standing mechanism would link the DFA with a community of experts in the science of aquaculture to facilitate the DFA's access to the combined expertise of that community. At the same time, experts who agree to participate would have a channel through which to contribute to the effectiveness of regulation, and to decision making in the aquaculture sector more broadly. Our experience suggests that many experts across Atlantic Canada are fully prepared to make this kind of contribution and would welcome an avenue to do so on a continuing basis.

The issues or questions that would be considered would include those identified by the DFA on an ongoing basis. There would be an emphasis on issues and questions of relatively direct relevance to the regulation of aquaculture. Participants in the process would also have an opportunity to identify issues or questions that warrant discussion. The important limitation is that the issues and questions from either direction should be of a general nature. This would not be a mechanism through which the DFA would seek advice on specific regulatory decisions, such as whether a particular application should be approved or the terms and conditions that should be attached to an approval. Instead, the focus would be on science issues and questions that are relevant to general policy issues in regulation or to the general functioning of the regulatory framework. For example, the question of how to structure an analytical framework or a decision model for identifying Green, Yellow and Red areas for fin-fish aquaculture might be a topic to be discussed in this forum. The characterization of a particular part of the coast as Green, Yellow or Red would not be.

One of the topics to be addressed would be the identification on a continuing basis of the gaps in knowledge of how aquaculture operations interact with the natural environment, particularly in a Nova Scotia context.[209] Options for addressing those gaps would also be an important part of the mechanism's rationale. In this way, the mechanism we have in mind could be very helpful to the DFA's capacity to carry out the expanded and more proactive approach to research that we have proposed as a foundational element to the new regulatory framework.

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[208] There was qualified support at the Roundtable for the recommendation that "the development of regulations, indicators, standards and thresholds should be science-based and should be integrated with local ecological knowledge." (Roundtable Final Report, 18)

[209] Clearly, the interaction between aquaculture and climate change in a Nova Scotia context is one of the issues on which there are currently knowledge gaps.

In seeking out members of academia and holders of traditional, local and community knowledge to participate in this mechanism, the DFA should endeavour to include experts from a wide range of fields of relevance to identifying and answering the questions that are relevant to ensuring that the regulation of aquaculture is evidence-based as it develops and evolves. Experts in the following fields and subjects would be included:

- Fish health
- Benthic impacts of aquaculture
- Hydrogeological and oceanographic conditions
- Climate change
- Wild fish populations
- Invasive species
- Sea lice
- Disease management
- Local ecosystems
- Socio-economic issues pertaining to aquaculture at multiple scales (i.e., local, regional, provincial, national and international)

Like the RAC, a more formal mechanism for continuing contribution to the regulatory framework from members of the scientific, traditional and local knowledge communities would help to ensure the continuing improvement of the regulatory framework as it is being implemented and developed on an ongoing basis. Therefore, as with the RAC, the science and traditional knowledge mechanism we recommend would be responsive to the recommendation that found qualified support at the Roundtable, that "the regulatory framework should include a process to strive to ensure continuous improvement, rather than waiting for a five-year review."

33. ROLE FOR INDUSTRY ASSOCIATIONS IN SUPPORTING COMPLIANCE

In light of what we have proposed, the regulatory framework will be more demanding for current operators and those that want to enter the aquaculture business. The cost of compliance with the regulations and of getting approval from the regulator could be more expensive. The technical capacity and resources of business will be more important to their ability to work successfully and profitably under the new regulatory framework.

This will pose particular challenges for small businesses and for start-ups. Many of these work in shell-fish aquaculture, a sector of the industry in which growth may attract greater support. But the new framework will pose challenges for those in fin-fish aquaculture as well.

This is relevant not only from a business profitability and industry diversity perspective, but also from a regulatory effectiveness perspective. If regulated businesses are not able to meet regulatory requirements, the regulatory framework will not be as fully implemented as it otherwise would be.

Many regulators develop and deliver programs to help regulated companies (especially small and medium-sized companies) know, understand and comply with their regulatory obligations. We think the DFA should consider such options.

Another option would be for the industry associations to which aquaculture businesses in Nova Scotia belong to develop and deliver such programs as part of the service they provide to their members. We understand from the ACFFA that it already does this, and that services of this nature are provided to the industry by the Canadian Aquaculture Industry Alliance. We also understand that the Aquaculture Association of Nova Scotia is working to become more active in this respect, including through its initiative to develop a code of practice for its membership.

The advantage of these approaches is twofold: they get businesses the assistance and support they may need to achieve compliance in cost-effective ways while protecting the regulator from the perception of being in conflict as the regulator and the enabler of regulatory compliance. The formation of the Regulatory Advisory Committee we recommend creates the opportunity for the industry associations to develop or expand their capacity-building programs with input from the larger range of constituencies interested in the regulation of aquaculture.

34. WORKING CAPITAL (AQUACULTURE LOANS BOARD)

Many in the industry raised the issue that they believe the Nova Scotia industry receives less assistance from government in acquiring working capital than does the industry in the rest of Atlantic Canada. Although some may question whether this is a regulatory issue, it should be noted that the *Fisheries and Coastal Resources Act* establishes the Fisheries and Aquaculture Loan Board and mandates it to provide loans to aquaculture as well as fisheries. More broadly, it is well recognized that governments can encourage regulated industries to act in accordance with regulatory objectives by helping them obtain the working capital that makes compliance with regulations more feasible and worthwhile. Conversely, government can make eligibility for participation in industry promotion programs conditional on a strong track record of regulatory compliance.

The issue of the level and the nature of the financial support that the Province of Nova Scotia provides to the industry is therefore already a part of the regulatory framework broadly conceived. We have not heard enough on the matter to make detailed or extensive recommendations. We can, however, offer the following observations:

- There is a perception in the aquaculture industry that it suffers because the priority of the Fisheries and Aquaculture Loan Board is the fisheries sector and because the Board is not set up to understand or give equitable consideration to the issues and opportunities facing aquaculture.
- To the extent that public money is to be made available to support the development of the aquaculture industry, it should be made available on fair and equitable terms to the industry as a whole.

- Assistance with financing should be used not only to support the growth of the industry but to support growth that moves the industry in the direction of the low-impact/high-value production we have argued should be Nova Scotia's overriding objective in the aquaculture sector. This could mean:
  - No eligibility for funding unless there is a strong track record of regulatory compliance
  - No eligibility for funding for organizations that could be functioning under one of the stronger and well-recognized certification standards, such as the ASC standard, unless they are certified or in the process of obtaining certification
  - An advantage for companies applying for financing that will use the assistance to improve their environmental performance, social licence or general capacity to produce higher-value products while reducing their impact on the environment

We have two further observations on this topic. The first is that in their meeting with us, representatives of the Atlantic Canada Opportunity Agency strongly expressed the view that aquaculture could play an important role in Nova Scotia's development if it were conducted to high standards of sustainability. Our sense was that they saw economic development programs as one of the tools governments could use in conjunction with strong regulation to move the industry in the direction of what we have described as low-impact/high-value aquaculture.

Second, the meetings we held in communities around the coastline of Nova Scotia made it abundantly clear to us that where the government's financial contribution to a specific company reaches a certain magnitude or scale, the willingness and ability of government regulators to rigorously regulate that company will be widely questioned. This may be especially so where the funding comes from the DFA rather than from another government department (such as Economic and Rural Development and Tourism) or an arm's-length economic development agency.

35. MANDATORY INDEPENDENT FIVE-YEAR REVIEW (WITH ADVISORY COMMITTEE)

At the Roundtable, there was qualified approval for the recommendation that "the new regulatory framework should include a five-year review by a committee including government, First Nations and stakeholders."[210] The qualification related to a concern about the specification that the review would be carried out by a review committee.

Five-year reviews have been included in a number of statutes in recent years, including the *Environment Act* and the *Environmental Goals and Sustainable Prosperity Act*. In both cases, the review process resulted in a range of amendments to the statute being reviewed, which reflected lessons learned in the operation of the statute during the review period as well as changes in the

[210] See Roundtable Final Report at page 32.

conditions that affected the effectiveness of the statute.[211] In both cases, the review process was an open one that provided all Nova Scotians with opportunities to contribute.

In short, in legislation that has similarity with the *Fisheries and Coastal Resources Act*, a mandatory five-year review has proven to be useful in Nova Scotia to improving legislation. In our view, the same can be expected from a review of a broader regulatory framework; it would include not only the amendments made to the Act and regulations to implement the framework but also the role of the DFA in making the framework operational through licensing and leasing, monitoring and enforcement and working with the DFO and other federal regulators and scientific and regulatory advisory groups.

Another important rationale for a mandatory and independent five-year review is that it puts the DFA on notice that it will be accountable at the end of five years for showing that the regulatory framework has been diligently and effectively implemented. This will help to ensure that the commitment to producing a world-class regulatory framework that was expressed when we were appointed to develop a new regulatory framework will be maintained through the process of translating our recommendations into effective action. At the same time, a mandatory independent review after five years will ensure that the ongoing process of improving the regulation of aquaculture in Nova Scotia has the opportunity to improve on the framework we have recommended where experience shows that our recommendations were inadequate or mistaken.[212]

As to the structure for the review, a range of options is available. We have noted the preference for some on the Roundtable for the review committee to include government, First Nations and stakeholders while other Roundtable members expressed reservation about being prescriptive on the involvement of a review committee. We would also note that review committees can be structured in a number of different ways. One way that was supported by the majority of Roundtable members is a review committee made up of representatives of the key constituencies. This is the approach adopted under the *Environmental Goals and Sustainable Prosperity Act.* Another option is a committee consisting of persons who are appointed because of their professional experience and expertise and their independence of both government and stakeholders. This, more or less, has been the approach followed under the *Environment Act* and some other statutes.

In our view, what matters is that the review be mandated so that it is clear from the beginning that it will happen. It matters also to be clear that the review will be conducted independently and not by the DFA or another part of the provincial government. It matters, in other words, that it be an external and not an internal self-review. What also matters is that the review be participatory, meaning that all who are interested in contributing their perspectives have full opportunity to do so whether or not they are directly represented by those mandated to carry out the review.

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[211] For the most recent five-year review of the *Environment Act*, see http://novascotia.ca/nse/dept/division.pcs.policy.evironment.act.review.asp; for the review of the *Environmental Goals and Sustainable Prosperity Act*, see: http://novascotia.ca/nse/dept/egspa.review.asp.

[212] The Roundtable gave unanimous approval to the recommendation that "the regulatory framework should include a process to strive to ensure continuous improvement, rather than waiting for a five-year review." (Roundtable Final Report, 32)

In addition, we suggest it would be important to structure the review in such a way as to be sure it is suited to deal with the details of regulatory design and administration as well as with broad policy issues. This may lean toward the expert review model explained above more than it does to the stakeholder review model. An advisory committee, such as the one that was established to help us in the development of this framework, could be formed to ensure that the experts appointed to do the review work with the benefit of advice from government, the Mi'kmaq and the full range of stakeholders interested in aquaculture.

36. IMPLEMENTATION AND TRANSITION

36.1 Introduction

In this section, we make recommendations on implementation and transition issues. We do so under the part of our mandate that requires us to identify "a recommended process and plan for implementing the recommended regulatory framework".

We have not tried to articulate a detailed and prescriptive implementation plan. Instead we have limited ourselves to making recommendations on some key elements of the process of developing and implementing the proposed framework that we think could be crucial to its successful and timely implementation. We have taken this relatively high-level approach for a number of reasons. First, we are very conscious that we are not well positioned to lay out a detailed implementation plan, given the breadth of the overhaul of the regulatory system we are recommending. Within the context of such an overhaul, the implementation process will have to change and evolve as implementation proceeds and issues and questions arise. In addition, we are sure we do not know as much as DFA does about the detailed work that will be needed and the processes that will have to be followed to translate our general recommendations into an operating regulatory framework. There is therefore a good possibility that detailed recommendations on implementation may prove unhelpful.

Another consideration is that the implementation of the new regulatory framework will have to take place while the DFA continues to address its other responsibilities, including the ongoing regulation of aquaculture. While we can make suggestions as to how to further develop and implement the proposed framework, we cannot say very much on how this work can or should be combined with the DFA's other and ongoing responsibilities. To do so would, in any event, take us beyond our mandate.

Finally, we have limited ourselves to high-level advice on implementation and transition in light of the fact that our mandate includes "working with the Department of Fisheries and Aquaculture to develop the legislative, regulatory and policy instruments needed for effective implementation of the Panel's recommendations." Our advice on implementation, if provided in real time in response to issues that arise during implementation, may be of more value to the DFA than the detailed advice we might provide before implementation has even begun.

Accordingly, we limit ourselves to providing high-level advice on some of the critical aspects of the process and plan for implementing the framework we have recommended. We address the following issues:

1. Resourcing and prioritization
2. Early actions
3. Options for efficient adoption of legislative changes
4. An “implement as ready” approach to implementation
5. The respective roles and interaction of administrative and legislative action
6. Ongoing improvement beyond initial implementation of the new framework
7. Applying the new framework to applications for new fin-fish licences and leases
8. Applying the new framework to existing operations
9. Transparency
10. Consultations with the Mi’kmaq

36.2 Resourcing and Prioritization

We have recommended an extensive overhaul of the regulatory framework for Nova Scotia’s aquaculture industry. Implementing the framework we have recommended will require the design and drafting of extensive changes to legislation. It will require the development or extensive rebuilding of administrative and information systems, the reorganization of bureaucratic structures and significant changes in the relationship between the DFA and other parts of government, particularly the Department of Environment. New or additional capacity will have to be built in the DFA and in the Department of Environment, which invariably takes time. Significant policy work will have to be done on some aspects of the framework we have proposed before those elements will be ready to be drafted into legislation. The prime examples of this are the proposed system for classifying coastal areas or sites for their relative suitability for fin-fish aquaculture and the proposed and more-structured licensing process. An additional variable will be that a good deal of the necessary work cannot be done by the DFA, or by DFA alone. Significant contributions will be needed from other parts of government, and in particular from the Departments of Justice and Environment and the Office of the Legislative Counsel, and from the central agencies of government.

For all of these reasons, implementing the framework we have proposed is likely to take some time. It is not the work of a couple of weeks or months. The equally important point, however, is that it will take longer if the implementation process is not adequately resourced and made a priority not only within the DFA but across government more broadly. This could have very negative consequences for companies who may be waiting to invest in aquaculture in Nova Scotia and who are either unable to do so because of the current moratorium on fin-fish licences (in place until the new framework is in place) or who may be unwilling to invest until they have more confidence about what the future regulatory framework will look like. Avoidable delay in implementation could, in other words, adversely affect development of the industry.

A prolonged implementation process could also erode the support that the feedback we have received on our draft report seems to suggest now exists for the framework we have proposed. It could therefore limit the value that Nova Scotia derives from the time and resources that have already been invested in developing a new regulatory framework for its aquaculture industry.

Therefore, our first recommendation is that the implementation process and the associated process of transitioning the industry and the DFA from the current regulatory framework to the proposed one be adequately resourced and made a priority within the DFA and for government more broadly.

36.3 Early Actions

Impetus and momentum can be given to the process of transitioning the industry from the old to the new regulatory framework if a decision on the framework as a whole is made as a first order of business. Similarly, the implementation process is likely to be more efficient and coherent if it is guided by a comprehensive implementation plan that is developed and released as soon as possible. The overall duration and effectiveness of the implementation process can also be enhanced if action is taken quickly on those aspects of the proposed framework that can be quickly implemented while work on implementing of the broader framework continues and on those aspects of the framework that are likely to require significant development to make them ready for implementation.

36.3.1 Early Decision on the Framework As a Whole

We recommend that a decision on acceptance or rejection of the regulatory framework we have proposed be made and announced as soon as possible. We think it is important that the decision be made at the level of the framework as a whole rather than at the level of each of our specific recommendations. We have three rationales for proposing this approach.

First, our fundamental conclusion is that the system of regulation has to be fundamentally overhauled, and we doubt that this can be done by making a series of discrete changes to the current regulatory framework. Instead, a new regulatory framework is called for. That is what we were mandated to recommend.

Second, in the generally positive feedback we heard on our draft report, the concern was frequently expressed that government would "pick and choose" among our recommendations rather than make the fundamental overhaul of regulation that we have called for. A related concern was simply the risk that the attention of the DFA and of government would be diverted from the implementation of the framework before implementation is completed, given that implementation is likely to take place over a significant period of time. On the assumption that government's decision will be to accept the framework we have proposed, both of these concerns can be addressed, or at least mitigated, if it is made clear early in the process that government's decision on our report has been made at the level of the overall framework we have proposed rather that at the level of the individual recommendations for specific improvements to how aquaculture is regulated.[213]

[213] We would not suggest that acceptance of the framework we have proposed depends on adoption or acceptance of each and every recommendation we have made. We accept that the further analysis that would be part and parcel of the implementation process could show that some of the specific elements of the framework we have proposed may have to be reconsidered or adjusted or addressed in other ways. We would therefore view our framework as having been adopted if all of the core elements of it were adopted and implemented and if the new regulatory framework that is adopted as a result of our report can be said, when

Third, we believe implementation is more likely to proceed efficiently if a decision made on the framework as a whole comes at the beginning of the implementation process, thus sending a clear message that the framework as a whole will be implemented. It will send an equally clear message that the process is an implementation process, not an open-ended policy-making process in which the question of how the industry is to be regulated will be reconsidered. These clear messages at the beginning of the implementation process will help give the industry certainty as to the regulatory framework they will be working under when implementation is completed. It will therefore make it more likely that the industry is ready for the framework as and when it becomes operational.

36.3.2 Development and Release of a Comprehensive Implementation Plan

We also recommend that an early step in implementation of the framework should be the development and release of a comprehensive implementation plan. This plan should lay out the proposed stages of the implementation process in a way that addresses the sequencing that will be needed between the legislative and administrative actions that will be taken to implement the proposed framework and move the industry from the current regulatory framework to the new one. The plan should clearly identify the expected dates by which the significant elements of the proposed framework will have been adopted and made operational. It should also identify the roles that legislative changes, policy changes and administrative changes will each play in bringing the new framework into existence. Related to this, the plan should identify the aspects of the proposed framework that will ultimately be embodied in legislation but that may be adopted on an interim basis through changes to policy or administrative practice.

The rationale behind this recommendation is simple: a complex and multi-faceted transformation of a regulatory system, which is likely to take some time and involve many different players, including multiple parts of government, is likely to be more successful if it is organized and directed by a comprehensive implementation plan that is laid out at the beginning of the process. A comprehensive implementation plan will also help to reinforce the message that the objective of the exercise is adoption and implementation of the framework as a whole and not just some discreet recommendations. It will therefore help to ensure that the adoption of the framework is the outcome of the process. In part, this will be because of the accountability such a plan will create for keeping the implementation process on track.

36.3.3 Early Action on Implementation of Certain Elements of the Framework

We recommend that early action should be taken to implement certain elements of the proposed framework early in the implementation process. The establishment of the Regulatory Advisory Committee should be one of those early actions. Although the committee should ultimately be provided for in legislation, it could be established on an interim basis under the DFA's existing authority to establish advisory committees so that it can play a role in the implementation process

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viewed as a whole, to have accomplished a fundamental overhaul of the regulatory system that is broadly consistent with (a) our analysis of what is wrong with the current system; (b) our conclusions as to how the regulation of aquaculture in Nova Scotia has to be changed, improved and enhanced; and (c) the low-impact and high-value philosophy, the regulatory goals and principles and the foundational elements of the regulatory framework we have articulated.

and the further development of the framework that will necessarily take place within that process. The committee can also play a role in keeping stakeholders aware of the status of the implementation process. It can be a forum for advice and consultations on significant choices that have to be made during the course of the implementation process. It can also play a role in ensuring that the implementation process makes timely progress.

Another area where early action will be important is development of the more-detailed and specific criteria for the site selection and utilization classification system that will be needed to make that system operational. An early focus on these criteria, as well as on the processes that will be used to implement the classification system, will send a clear message that the framework as implemented will include this core element of the framework as proposed. It will also help to ensure that development and implementation of the classification system does not cause delay in lifting the current moratorium on new marine-based fin-fish licences, which should continue until the new framework is in place. By the same token, an early emphasis on getting the classification system ready for implementation will ensure that the classification process is part of the regulatory framework when the moratorium is lifted.

Early action should be considered in a number of other areas. For example, the building of capacity in the DFA and in the Department of Environment should be given priority so that it will be in place when the new framework becomes operational. Priority action on concrete and specific measures to make the regulatory process more transparent and to strengthen the monitoring and enforcement systems would also do much to lay the foundations for the effective operation of the broader framework at the point at which it becomes fully operational.

More generally, we urge early action on elements of the proposed framework that can be implemented without legislative changes,[214] including those elements we have said should be embodied in legislation but which can be adopted on an interim basis by changes to policy and administrative and regulatory practices. The fact that significant aspects of the proposed framework cannot be implemented without changes to legislation or will ultimately have to be embodied in legislation should not delay action on those aspects of the framework that can be implemented either on a permanent or interim basis without changes to legislation. This will help to ensure that stakeholders see real change in the functioning of regulation while the process of developing legislation and developing and implementing the larger framework is taking place. It will help to build trust and confidence in the DFA and in its commitment to the fundamental change in how regulation is conducted that we have concluded is called for.

[214] There are, of course, many recommendations in our report that will not solely or even primarily be implemented through changes to the Act or Regulations. Examples include aspects of the improvement of the transparency of the regulatory process that do not require legislative amendments; reorganization and strengthening of capacity in the DFA and the Department of Environment; aspects of improving the sharing of relevant information about the industry, the receiving environment, and other uses of coastal waters with the public and the industry; action to fill knowledge gaps through the support of research; and the development of more constructive relationships among all stakeholders. These non-legislative efforts can and should be initiated in parallel with work on required legislative changes.

Two limitations on early action should be observed. First, to avoid the danger of the implementation process becoming diverted by litigation, aspects of the proposed framework that may require more explicit legislative authority than is currently provided by the *Fisheries and Coastal Resources Act* or other legislation should be adopted only after the legislative authority issue has been addressed. Second, the focus on implementing certain elements of the regulatory framework as they can be acted upon, including by changing policy and administrative practice under existing legislation, must not be allowed to divert effort from, or delay action on, the development and adoption of the larger framework, including the legislative changes that are needed to ensure that the new framework is strongly based on a new legislative foundation and not simply on policy and administrative and regulatory practice.

36.4 Options for Efficient Adoption of Legislative Changes

The new regulatory framework we have proposed requires a range of changes in the legislation under which regulation of aquaculture happens. We have considered whether to recommend a new act, or whether to recommend a combination of amendments to the existing act and making additional regulations under the existing act as amended.

We have concluded that the regulatory system we have proposed should be implemented largely through changes to the *Fisheries and Coastal Resources Act*, in combination with the development and promulgation of new regulations under that Act. One of the main reasons for this conclusion is that the Act as currently written emphasizes that regulation of aquaculture is part of the broader management of coastal resources. This is a good thing. Another reason is that the scope of the Act is broad enough to enable the adoption and implementation of the regulatory framework we have proposed. A third reason is that it is likely that working with the current Act and regulations can contribute to the more rapid adoption of the legislative changes that the regulatory framework calls for than would the development and adoption of a new act.[215]

We are sensitive to the fact that the development of parts of the aquaculture industry has effectively been on hold pending the completion of our process and that this will continue while the implementation of the framework is proceeding. Speedy and effective implementation of the new regulatory system will therefore be important to the industry. Our strong sense is that it is also important to many who participated in our process as critics of the industry and of the current regulatory framework. Their concern is that if the proposed framework is not acted upon relatively quickly, it might not be acted upon at all.

This is an additional reason for enacting the legislative changes we have proposed as regulations under the *Fisheries and Coastal Resources Act* and, to the extent legally necessary, for making amendments to the Act. As compared to the alternative of developing and adopting a new statute, this approach should facilitate and expedite the legislative component of bringing the new framework into operation. As ongoing experience with the framework develops, it will also help to ensure that subsequent legislative changes determined to be necessary can be made more quickly

[215] We recognize that our recommendation that responsibility for the administration of the Environmental Monitoring Program to the Department of Environment will almost certainly require changes to the legislation under which the Department of Environment is mandated as well as to legislation under which the DFA functions.

and responsively than would likely be the case if the framework's legislative provisions were embodied in the Act or another statute.

Our review of the *Fisheries and Coastal Resources Act* suggests that many of the regulations needed to implement the new regulatory framework can be adopted under the authority to make regulations already found in the Act. Assuming we are correct on this point, we recommend that this authority be used to its full scope and that statutory amendment be minimized. For legislative provisions outside existing regulation-making authority, we recommend that the Act be amended to establish the necessary regulation-making power. We also recommend that while these amendments to the Act are in process, the regulations that will be made under the expanded regulation-making authority should be developed at the same time. This will help to ensure that both these regulations and the regulations already authorized by the Act can be in place soon after amendments to the Act to expand the authority it confers to make regulations come into effect.

Although we think that the legislative changes needed to adopt and implement the proposed regulatory framework should in general be adopted as regulations under the *Fisheries and Coastal Resources Act*, a thorough assessment should be carried out to identify the specific elements of the framework that either have to be or should be embodied in the Act (or another statute) rather than in regulations.[216] This assessment should go on in parallel with the development of comprehensive implementing regulations so that all of the substance of the legislation required for the new framework is ready for adoption and implementation either as regulations or as amendments to the Act (or another statute) when the assessment of the need for amendments to the Act or other statutes is completed.

36.5 An "Implement as Ready" Approach to Implementation

We have considered whether developing and implementing the proposed framework should be conceived as a two-step process – in which the first step is exclusively concerned with getting ready to implement and the second stage is exclusively concerned with implementation – or as an integrated and iterative process in which specific elements of the framework are adopted as they become ready for adoption while the overall implementation process carries on toward the ultimate goal of full implementation.

We conclude that the implementation and transition process should follow the second of these two models. Under this approach, elements of the proposed framework would be implemented as they become ready for implementation. Where it is possible to implement elements of the proposed framework by making changes to how regulation under the current regulatory framework is conducted, this would be done, including where the change is one that would be eventually embodied in legislation.

The basic rationale for this approach is that there is no reason why implementation of elements of the proposed framework that *can* be implemented should be delayed simply because other elements of the framework cannot be implemented until a later date. In fact, we think that implementing

[216] For example, we think changes to the Act would be required to implement the following aspects of the proposed framework: the recommended restructuring of regulatory administration within DFA, the creation of an Independent Aquaculture Review Board, and the articulation of regulatory principles as well as statutory licensing principles.

specific elements of the new framework as it becomes possible to implement them will help to build and sustain momentum toward achievement of the ultimate goal of full implementation of the framework as a whole. It could also help to build and maintain trust and confidence in the commitment and capacity of the DFA to achieve the fundamental change we have called for in how aquaculture is regulated. Finally, a further advantage of a process under which implementation happens step-by-step while the broader process of implementation continues is that lessons learned in operationalizing specific elements of the new framework can inform the larger and ongoing implementation process.

An important limitation on this "implement as ready" approach is that interrelated elements of the regulatory framework should be implemented in a sequence that addresses the nature and extent of their interconnection. Additionally, the "implement as ready" approach may carry a risk that the operationalization of specific elements of the new framework while work on implementing the broader framework continues can drain resources from the broader process and perhaps reduce the urgency for completing the larger project. These risks can be mitigated by some of our earlier recommendations, including the early announcement of a decision on the framework as a whole, the adoption of a comprehensive implementation plan and the formation of the Regulatory Advisory Committee. In addition, to keep itself and others on track relative to the broader goal of full implementation as it proceeds with implementation of specific elements of that framework, the DFA should consider a reporting and accountability mechanism, such as quarterly implementation reports on its progress relative to the path laid out in its implementation plan.

36.6 The Respective Roles and Interaction of Administrative and Legislative Action

As we note earlier, many aspects of the framework we have proposed can be implemented under existing legislation. Moreover, some aspects of the proposed framework would not typically be prescribed or even provided for in legislation. For example, our recommendations that more inspections be carried out and that more inspections be conducted without prior notification are classic examples of recommendations that go to regulatory practice, not to the content of legislation.

These aspects of the regulatory framework will be implemented by changing policies and administrative and regulatory practices or procedures. They can be contrasted to elements of the regulatory framework that could be implemented without changes to legislation but on which we have recommended legislative changes because we have concluded that this will improve the regulation of aquaculture in Nova Scotia. The question may arise: should such recommendations be implemented on an interim basis by changing policies or administrative practices while the legislation that is needed to address them in legislation is under development?

In principle, we recommend that this question be answered affirmatively. This approach will help to ensure that the substance of regulation changes more quickly than might otherwise be the case. It may also mean that the experience gained with some of these recommendations through the process of implementing them on an interim basis can help to fine-tune them before they are embodied in legislation.

There are three important qualifications. The first is that interim implementation through the changing of policy or practice should not be used where there is a risk that it could generate legal action, for example, on the basis that the policy or administrative practice constitutes a fetter on the Minister's discretion or an unauthorized change in the terms and conditions under which aquaculture has been previously approved. The second is that this approach should only be used where any additional effort involved in first implementing a recommendation on an interim administrative basis and then adopting it on a legislative basis is shown to be worth it, as compared to the alternative of simply waiting until the recommendation can be fully implemented on a legislative basis. The third is that the use of this approach cannot be allowed to become a rationale for leaving matters that we have concluded should be addressed in legislation in the realm of discretion, policy and administrative practice.

36.7 Ongoing Improvement beyond Initial Implementation of the Framework

One of the overriding objectives of the regulatory framework we have proposed is to ensure that regulation continues to improve once our proposed framework has been implemented. For example, this is one of the main rationales for recommending a Regulatory Advisory Committee and a standing forum or mechanism for collaboration between regulators and researchers.

Consistent with this objective, we recommend that the process of implementing the proposed framework be regarded as the beginning of an ongoing process of continuous regulatory improvement, rather than as a one-time, time-limited process of regulatory reform that ends with the implementation of our recommendations. We are confident that over time, through the regular review of the operation of the proposed framework and the lessons learned through its ongoing operation, additional opportunities for improving the regulation of the industry will be identified.

For example, although we have aimed to be as comprehensive as possible in identifying the changes in legislation, policy and regulatory practice that must be made to give Nova Scotia a state-of-the art regulatory framework that integrates economic, environmental and social considerations, we expect that the process of implementing and operationalizing our framework will demonstrate that additional changes to legislation or to administrative and regulatory practices or systems may be needed to ensure the framework's optimal effectiveness. Likewise, we are aware that experience may show that some of the specific changes we have proposed are unnecessary or ineffective. In both scenarios, changes and adjustments should be made to ensure that the framework is based on the legislative provisions and the regulatory practices that will assure its effectiveness and success.

More specifically, it should be anticipated that experience under the framework will bring to light opportunities for improving and strengthening the framework's legislative foundations. For example, where elements of the proposed framework that are initially adopted by changing policy or administrative or regulatory practice prove successful, it may become appropriate to embody the policy or the practice in legislation to make it a permanent feature of the regulatory framework. Conversely, where changes to legislation that we have recommended prove ineffective or problematic, these should be amended, replaced or simply eliminated in accordance with the lessons learned from the experience of working with them.

Experience under the framework may also indicate that either more or less prescriptive legislation is needed on specific aspects of regulation to ensure the effectiveness of the framework. For example, where the implementation of the framework builds trust and confidence in the rigour, dependability and effectiveness of regulation, a move in the direction of legislative provisions that emphasize performance may be in order. On the other hand, a move in the direction of more prescriptive legislation could be in order if experience under the framework suggests this is necessary to ensure both regulatory effectiveness and trust and confidence in regulatory effectiveness.

More generally, the process of implementing the regulatory framework will have to be ongoing to ensure that the framework stays up to date with changes in the conditions and circumstances that will shape its effectiveness. These may include changes in a number of areas: the industry and the technology and practices it deploys and uses; general environmental conditions, whether due to climate change or other developments; conditions and circumstances in coastal communities; research-based understanding of the impacts of aquaculture, both positive and negative; and the practice and methodology of regulation, both in aquaculture and in other industries or regulatory fields from which the regulation of aquaculture can learn.

In all of these respects, the framework we have proposed must to some extent be regarded as a *living* framework, even though it must at the same time be a source of regulatory stability and certainty for the industry and those who are stakeholders in the development of the industry. For this balance to be properly struck and maintained, the process of implementing and developing the proposed framework must to some extent be an ongoing one that continues after the initial work of transitioning the industry from the existing regulatory framework to the proposed one is completed.

36.8 Applying the New Framework to Applications for New Fin-fish Licences and Leases

At the start of our process, the Government of Nova Scotia committed to not processing any applications for new marine-based fin-fish operations during our process. The clearly understood intent was that any applications for a licence or lease for new operations would be processed under the new regulatory framework, assuming that government accepted the framework we proposed.

This commitment has been an important step in establishing trust in the work of the Panel in communities in which concern about marine-based fin-fish operations is high. It will be important for this commitment to continue during the implementation process so that any applications for new marine-based fin-fish licences are considered and evaluated under the new regulatory framework. This will ensure that new fin-fish operations are licensed under a regulatory framework designed to ensure that fin-fish aquaculture is effectively regulated. It will also help to ensure that they are licensed under a framework that has been designed to address legitimate concerns that people have with the current regulatory framework. Finally, it will be seen as keeping faith with those who participated in our process on the understanding that it would result in a new regulatory framework and that applications for new licences would be considered under that framework.

At the same time (and as we have noted above) we understand that this approach presents a difficulty for those who would like to apply for licences and leases for new fin-fish operations. To the extent that we are correct that fin-fish aquaculture can contribute to sustainable prosperity when

conducted responsibly in appropriate locations under rigorous regulation, it also poses difficulty for Nova Scotia's response to the call for action laid out in the One Nova Scotia Commission.

We have taken these difficulties into account in the content of the regulatory framework we have proposed. For example, while we have proposed a framework that requires coastal areas to be classified for their suitability for fin-fish aquaculture before an application for a licence can be considered, we have also made it clear that we think classification can take place as the first step in the licensing process. The result is that licensing of new fin-fish sites can occur without the completion of a comprehensive classification of all coastal areas.

We have also taken the difficulties posed to the industry by the current moratorium into account in making these recommendations on implementation. For example, one of our rationales for recommending that legislative changes be made in regulations under the *Fisheries and Coastal Resources Act* where this is legally possible is that legislative changes can be adopted more expeditiously in this way.

In addition, it is important to again note that the duration of the implementation process will in significant measure be determined by the resources that are dedicated to it and by the priority that is attached to it, not only by the DFA but by government more generally. It is also important for all concerned to have a realistic and practical view of what it should mean to say that the moratorium should stay in effect until the new regulatory framework is "fully" implemented. We do not intend this to mean that each and every one of our recommendations has been fully adopted. We recognize, for example, that a number of the features of the regulatory framework we have proposed address areas of regulatory practice that are always subject to improvement. We also recognize that some of the specific recommendations we have made may prove unnecessary, counterproductive or ineffective within the general improvement in regulation we have said is required.

In that context, the view we take, as noted earlier, is that the proposed framework will be fully implemented when two benchmarks have been reached. The first will be reached when all the core elements of the framework we have proposed have been substantially adopted and implemented.[217] The second will be reached when it can be said that a fundamental overhaul of the whole of the regulatory system has taken place – an overhaul that is broadly consistent with (a) our analysis of what is wrong with the current system, (b) our conclusions as to how the regulation of aquaculture in Nova Scotia must change, and (c) the low-impact and high-value philosophy, the regulatory goals and principles and the foundational elements of effective regulation we have articulated. In other words, our view would not be that full implementation depends on adoption or acceptance of each and every specific recommendation we have made but rather on the progress that has been

[217] In relation to the licensing of fin-fish aquaculture, the core elements of the framework we have proposed include our recommendations on the classification system for site selection and utilization, the licensing process, the Environmental Monitoring Program, statutory conditions, compliance monitoring and enforcement, animal health and well-being, and the protection of wild salmon, including the proposed comprehensive containment management system.

made in implementing the fundamental overhaul of regulation that we have concluded is required and warranted.[218]

36.9 Applying the New Framework to Existing Operations

As promised when we were appointed to conduct our review, existing facilities should not be grandfathered. It is critical for the effectiveness of the new regulatory framework that all existing facilities be subject to all rules that can reasonably be applied to existing operations, including all statutory conditions, transparency provisions, rules for changes to and renewals of licences and leases, and to monitoring and reporting obligations.

We are not in a position to suggest the specific time frame in which this should occur. We assume it would vary for different kinds of operations and for different operators, based on their individual circumstances. We also assume that existing operations may transition to the new framework in stages, both as elements of the framework are adopted by DFA and as existing operations make the specific adjustments required to comply with different elements of the new framework.

Our recommendation is that the DFA should set a time frame after which all existing operations will be subject to the new regulatory system. The time frame should be set to allow operators reasonable time to adjust to the new rules, but no longer.

36.10 Transparency

Throughout this report we have emphasized the importance of transparency – and the associated accountability – to regulatory effectiveness and to public confidence in regulation. It is very important that the implementation of the framework we have proposed model the transparency that is intended to be a cornerstone of the framework once implemented. In this way, the implementation process can start to address the social licence issues that the new framework is intended to address. It can also help to ensure that the new framework takes effect under conditions that are likely to be conducive to its effectiveness.

36.11 Consultations with the Mi'kmaq

Finally, it is important that consultations with the Mi'kmaq take place.[219] These should be made a priority within the process for developing and implementing the regulatory framework we have proposed. The Mi'kmaq have an important role to play in the design and implementation of an effective regulatory system for the aquaculture industry. Members of that community participated on our Advisory Committee and on our Roundtable, contributed to our Knowledge Roster, and attended a number of our community meetings. Through these contributions to our process, we have come to understand that Mi'kmaw communities not only are existing and potential owners and operators of aquaculture facilities but also have concerns about the social and environmental

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[218] As noted earlier, we accept that the further analysis, reflection and consultations that would be part and parcel of the implementation process may show that some of the specific elements of the framework we have proposed may not be as effective as alternative regulatory approaches would be in contributing to the overall success of the framework in changing regulation on the scale and to the extent we have said is necessary.

[219] On the duty to consult in a natural resources context, see Dwight Newman, *Natural Resource Jurisdiction in Canada*, 41–44, and Ronalda Murphy, Richard Devlin and Tamara Lorincz, "Aquaculture Law and Policy and the Duty to Consult with Aboriginal Peoples."

impacts and risks associated with certain kinds of aquaculture. We have made every effort to reflect these views as they were shared with us in our recommendations. The interests and concerns of the Mi'kmaq should, however, be explored in direct discussions between them and the Province of Nova Scotia, through the forums that exist for those kinds of consultations, before the new regulatory system is finalized.

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TAB 2

NOVA SCOTIA COURT OF APPEAL

Citation: *Nova Scotia (Attorney General) v. Nova Scotia (Utility and Review Board)*, 2019 NSCA 66

Date: 20190809
Docket: CA 480920
Registry: Halifax

Between:

The Attorney General of Nova Scotia representing
Her Majesty the Queen in Right of the Province of Nova Scotia

Appellant

v.

The Nova Scotia Utilities and Review Board and Nova Scotia Power Inc.

Respondents

Kwilmu'kw Maw-klusuaqn Negotiation Office, Acadia First Nation, and Sipekne'katik First Nation

Intervenors

Judge: The Honourable Justice Joel E. Fichaud

Appeal Heard: May 17, 2019, in Halifax, Nova Scotia

Subject: Administrative tribunal's authority to consider adequacy of the Crown's consultation with aboriginal groups under s. 35(1) of *Constitution Act, 1982*

Summary: Nova Scotia Power decided to refurbish its obsolete Tusket Main Dam. The project would adversely affect the archeological and fishing interests of nearby Mi'kmaq communities. Section 35 of the *Public Utilities Act* says "[n]o public utility shall proceed with any new construction, improvements or betterments", costing over $250,000, "without first securing the approval thereof by the [Nova Scotia Utility and Review] Board". After consulting with Mi'kmaq representatives, Nova Scotia Power applied, under s. 35, for the Board's approval.

According to s. 35(1) of the *Constitution Act, 1982*, as

interpreted by the courts, before Aboriginal peoples suffer an adverse effect to their potential rights caused by Crown conduct, they are entitled to consultation with the Crown and, when appropriate, to accommodation. The Supreme Court of Canada has directed when an administrative tribunal, before ruling on an application to approve a project, may determine whether prior consultations have been adequate. The Utility and Review Board determined that, in this case, prior consultations between the Crown and the Mi'kmaq had not been adequate.

The Board adjourned Nova Scotia Power's application for three months to allow an opportunity for further consultation. The Province appealed to the Court of Appeal.

Issues: Did the Board have the jurisdiction to consider whether the prior consultations between the Crown and Mi'kmaq representatives had been adequate under s. 35(1) of the *Constitution Act, 1982*?

Result: The Court of Appeal dismissed the appeal.

According to the Supreme Court of Canada's rulings, the test has three elements: (1) the Crown must have actual or constructive knowledge of a potential Aboriginal right or claim, and (2) there must be contemplated Crown conduct (3) that would adversely affect the Aboriginal right or claim.

In this case, the three elements exist. The Crown had actual or constructive knowledge. According to the Supreme Court's directives on the point, the Board's process was itself "Crown conduct". The Board's approval of Nova Scotia Power's application would cause an adverse effect. The Board had jurisdiction to consider the adequacy of prior Crown consultation with the Mi'kmaq representatives.

NOVA SCOTIA COURT OF APPEAL

Citation: *Nova Scotia (Attorney General) v. Nova Scotia (Utility and Review Board)*, 2019 NSCA 66

Date: 20190809
Docket: CA 480920
Registry: Halifax

Between:

The Attorney General of Nova Scotia representing
Her Majesty the Queen in Right of the Province of Nova Scotia

Appellant

and

The Nova Scotia Utility and Review Board and Nova Scotia Power Inc.

Respondents

and

Kwilmu'kw Maw-klusuaqn Negotiation Office, Acadia First Nation,
and Sipekne'katik First Nation

Intervenors

Judges:	Farrar, Fichaud and Bryson, JJ.A.
Appeal Heard:	May 17, 2019, in Halifax, Nova Scotia
Held:	Appeal dismissed without costs, per reasons for judgment of Fichaud J.A., Farrar and Bryson JJ.A concurring
Counsel:	Sean Foreman, Q.C., and Myles Thompson, for the Appellant
	Bruce Outhouse, Q.C., for the Respondent the Nova Scotia Utility and Review Board
	Colin J. Clarke, Q.C. and Geoff Breen, for the Respondent Nova Scotia Power Inc.

Jason T. Cooke and Victor J. Ryan, for the Intervenors the Kwilmu'kw Maw-klusuaqn Negotiation Office and the Acadia First Nation

Raymond F. Larkin, Q.C. and Balraj Dosanjh, for the Intervenor the Sipekne'katik First Nation

Reasons for judgment:

[1] Nova Scotia Power Inc. is a privately-owned generator and distributor of electrical power. It supplies most of the electricity consumed in the Province and is a public utility under the *Public Utilities Act*. Section 35 of that *Act* says "[n]o public utility shall proceed with any new construction, improvements or betterments", costing over $250,000, "without first securing the approval thereof by the [Nova Scotia Utility and Review] Board".

[2] Nova Scotia Power decided to refurbish its obsolete Tusket Main Dam. The Dam generates electrical power from the Tusket waterway. The project could adversely affect the archeological and fishing interests of nearby Mi'kmaq communities. After consulting with Mi'kmaq representatives, Nova Scotia Power applied, under s. 35, for the Board's approval of its Tusket Dam project.

[3] According to s. 35(1) of the *Constitution Act, 1982*, as interpreted by the courts, before aboriginal peoples suffer an adverse effect to their known and credibly claimed rights caused by Crown conduct, they are entitled to consultation with the Crown and, in appropriate circumstances, to accommodation. At times, the project that would have an adverse effect is the subject of a private proponent's application for approval by an administrative tribunal. The Supreme Court of Canada has directed when such a tribunal must determine whether any prior consultations have satisfied the Crown's constitutional responsibility under s. 35(1).

[4] In this case, after inviting interventions and receiving submissions from the Province, Nova Scotia Power Inc. and Mi'kmaq groups, the Utility and Review Board determined that prior consultations with the Mi'kmaq had not satisfied the Crown's constitutional responsibility. The Board adjourned Nova Scotia Power's Tusket Dam application for three months to allow an opportunity for further consultation.

[5] The Province, supported by Nova Scotia Power, appeals. They submit that the Board had no jurisdiction to consider the adequacy of prior consultations between the Crown and the Mi'kmaq. The arguments address various elements of the test in the Supreme Court's decisions. Central to the submissions is whether the requirement that NSPI obtain other regulatory permits, in addition to the Board's approval under s. 35, affects the Board's jurisdiction to assess the adequacy of prior Crown consultation.

Background

[6] Nova Scotia Power Incorporated ("NSPI") is the Province's largest generator and distributor of electricity. It is wholly owned by Emera Inc., a publicly traded corporation. NSPI is a public utility under the *Public Utilities Act*, R.S.N.S. 1989, c. 380.

[7] NSPI owns and operates the hydro system along the Tusket River in Yarmouth County. The system generates about 12,000 megawatts of electric power annually. The Tusket facilities were built in 1928. In 2012, after a safety review, NSPI determined that its main dam at Tusket Falls failed the current safety requirements in the guidelines of the Canadian Dam Association.

[8] NSPI assessed its options and concluded that the most economical course was to refurbish the main dam. Decommissioning and reconstruction would be more expensive. The refurbishment would replace the four existing gates with eight vertical gates, raise the dam embankment and canal dykes and replace the existing Hurlburt Falls highway bridge with a longer bridge at a higher elevation to reduce the current bridge's overflow restriction ("Project").

[9] The area surrounding the Tusket hydro system has long been occupied by the Nova Scotia Mi'kmaq and has archeological significance to them. The Project may impact the Mi'kmaq's gaspereau fishery in the Tusket River.

[10] Consequently, NSPI's planning for the Project involved engagement with the Mi'kmaq. NSPI first identified the Project in its 2016 Annual Capital Expenditure Plan but deferred seeking capital cost approval at that time, pending further design work and discussions with the Mi'kmaq representatives.

[11] The Mi'kmaq parties to this litigation are:

- The Intervenor, Kwilmu'kw Maw-klusuaqn Negotiation Office ("KMKNO") is an incorporated society that, on behalf of eleven of the

twelve member bands of the Assembly of Nova Scotia Mi'kmaq Chiefs, leads negotiations with the Governments of Canada and Nova Scotia further to the Crown's constitutional duty to consult.

- The Intervenor Acadia First Nation is a Mi'kmaw First Nation whose lands include reserves in the vicinity of the Tusket Dam.

- The Intervenor Sipekne'katik First Nation is a Mi'kmaw First Nation whose lands include reserves and holdings in several locations.

[12] In 2015, NSPI opened consultations with the KMKNO and the Acadia First Nation about their concerns related to the Project. In February 2017, they established a working group.

[13] The Project requires that NSPI obtain several government approvals. Apart from the approval of the Nova Scotia Utility and Review Board, that I will come to shortly, these are:

- The Nova Scotia Department of Communities, Culture and Heritage issued a permit, under the *Special Places Protection Act*, R.S.N.S. 1989, c. 438, for NSPI's consultant to undertake an archeological impact assessment of the area surrounding the Tusket Dam.

- On May 15, 2017, the Nova Scotia Department of the Environment ("DOE") issued a permit, further to s. 5A(1)(c) of the *Activities Designation Regulations* under the *Environment Act*, S.N.S. 1994-95, c. 1, for alteration of the watercourse that is associated with the Project.

- On July 31, 2017, the federal Department of Fisheries and Oceans ("DFO") issued an authorization, under s. 35(2)(b) of the *Fisheries Act*, R.S.C. 1985, c. F-14, to allow the harming of fish involved with the construction of the new dam.

- The Tusket Project involves refurbishment to the Hurlburt Falls Bridge, located 120 feet downstream from the main dam. The Bridge is owned by the Province, meaning NSPI will need the assent of Nova Scotia's Department of Transportation and Infrastructure Renewal.

[14] The Province treated NSPI's application for permission to alter the watercourse, filed with the DOE on November 29, 2016, as triggering the provincial Crown's duty to consult the Mi'kmaq under s. 35(1) of the *Constitution Act, 1982*. On December 22, 2016, the DOE wrote to the KMKNO and to the Sipekne'katik First Nation giving notice of NSPI's application, providing

information about the Project and initiating consultation. The DOE sent similar letters to Nova Scotia's Office of Aboriginal Affairs, the provincial Department of Transportation and Infrastructure Renewal and the DFO. The DOE's letter to the KMKNO said:

> I am writing to bring to your attention the proposed Tusket River Main Dam Refurbishment project and the application submitted by Nova Scotia Power Inc. to the Nova Scotia Department of Environment (NSE) for a watercourse alteration approval.
>
> The purpose of this letter is to initiate consultation on this matter with the Assembly of Nova Scotia Mi'kmaq Chiefs under the Mi'kmaq-Nova Scotia-Canada Consultation Process, and provide information about:
>
> 1.Description of the project;
>
> 2.Provincial approval requirements;
>
> 3.Consultation with the Mi'kmaq of Nova Scotia
>
> …
>
> NSE will lead aboriginal consultation at the provincial level and coordinate the process with any departments (provincial or federal) that will be involved. …
>
> … Should you be interested, we would like to hear from the Assembly about any concerns you may have, including the details of any asserted Aboriginal or Treaty rights that could be adversely impacted by this project. …

[15] As a regulated public utility, NSPI is subject to s. 35 of the *Public Utilities Act*:

> **Approval of improvement over $250,000**
>
> 35 No public utility shall proceed with any new construction, improvements or betterments in or extensions or additions to its property used or useful in furnishing, rendering or supplying any service which requires the expenditure of more than two hundred and fifty thousand dollars without first securing the approval thereof by the Board.

The Board is established under the *Utility and Review Board Act*, S.N.S. 1992, c. 11. Section 4(1)(a) of that *Act* confirms that the Board exercises the powers assigned by the *Public Utilities Act*.

[16] On July 5, 2017, under s. 35, NSPI applied to the Board for approval of a capital work order totaling $18,157,609 to carry out the Project ("NSPI Application"). The NSPI Application included information that explained NSPI's

preference for refurbishment over decommissioning and new construction, and the Project's methodology and costing. The NSPI Application discussed in detail and costed NSPI's attempts to accommodate the Mi'kmaq concerns about archeological preservation and the Mi'kmaw fishery. Later I will discuss this topic in more detail (paras. 77-84).

[17] The Board's panel for the NSPI Application comprised Steven M. Murphy, MBA, P.Eng., as chair, Roberta J. Clarke, Q.C., and Richard J. Melanson, LL.B.

[18] The Board invited interventions and retained Midgard Consulting Inc. as an independent expert to advise the Board. Several parties intervened. Following the Board's procedures, the Board and Midgard submitted information requests to NSPI requesting clarification of particulars in NSPI's Application. NSPI responded.

[19] On July 26, 2017, the Supreme Court of Canada issued decisions in *Clyde River (Hamlet) v. Petroleum Geo-Services Inc.*, [2017] 1 S.C.R. 1069 ("*Clyde River*") and *Chippewas of the Thames First Nations v. Enbridge Pipelines Inc.*, [2017] 1 S.C.R. 1099 ("*Chippewas of the Thames*"). The rulings discussed the role of an administrative tribunal that assesses a project for which s. 35(1) of the *Constitution Act, 1982* requires consultation between the Crown and First Nations. I will summarize the Supreme Court's reasons later (paras. 50-60).

[20] On September 29, 2017, the Board advised the parties that, given the Supreme Court's rulings, the Board would consider the issue of the Crown's consultation with the Mi'kmaq respecting the Project. The Board's letters of September 29 invited the Province (through the Office of Aboriginal Affairs), the Acadia First Nation and the KMKNO to participate as intervenors. The letters said:

> As the Board understands these decisions, the Board must consider whether adequate Crown consultation with First Nations has occurred, if the concern is raised before it. …
>
> The record filed with the Board by NSPI, in the Tusket Dam Refurbishment project, describes the presence of significant Aboriginal archeological sites in the area surrounding where the work is to be undertaken, including sites which are currently submerged. NSPI describes certain mitigation measures relating to the protection of these sites. Other mitigation measures are set out in relation to fish ladders and the traditional gaspereau fishing season. …

[21] The Province and the KMKNO (on behalf of itself, the Assembly of Nova Scotia Mi'kmaq Chiefs and the Acadia First Nation) filed with the Board Notices

of Intention to Participate and documentary evidence. The Province's documents included its "Aboriginal Consultation Record", prepared by the provincial Office of Aboriginal Affairs.

[22] The Board notified the parties that it would deal with the issue of consultation by written submissions. The Board received final submissions on May 14, 2018. The Province submitted that the Board had no jurisdiction to consider the sufficiency of prior consultations and, in any case, sufficient consultations had occurred.

[23] The Board's Decision under appeal (2018 NSUARB 154), dated August 7, 2018, described the submissions, the process and the Board's conclusions:

> [18] The Acadia First Nation and the ANSMC [Assembly of Nova Scotia Mi'kmaq Chiefs] submitted that the Crown had not fulfilled its duty to consult in this case. The Province disagreed. No other party took a position on the issue.
>
> [19] As this is the first time the Board has directly addressed its jurisdiction in relation to duty to consult issues, and given the nature of the evidence and the parties' arguments, the Board has determined this important matter should be addressed in a Preliminary Decision.
>
> **II ISSUES**
>
> [20] The following issues will be addressed in this Preliminary Decision:
>
> 1. Does the Board have the jurisdiction to consider whether the Crown had a duty to consult First Nations in this matter; and,
>
> 2. Did the Crown discharge its duty to consult with the Mi'kmaq of Nova Scotia?
>
> [21] The Board finds it has the jurisdiction, and corresponding obligation, to address whether there was a Crown duty to consult First Nations in relation to the Project, and whether the duty has been fulfilled. The Board has determined that further Crown consultation is required. These findings will be explained in the reasons which follow.

[24] To summarize the Board's reasons:

- The Board noted the Project's potential adverse effect:

  > [30] The Tusket Hydro System is located in an area of known archeological significance in relation to the Mi'kmaq of Nova Scotia. As well, there is an existing First Nations gaspereau fishery on the Tusket River.

> [31] … construction activities, including, in particular, the proposed dewatering of Lake Vaughan, will have an impact on known and potential Mi'kmaw archeological sites, and the Aboriginal fishery … .

- The Province had acknowledged that NSPI's application for approval to alter the watercourse, filed with the DOE on November 29, 2016, engaged the Province's consultation process (above, para. 14). The Board said:

> [111] There is therefore no dispute that a duty to consult arose in relation to the Project. No party to the proceeding has asserted otherwise.

- The Board (para. 20) identified two issues, (1) whether the Board had jurisdiction to consider the Crown's duty to consult and, if so, (2) whether the Crown discharged its duty.

- As to jurisdiction, the Board (paras. 78, 84 and 102) noted that s. 22 of the *Utility and Review Board Act* empowered the Board to determine questions of law and no statute withdrew authority for the Board to consider constitutional issues. The Board held that the test in the Supreme Court's decisions was satisfied, meaning the Board had the jurisdiction, and obligation, to consider the adequacy of prior consultations.

- The Board assessed the evidence of the consultations and determined that consultation to date had been inadequate (paras. 112-165).

- The Board determined that the appropriate remedy was a three-month adjournment of NSPI's Application, to allow further consultation (paras. 166-176).

[25] The Board's Order of August 20, 2018 gave the parties three months to bring consultations to a head and report to the Board:

> **AND IT IS ORDERED** that this proceeding is adjourned pursuant to s. 20 of the *URB Act* to provide the parties with a further opportunity to complete consultations;
>
> **AND IT IS FURTHER ORDERED** that the Board retains jurisdiction in this matter and that the parties are directed to report back to the Board within three months of the date of its Decision, to advise of the status of the consultation;
>
> **AND IT IS FURTHER ORDERED** that the Application will be held in abeyance until the results of the consultation are known.

[26] On October 2, 2018, the Province filed a Notice of Appeal to this Court.

[27] The Province's factum, filed in January 2019, informed the Court:

> 54. … the parties have completed a process of further consultation subsequent to the filing and setting down of this appeal and have reported back to the Board by way of written reports filed November 16, 2018.
>
> 55. By letter dated November 22, 2018, the Board has accepted the consultation update reports, and has confirmed that it will proceed to finalize its decision on the merits of NSPI's capital cost application, based on the evidence filed on the Record to date.

Issue

[28] The Province appealed under s. 30(1) of the *Utility and Review Board Act*. Section 30(1) permits an appeal from the Board's order "upon any question as to its jurisdiction or upon any question of law".

[29] The Province's factum (paras. 50-52) said the Province would not pursue one ground of appeal and consolidated its remaining grounds into one question:

> Does the Board have the jurisdiction (and therefore a constitutional obligation) to consider and assess prior Crown consultation when making a capital cost approval decision pursuant to s. 35 of the *Public Utilities Act*?

Standard of Review

[30] In *Rio Tinto Alcan Inc. v. Carrier Sekani Tribal Council*, [2010] 2 S.C.R. 650 ("*Carrier Sekani*"), McLachlin C.J.C. for the Court, discussed the standards of review for issues of consultation with First Nations:

> [64] Before leaving the role of tribunals in relation to consultation, it may be useful to review the standard of review that courts should apply in addressing the decisions of tribunals. The starting point is *Haida Nation* [*Haida Nation v. British Columbia (Minister of Forests)*, [2004] 3 S.C.R. 511], at para. 61:
>
> > The existence or extent of the duty to consult or accommodate is a legal question in the sense that it defines a legal duty. However, it is typically premised on an assessment of the facts. It follows that a degree of deference to the findings of fact of the initial adjudicator may be appropriate…. Absent error on legal issues, the tribunal may be in a better position to evaluate the issue than the reviewing court, and some degree of deference may be required. In such a case, the standard of review is likely to be reasonableness. **To the extent that the issue is one of pure law, and can be isolated from the issues of fact, the standard is correctness. However, where the two are inextricably entwined, the standard will likely be reasonableness.** …

[65] **It is therefore clear that some deference is appropriate on matters of mixed fact and law, invoking the standard of reasonableness.** This, of course, does not displace the need to take express legislative intention into account in determining the appropriate standard of review on particular issues: *Khosa v. Canada (Citizenship and Immigration) v. Khosa*, 2009 SCC 12, [2009] 1 S.C.R. 339 (S.C.C.). It follows that it is necessary in this case to consider the provisions of the *Administrative Tribunals Act* and the *Utilities Commission Act* in determining the appropriate standard of review, as will be discussed more fully below.

…

[67] **The first question is whether consideration of the duty to consult was within the mandate of the Commission. This being an issue of jurisdiction, the standard of review at common law is correctness.** The relevant statutes, discussed earlier, do not displace that standard. …

…

[78] The determination that rescoping was not required because the 2007 EPA could not affect Aboriginal interests is a mixed question of fact and law. As directed by *Haida Nation*, the standard of review applicable to this type of decision is normally reasonableness (understood in the sense that any conclusion resting on incorrect legal principles of law would not be reasonable). However, the provisions of the relevant statues, discussed earlier, must be considered. The *Utilities Commission Act* provides that the Commission's findings of fact are "binding and conclusive", attracting a patently unreasonable standard under the *Administrative Tribunals Act*. **Questions of law must be correctly decided. The question before us is a question of mixed fact and law. It falls between the legislated standards and thus attracts the common law standard of "reasonableness"** as set out in *Haida Nation* and *Dunsmuir v. New Brunswick*, 2008 SCC 9, [2008] 1 S.C.R. 190 (S.C.C.).

…

[85] What then is the potential impact of the 2007 EPA on the claims of the CSTC First Nations? The Commission held that there could be none. **The question is whether this conclusion was reasonable based on the evidence before the Commission on the rescoping inquiry.**

…

[92] … On this evidence, **it was not unreasonable for the Commission to conclude that the 2007 EPA will not adversely affect** the claims and rights of the CSTC First Nations.

[93] **I conclude that the Commission took a correct view of the law on the duty to consult** and hence on the question before it on the application for reconsideration. It correctly identified the main issue before it as whether the 2007 EPA had the potential to adversely affect the claims and rights of the CSTC First Nations. **It then examined the evidence on this question**. It looked at the

organizational implications of the 2007 EPA and at the physical changes it might bring about. It concluded that these did not have the potential to adversely impact the claims or rights of the CSTC First Nations. **It has not been established that the Commission acted unreasonably in arriving at these conclusions.**

[emphasis added]

[31] In *Haida Nation*, before the passage quoted in *Carrier Sekani*, McLachlin C.J.C. for the Court said:

> 61 **On questions of law, a decision-maker must generally be correct**: for example, *Paul v. British Columbia (Forest Appeals Commission)*, [2003] 2 S.C.R. 585, 2003 SCC 55. **On questions of fact or mixed fact and law, on the other hand, a reviewing body may owe a degree of deference to the decision-maker**. The existence or extent of the duty to consult or accommodate is a legal question in the sense that it defines a legal duty. However, it is typically premised on the assessment of the facts. It follows that a degree of deference to the findings of fact of the initial adjudicator may be appropriate. The need for deference and its degree will depend on the nature of the question the tribunal was addressing and the extent to which the facts were within the expertise of the tribunal: *Law Society of New Brunswick v. Ryan*, [2003] 1 S.C.R. 247, 2003 SCC 20; *Paul, supra*. **Absent error on legal issues, the tribunal may be in a better position to evaluate the issue than a reviewing court, and some degree of deference may be required. In such a case, the standard of review is likely to be reasonableness.** To the extent that the issue is one of pure law, and can be isolated from the issues of fact, the standard is correctness. However, **where the two are inextricably entwined, the standard will likely be reasonableness**: *Canada (Director of Investigation and Research) v. Southam Inc.*, [1997] 1 S.C.R. 748.
>
> [emphasis added]

To similar effect: *Mi'kmaq of P.E.I. v. Province of P.E.I.*, 2018 PESC 20, paras. 60-63; *Ahousaht Indian Band v. Canada (Minister of Fisheries and Oceans)*, 2008 FCA 212, para. 34.

[32] Based on the authorities, the consultation issues are governed by the following standards of review:

- The Province's Notice of Appeal defines each of its four grounds as whether "the Board erred in law". The Province's factum (para. 51) states that its consolidated single ground is "one fundamental legal issue". Its factum concludes the discussion of standard of review with the submission:

> 70. It makes sense and is legally consistent, and the jurisprudence appears clear, that determination of when a duty to consult is triggered and

> the jurisdiction to consider consultation – whether on judicial review or statutory appeal – is a question of constitutional law subject to review on a standard of correctness.

The Province characterizes its submissions, on triggering and jurisdiction, as a pure or extractable question of constitutional law. As noted in *Carrier Sekani*, a legal question on a tribunal's jurisdiction to apply s. 35(1) of the *Constitution Act, 1982* is reviewed for correctness. See also *Beckman v. Little Salmon/Carmacks First Nation,* [2010] 3 S.C.R. 103, at para. 48, per Binnie J. for the majority. The correctness standard would apply whether the issue is termed "truly jurisdictional" or "constitutional" or of "central importance to the legal system" under *Dunsmuir v. New Brunswick,* [2008] 1 S.C.R. 190, paras. 58-60.

- Elements of the test as to whether the Crown's duty to consult has been triggered may involve an issue of fact or of mixed fact and law with no extractable legal issue. An example is whether the Crown conduct would "adversely affect" the claimed aboriginal right. In *Carrier Sekani,* paras. 78, 85, 92-93, the Court reviewed that matter for reasonableness. See also *Dunsmuir*, para. 51.

- The court is to take account of legislative directions on the permitted grounds of appeal or review: *Carrier Sekani*, paras. 65, 72 and 78; *Canada (Citizenship and Immigration) v. Khosa*, [2009] 1 S.C.R. 339, paras. 18, 36, 41 and 51, per Binnie J. for the majority; *Teal Cedar Products Ltd. v. British Columbia*, [2017] 1 S.C.R. 688, paras. 41-42. Under s. 30(1) of the *Utility and Review Board Act*, a pure issue of fact is not appealable to this Court. However, a finding of fact for which there is *no* evidence may be arbitrary and therefore appealable as an error of law: *Nova Scotia (Attorney General) v. S&D Smith Central Supplies Limited*, 2019 NSCA 22, at paras. 41-47, and authorities there cited.

- The Decision under appeal included the Board's interpretation of provisions of the *Public Utilities Act*, one of the Board's home statutes. The Board's interpretation of its home legislation, undertaken discretely from the Board's interpretation of the constitutional principles, is reviewed for reasonableness. This topic was extensively reviewed in *Nova Scotia v. S&D Smith*, paras. 51-66, with authorities there cited.

- The Supreme Court has held that the adequacy of consultation attracts a reasonableness standard: *Haida Nation*, para. 62; *Ktunaxa Nation v. British Columbia (Forests, Lands and Natural Resource Operations)*, [2017] 2

S.C.R. 386, paras. 9, 77, 82, 8, 15, per McLachlin C.J.C. and Rowe J. for the majority. The Province's remaining grounds of appeal do not address whether the Board erred in its view that, in this case, the Crown's prior consultation was insufficient. It is unnecessary to consider the application of a standard of review to that issue.

The Legal Principles

[33] The *Constitution Act, 1982* says:

> 35(1) The existing aboriginal and treaty rights of the aboriginal peoples of Canada are hereby recognized and affirmed.

[34] Section 35(1) affirms that, before suffering an adverse effect to their known and credibly claimed rights caused by Crown conduct, Aboriginal peoples are entitled to consultation with the Crown and, in appropriate circumstances, to accommodation. The conditions and scope of the entitlement are governed by principles developed in a series of rulings by the Supreme Court of Canada.

[35] ***Haida Nation* (2004):** In *Haida Nation*, *supra*, McLachlin C.J.C. explained the rationale for consultation and set out the test to trigger the Crown's duty.

[36] The duty to consult and, if appropriate, accommodate "is grounded in the honour of the Crown", a term which "is not a mere incantation, but rather a core precept that finds its application in concrete practices": (*Haida Nation*, para. 16). The Chief Justice summarized the rationale:

> 25 Put simply, Canada's Aboriginal peoples were here when Europeans came, and were never conquered. Many bands reconciled their claims with the sovereignty of the Crown through negotiated treaties. Others, notably in British Columbia, have yet to do so. The potential rights embedded in these claims are protected by s. 35 of the *Constitution Act, 1982*. The honour of the Crown requires that these rights be determined, recognized and respected. **This, in turn, requires the Crown, acting honourably, to participate in processes of negotiation. While the process continues, the honour of the Crown may require it to consult and, where indicated, accommodate Aboriginal interests.**
>
> [bolding added]

[37] This approach means the duty applies prospectively to potential Aboriginal rights before those rights have been finally determined:

> 26 Honourable negotiation implies a duty to consult with Aboriginal claimants and conclude an honourable agreement reflecting the claimants' inherent rights. But proving rights may take time, sometimes a very long time. In the meantime, how are the interests under discussion to be treated? …
>
> 27 The answer, once again, lies in the honour of the Crown. The Crown, acting honourably, cannot cavalierly run roughshod over Aboriginal interests where claims affecting these interests are being seriously pursued in the process of treaty negotiation and proof. **It must respect these potential, but yet unproven, interests.** The Crown is not rendered impotent. It may continue to manage the resource in question pending claims resolution. But, depending on the circumstances, discussed more fully below, the honour of the Crown may require it to consult with and reasonably accommodate Aboriginal interests pending resolution of the claim. …
>
> …
>
> 32 The jurisprudence of this Court supports the view that the duty to consult and accommodate is part of a process of fair dealing and reconciliation that begins with the assertion of sovereignty and continues beyond formal claims resolution. …
>
> [bolding added]

As the approach is prospective, the tribunal or reviewing court that assesses the adequacy of consultation does not determine the validity of the claimed aboriginal right. The merits of the underlying right await the appropriate trial process: *Ktunaxa Nation*, *supra*, paras. 84-85.

[38] In *Haida Nation*, the Chief Justice set out the test that triggers the duty to consult:

> 35 But, when precisely does a duty to consult arise? The foundation of the duty in the Crown's honour and the goal of reconciliation suggest that **the duty arises when the Crown has knowledge, real or constructive, of the potential existence of the Aboriginal right or title and contemplates conduct that might adversely affect it** … .
>
> 36 … As I stated (dissenting) in *Marshall* [*R. v. Marshall*, [1999] 3 S.C.R. 456], at para. 11, 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". However, it will frequently be possible to reach an idea of the asserted rights and of their strength sufficient to trigger an obligation to consult and accommodate, short of final judicial determination or settlement. To facilitate this determination, claimants should outline their claims with clarity, focussing on the scope and nature of the Aboriginal rights they assert and on the alleged infringements. …

37 There is a distinction between knowledge sufficient to trigger a duty to consult and, if appropriate, accommodate, and the content or scope of the duty in a particular case. **Knowledge of a credible but unproven claim suffices to trigger a duty to consult and accommodate.** The content of the duty, however, varies with the circumstances, as discussed more fully below. A dubious or peripheral claim may attract a mere duty of notice, while a stronger claim may attract more stringent duties. The law is capable of differentiating between tenuous claims, claims possessing a strong *prima facie* case, and established claims. Parties can assess these matters, and if they cannot agree, tribunals and courts can assist. …

[bolding added]

[39] The duty's content responds to the circumstances:

39 The content of the duty to consult and accommodate varies with the circumstances. Precisely what duties arise in different situations will be defined as the case law in this emerging area develops. In general terms, however, it may be asserted that the scope of the duty is proportionate to a preliminary assessment of the strength of the case supporting the existence of the right or title, and to the seriousness of the potentially adverse effect upon the right or title claimed.

…

42 At all stages, good faith on both sides is required. The common thread on the Crown's part must be "the intention of substantially addressing [Aboriginal] concerns" as they are raised (*Delgamuukw* [*Delgamuukw v. British Columbia*, [1997] 3 S.C.R. 1010], at para. 168), through a meaningful process of consultation. Sharp dealing is not permitted. However, there is no duty to agree; rather, the commitment is to a meaningful process of consultation. As for Aboriginal claimants, they must not frustrate the Crown's reasonable good faith attempts, nor should they take unreasonable positions to thwart government from making decisions or acting in cases where, despite meaningful consultation, agreement is not reached. [citations omitted] Mere hard bargaining, however, will not offend an Aboriginal people's right to be consulted.

43 … At one end of the spectrum lie cases where the claim to title is weak, the Aboriginal right limited, or the potential for infringement minor. In such cases, the only duty on the Crown may be to give notice, disclose information, and discuss any issues raised in response to the notice. …

44 At the other end of the spectrum lie cases where a strong *prima facie* case for the claim is established, the right and potential infringement is of high significance to the Aboriginal peoples, and the risk of non-compensable damage is high. In such cases deep consultation, aimed at finding a satisfactory interim solution, may be required. …

45 Between these two extremes of the spectrum just described, will lie other situations. Every case must be approached individually. … The controlling

> question in all situations is what is required to maintain the honour of the Crown and to effect reconciliation between the Crown and the Aboriginal peoples with respect to the interests at stake. Pending settlement, the Crown is bound by its honour to balance societal and Aboriginal interests in making decisions that may affect Aboriginal claims. …

[40] The Crown's duty may include an accommodation that is based on balance and compromise:

> 46 Meaningful consultation may oblige the Crown to make changes to its proposed action based on information obtained through consultations. …
>
> 47 When the consultation process suggests amendment of Crown policy, we arrive at the stage of accommodation. Thus the effect of good faith consultation may be to reveal a duty to accommodate. Where a strong *prima facie* case exists for the claim, and the consequences of the government's proposed decision may adversely affect it in a significant way, addressing the Aboriginal concerns may require taking steps to avoid irreparable harm or to minimize the effects of the infringement, pending final resolution of the underlying claim. …
>
> …
>
> 50 … **Balance and compromise are inherent in the notion of reconciliation.** Where accommodation is required in making decisions that adversely affect as yet unproven Aboriginal rights and title claims, the Crown **must balance** Aboriginal concerns reasonably with the potential impact of the decision on the asserted right or title and with other societal interests.
>
> [bolding added]

[41] NSPI, a private corporation, has consulted with the KMKNO and the Acadia First Nation. How do consultations between the aboriginal group and a private party affect the Crown's duty? In *Haida Nation*, the Chief Justice said:

> 53 … the duty to consult and accommodate, as discussed above, flows from the Crown's assumption of sovereignty over lands and resources formerly held by the Aboriginal group. This theory provides no support for an obligation on third parties to consult or accommodate. **The Crown alone remains legally responsible for the consequences of its actions and interactions with third parties, that affect Aboriginal interests.** The Crown may delegate procedural aspects of consultation to industry proponents seeking a particular development; this is not infrequently done in environmental assessments…. However, the ultimate legal responsibility for consultation and accommodation rests with the Crown. The honour of the Crown cannot be delegated. [bolding added]

[42] ***Carrier Sekani* (2010):** Six years later, in *Carrier Sekani*, *supra*, the Supreme Court refined *Haida Nation*'s directives.

[43] In the 1950s, without consultation, the Government of British Columbia authorized the construction of a dam and reservoir that affected First Nations' claims to their ancestral homeland and fishing rights. The sale of energy from the facilities was governed by Energy Purchase Agreements that were subject to approval by the British Columbia Utilities Commission. In 2007, the Government of British Columbia sought the Commission's approval of such an Agreement. At issue was the adequacy of the Crown's consultation with the Aboriginal groups. The Commission accepted that it had the jurisdiction to consider the adequacy of consultation. The Commission then found that the 2007 Energy Purchase Agreement did not adversely affect any Aboriginal interest. So the duty to consult was not triggered. The Commission approved the Agreement. The Commission's ruling was overturned by the British Columbia Court of Appeal but reinstated by the Supreme Court of Canada.

[44] McLachlin C.J.C., for the Court, explained why the duty to consult applies before the final determination of the Aboriginal right or claim:

> [33] **The duty to consult described in *Haida Nation* derives from the need to protect Aboriginal interests while land and resource claims are ongoing or when the proposed action may impinge on an Aboriginal right.** Absent this duty, Aboriginal groups seeking to protect their interests pending a final settlement would need to commence litigation and seek interlocutory injunctions to halt the threatening activity. These remedies have proven time-consuming, expensive, and are often ineffective. Moreover, with a few exceptions, many Aboriginal groups have limited success in obtaining injunctions to halt development or activities on the land in order to protect contested Aboriginal or treaty rights.
>
> [34] … Rather than pitting Aboriginal peoples against the Crown in the litigation process, the duty recognizes that both must work together to reconcile their interests. It also accommodates the reality that often Aboriginal peoples are involved in exploiting the resource. **Shutting down development by court injunction may serve the interest of no one.** The honour of the Crown is therefore best reflected by a requirement for consultation with a view to reconciliation.
>
> [35] ***Haida Nation*** sets the framework for **dialogue prior to the final resolution** of claims by requiring the Crown to take contested or established Aboriginal rights into account ***before*** **making a decision** that may have an adverse impact on them … . **The duty is *prospective,*** fastening on rights yet to be proven.
>
> [Supreme Court's italics, bolding added]

[45] The Chief Justice enumerated and explained *Haida Nation*'s test as to when the Crown's duty to consult arises:

> [31] **... This test can be broken down into three elements: (1) the Crown's knowledge, actual or constructive, of a potential Aboriginal claim or right; (2) contemplated Crown conduct; and (3) the potential that the contemplated conduct may adversely affect an aboriginal claim or right.** …
>
> [bolding added]

[46] As to the first element:

> [40] To trigger the duty to consult, the Crown must have real or constructive knowledge of a claim to the resource or land to which it attaches: *Haida Nation*, at para. 35. 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 [citation omitted]. Constructive knowledge arises when lands are known or reasonably suspected to have been traditionally occupied by an Aboriginal community or an impact on rights may reasonably be anticipated. While the existence of a potential claim is essential, proof that the claim will succeed is not. What is required is a credible claim. …
>
> [41] The claim or right must be one which actually exists and stands to be affected by the proposed government action. This flows from the fact that the purpose of consultation is to protect unproven or established rights from irreversible harm as the settlement negotiations proceed. [citations omitted].

[47] Then the second element, a key to this appeal:

> [42] Second, for a duty to consult to arise, **there must be Crown conduct or a Crown decision** that engages a potential Aboriginal right. What is required is conduct that may adversely impact on the claim or right in question.
>
> [43] This raises the question of what government action engages the duty to consult. It has been held that such action is **not confined to government exercise of statutory powers:** [citations omitted]. **This accords with the generous, purposive approach that must be brought to the duty to consult**.
>
> [44] Further, government action is not confined to decisions or conduct which have an immediate impact on lands and resources. **A potential for adverse impact suffices**. Thus, the duty to consult extends to "strategic, higher level decisions" that may have an impact on Aboriginal claims and rights … .
>
> [bolding added]

[48] Lastly, the third element:

[45] The third element of a duty to consult is the possibility that the Crown conduct may affect the Aboriginal claim or right. **The claimant must show a causal relationship between the proposed government conduct or decision and a potential for adverse impacts on pending Aboriginal claims or rights**. Past wrongs, including previous breaches of the duty to consult, do not suffice.

[46] Again, **a generous, purposive approach to this element is in order**, given that the doctrine's purpose, as stated by Newman, is "to recognize that actions affecting unproven Aboriginal title or rights or treaty rights can have irreversible effects that are not in keeping with the honour of the Crown" (p. 30, citing *Haida Nation*, at paras. 27 and 33). Mere speculative impacts, however, will not suffice. … The adverse effect must be on the future exercise of the right itself; an adverse effect on a First Nation's future negotiating position does not suffice.

[47] **Adverse impacts extend to any effect that may prejudice a pending Aboriginal claim or right.** Often the adverse effects are physical in nature. However, as discussed in connection with what constitutes Crown conduct, high-level management decisions or structural changes to the resource's management may also adversely affect the Aboriginal claims or rights even if these decisions have no "immediate impact on lands and resources" [citation omitted]. This is because such structural changes to the resources management may set the stage for further decisions that will have a *direct* adverse impact on land and resources.

...

[49] The question is whether there is a claim or right that potentially may be impacted by the *current* government conduct or decision in question. Prior and continuing breaches, including prior failures to consult, will only trigger a duty to consult if the present decision has the potential of causing a novel adverse impact on a present claim or existing right. …

…

[53] … *Haida Nation* … grounded the duty to consult in the need to preserve Aboriginal rights and claims pending resolution. It confines the duty to consult to adverse impacts flowing from the specific Crown proposal at issue – not to larger adverse impacts of the project of which it is a part. The subject of the consultation is the impact on the claimed rights of the *current* decision under consideration.

[Supreme Court's italics, bolding added]

[49] The Chief Justice then considered the role of an administrative tribunal – *i.e.* the British Columbia Utilities Commission – in the consultation process. A similar issue features in the appeal before this Court. McLachlin C.J.C. said:

B. *The Role of Tribunals in Consultation*

[55] The duty on a tribunal to consider consultation and the scope of the inquiry depends on the mandate conferred by the legislation that creates the tribunal. …

[56] The legislature may choose to delegate to a tribunal the Crown's duty to consult. …

[57] Alternatively, the legislature may choose to confine a tribunal's power to determinations of whether adequate consultation has taken place, as a condition of its statutory decision-making process. In this case, the tribunal is not itself engaged in the consultation. **Rather, it is reviewing whether the Crown has discharged its duty to consult with a given First Nation about potential adverse impacts on their Aboriginal interest relevant to the decision at hand**.

[58] Tribunals considering resource issues touching on Aboriginal interests may have neither of these duties, one of these duties, or both **depending on what responsibilities the legislature has conferred on them**. Both the powers of the tribunal to consider questions of law and the remedial powers granted it by the legislature are relevant considerations in determining the contours of that tribunal's jurisdiction: *Conway* [*R. v. Conway*, [2010] 1 S.C.R. 765]. As such, they are also relevant to determining whether a particular tribunal has a duty to consult, a duty to consider consultation, or no duty at all.

[59] … it is suggested that every tribunal with jurisdiction to consider questions of law has a constitutional duty to consider whether adequate consultation has taken place and, if not, to itself fulfill the requirement regardless of whether its constituent statute so provides. …

[60] This argument cannot be accepted, in my view. A tribunal has only those powers that are expressly or implicitly conferred on it by statute. … Consultation itself is not a question of law; it is a distinct and often complex constitutional process and, in certain circumstances, a right involving facts, law, policy and compromise. The tribunal seeking to engage in consultation itself must therefore possess remedial powers necessary to do what it is asked to do in connection with the consultation. …

[61] A tribunal that has the power to consider adequacy of consultation, but does not itself have the power to enter into consultations, should provide whatever relief it considers appropriate in the circumstances, in accordance with the remedial powers expressly or impliedly conferred upon it by statute. The goal is to protect Aboriginal rights and interests and to promote the reconciliation of interests called for in *Haida Nation*.

…

[68] … As discussed, above, tribunals are confined to the powers conferred on them by the legislature: *Conway*. We must therefore ask whether the *Utilities Commission Act* conferred on the Commission the power to consider the issue of consultation, grounded as it is in the Constitution.

[69] It is common ground that the *Utilities Commission Act* empowers the Commission to decide questions of law in the course of determining whether the 2007 EPA is in the public interest. **The power to decide questions of law implies a power to decide constitutional issues that are properly before it, absent a clear demonstration that the legislature intended to exclude such jurisdiction from the tribunal's power** (*Conway*, at para. 81; *Paul v. British Columbia (Forest Appeals Commission)*, 2002 SCC 55, [2003] 2 S.C.R. 585, at para. 39). "[S]pecialized tribunals with both the expertise and authority to decide questions of law are in the best position to hear and decide **constitutional questions related to their statutory mandates**": *Conway*, at para. 6.

[70] Beyond its general power to consider questions of law, **the factors the Commission is required to consider under s. 71 of the *Utilities Commission Act*, while focused mainly on economic issues, are broad enough to include the issue of Crown consultation with Aboriginal groups. At the time, s. 71(2)(e) required the Commission to consider "any other factor that the commission considers relevant to the public interest".** The constitutional dimension of the duty to consult gives rise to a special public interest, surpassing the dominantly economic focus of the consultation under the *Utilities Commission Act*. As Donald J.A. asked, "How can a contract formed by a Crown agent in breach of a constitutional duty be in the public interest? (para. 42)

…

[73] For these reasons, I conclude that the Commission had the power to consider whether adequate consultation with concerned Aboriginal peoples had taken place. ...

…

[75] … If the tribunal structure set up by the Legislature is incapable of dealing with a decision's potential adverse impacts on Aboriginal interests, then the Aboriginal peoples affected must seek appropriate remedies in the courts: *Haida Nation*, at para. 51.

[76] The Commission correctly accepted that it had the power to consider the adequacy of consultation with Aboriginal groups. …

[bolding added]

[50] ***Clyde River* (2017):** In *Clyde River*, *supra*, the National Energy Board was asked to authorize offshore seismic testing for oil and gas in Nunavut. The testing potentially could affect Inuit treaty rights. The Inuit in Clyde River alleged prior consultation with the Crown had been inadequate. The NEB determined prior consultation had sufficed and the testing was unlikely to cause a significant adverse effect. The NEB authorized the project. The Federal Court of Appeal dismissed the appeal. The Supreme Court of Canada allowed the further appeal and quashed the NEB's decision.

[51] Justices Karakatsanis and Brown, for the Court, (para. 25) reiterated the *Haida Nation*/*Carrier Sekani* test that the duty to consult is triggered when (1) the Crown has actual or constructive knowledge of a potential Aboriginal right, and there is (2) Crown conduct that (3) would adversely affect the Aboriginal right. Significant to the present appeal is their discussion of what constitutes "Crown conduct".

[52] The applicant to the NEB was a private party. The Government was not a formal party. At issue was whether the NEB was the "Crown". If so, the NEB's approval adversely affected a known potential Aboriginal right, which would satisfy the *Haida*/*Carrier Sekani* three-step test for consultation. Consequently, the NEB would have jurisdiction – and would be constitutionally obligated – to consider whether adequate consultations had occurred.

[53] Justices Karakatsanis and Brown held that the NEB was the "Crown" for the purposes of the test. They began with the Crown's responsibility to address the constitutional imperative:

> [22] In our view, while the Crown may rely on steps undertaken by a regulatory agency to fulfill its duty to consult in whole or in part and, where appropriate, accommodate, the Crown always holds ultimate responsibility for ensuring consultation is adequate. …
>
> [24] Above all, and irrespective of the process by which consultation is undertaken, **any decision affecting Aboriginal or treaty rights made on the basis of inadequate consultation will not be in compliance with the duty to consult, which is a constitutional imperative. Where challenged, it should be quashed on judicial review.** That said, judicial review is no substitute for adequate consultation. … No one benefits – not project proponents, not Indigenous peoples, and not non-Indigenous members of affected communities – when projects are prematurely approved only to be subjected to litigation.
>
> [bolding added]

[54] To satisfy the Constitution's reconciliatory objective, Justices Karakatsanis and Brown interpreted "Crown conduct" broadly as including the NEB:

> [25] … Crown conduct which would trigger the duty is **not restricted** to the exercise by or on behalf of the Crown **of statutory powers or of the royal prerogative**, nor is it limited to decisions that have an immediate impact on lands and reserves. **The concern is for adverse impacts, however made, upon Aboriginal and treaty rights and, indeed, a goal of consultation is to identify, minimize and address adverse impacts where possible**. (*Carrier Sekani*, at paras. 45-46).

[26] … In short, the Federal Court of Appeal in both cases [*Clyde River* and *Chippewas*] was of the view that only action by a minister of the Crown or a government department, or a Crown corporation, can constitute Crown conduct triggering the duty to consult. …

[27] Contrary to the Federal Court of Appeal's conclusions on this point, we agree that the NEB's approval process, in this case, as in *Chippewas of the Thames*, triggered the duty to consult.

[28] It bears reiterating that the duty to consult is owed by the Crown. In one sense, the "Crown" refers to the personification in Her Majesty of the Canadian state in exercising the prerogatives and privileges reserved to it. The Crown also, however, denotes the sovereign in the exercise of her formal legislative role (in assenting, refusing assent to, or reserving legislative or parliamentary bills), and as the head of executive authority … .

[29] By this understanding, the NEB is not, strictly speaking, "the Crown". Nor is it, strictly speaking, an agent of the Crown, since – as the NEB operates independently of the Crown's ministers – no relationship of control exists between them [citation omitted]. **As a statutory body holding responsibility under s. 5(1)(b) of *COGOA*** [*Canada Oil and Gas Operations Act*, R.S.C. 1985, c. O-7], however, the NEB acts on behalf of the Crown when making a final decision on a project application. **Put plainly, once it is accepted that a regulatory agency exists to exercise executive power as authorized by legislatures, any distinction between its actions and Crown action quickly falls away**. In this context, the NEB is the vehicle through which the Crown acts. Hence this Court's interchangeable references in *Carrier Sekani* to "government action" and "Crown conduct" (paras. 42-44). It therefore does not matter whether the **final decision maker on a resource project** is Cabinet or the NEB. In either case, the decision constitutes Crown action that may trigger the duty to consult. As Rennie J.A. said in dissent at the Federal Court of Appeal in *Chippewas of the Thames*, "[t]he duty, like the honour of the Crown, does not evaporate simply because a **final decision** has been made by a tribunal established by Parliament, as opposed to Cabinet" (para. 105). The action of the NEB, taken in furtherance of its statutory powers under s. 5(1)(b) of the *COGOA* **to make final decisions respecting such testing** as was proposed here, clearly constitutes Crown action. [bolding added]

[55] Justices Karakatsanis and Brown then discussed what is expected of a tribunal that shoulders the authority to consider the adequacy of the Crown's consultation:

D. *What is the NEB's Role in Considering Crown Consultation Before Approval?*

…

[36] **Generally, a tribunal empowered to consider questions of law must determine whether such consultation was constitutionally sufficient if the issue is properly raised. The power of a tribunal "to decide questions of law implies a power to decide constitutional issues that are properly before it, absent a clear demonstration that the legislature intended to exclude such jurisdiction from the tribunal's power"** (*Carrier Sekani*, at para. 69). **Regulatory agencies with the authority to decide questions of law have both the duty and the authority to apply the Constitution**, **unless the authority to decide the constitutional issue has been clearly withdrawn** (*R. v. Conway*, 2010 SCC 22, [2010] 1 S.C.R. 765, at para. 77). **It follows that they must ensure their decisions comply with s. 35 of the *Constitution Act, 1982*** (*Carrier Sekani*, at para. 72).

[37] The NEB has broad powers under both the *NEB Act* and *COGOA* to hear and determine all relevant matters of fact and law (*NEB Act*, s. 12(2); *COGOA*, s. 5.31(2). No provision in either statute suggests an intention to withhold from the NEB the power to decide the adequacy of consultation. And, in *Quebec (Attorney General) v. Canada (National Energy Board)*, [1994] 1 S.C.R. 159, this Court concluded that NEB decisions must conform to s. 35(1) of the *Constitution Act, 1982*. It follows that the NEB can determine whether the Crown's duty to consult has been fulfilled.

[bolding added]

[56] Justices Karakatsanis and Brown held that this conclusion follows notwithstanding that the Crown was not a party to the proceeding before the tribunal:

[38] … Based on the authority of *Standing Buffalo Dakota First Nation v. Enbridge Pipelines Inc.*, 2009 FCA 308, [2010] 4 F.C.R. 500, the majority of the Federal Court of Appeal in *Chippewas of the Thames* reasoned that the NEB is not required to evaluate whether the Crown's duty to consult had been triggered (or whether it was satisfied) before granting a resource project authorization, except where the Crown is a party before the NEB.

[39] The difficulty with this view, however, is that – as we have explained – action taken by the NEB in furtherance of its powers under s. 5(1)(b) of *COGOA* to make final decisions is *itself* Crown conduct which triggers the duty to consult. Nor, respectfully, can we agree with the majority of the Federal Court of Appeal in *Chippewas of the Thames* that an NEB decision will comply with s. 35(1) of the *Constitution Act, 1982* so long as the NEB ensures the proponents engage in a "dialogue" with potentially affected Indigenous groups (para. 62). **If the Crown's duty to consult has been triggered, a decision maker may only proceed to approve a project if Crown consultation is adequate**. Although in many cases the Crown will be able to rely on the NEB's processes as meeting the duty to consult, **because the NEB is the final decision maker, the key question is whether the duty is fulfilled prior to project approval** (*Haida*, at para. 67).

> Accordingly, where the Crown's duty to consult an affected Indigenous group with respect to a project under *COGOA* remains unfulfilled, **the NEB must withhold project approval.** And, where the NEB fails to do so, its approval decision should (as we have already said) be quashed on judicial review, **since the duty to consult must be fulfilled prior to the action that could adversely affect the right in question** (*Tsilhqot'in Nation v. British Columbia*, 2014 SCC 44, [2014] 2 S.C.R. 257, at para. 78.).
>
> [Supreme Court's italics, bolding added]

[57] ***Chippewas of the Thames*** **(2017):** In *Chippewas of the Thames*, *supra*, the National Energy Board was asked to approve a modification of a pipeline that crossed a First Nation's traditional territory. The NEB considered whether there had been adequate consultation, held that the project's effect on Aboriginal interests would be minimal and approved the project with accommodating conditions.

[58] Justices Karakatsanis and Brown, for the Court, applied their ruling in *Clyde River* that a decision by a tribunal such as the NEB would be "Crown conduct" which triggers the Crown's duty to consult:

> [29] In the companion case to this appeal, *Clyde River*, we outline the principles which apply when an independent regulatory agency such as the NEB is tasked with a decision that could impact Aboriginal or treaty rights. In these circumstances, the NEB's decision would itself be Crown conduct that implicates the Crown's duty to consult (*Clyde River*, at para. 29). **A decision by a regulatory tribunal would trigger the Crown's duty to consult when the Crown has knowledge, real or constructive, of a potential or recognized Aboriginal or treaty right that may be adversely affected by the tribunal's decision** [citing *Carrier Sekani*, para. 31 and *Clyde River*, para. 25].
>
> [bolding added]

[59] The Federal Court of Appeal had concluded that the absence of the Crown from the NEB's proceeding meant the NEB's decision would not be Crown conduct. Justices Karakatsanis and Brown rejected that view:

> [30] We do not agree with the suggestion that because the Crown, in the form of a representative of the relevant federal department, was not a party before the NEB, there may have been no Crown conduct triggering the duty to consult (see C.A. reasons, at paras. 57 and 69-70).
>
> …
>
> [35] … In *Standing Buffalo*, the Federal Court of Appeal held that the NEB was not required to consider whether the Crown's duty to consult had been

discharged before approving a s. 52 pipeline application when the Crown did not formally participate in the NEB's hearing process. The majority in this case held that the principle from *Standing Buffalo* applied here. … In dissent, Rennie J.A. reasoned that *Standing Buffalo* had been overtaken by this Court's decision in *Carrier Sekani*. Even in the absence of the Crown's participation as a party before the NEB, he held that the NEB was *required* to consider the Crown's duty to consult before approving Enbridge's application (para. 112). [Supreme Court's italics]

[36] We agree with Rennie J.A. that a regulatory tribunal's ability to assess the Crown's duty to consult does not depend on whether the government participated in the NEB's hearing process. **If the Crown's duty to consult has been triggered, a decision maker may only proceed to approve a project if Crown consultation is adequate.** The Crown's constitutional obligation does not disappear when the Crown acts to approve a project through a regulatory body such as the NEB. It must be discharged before the government proceeds with approval of a project that could adversely affect Aboriginal or treaty rights (*Tsilhqot'in Nation v. British Columbia*, 2014 SCC 44, [2014] 2 S.C.R. 257, at para. 78).

[37] **As the final decision maker on certain projects**, the NEB is obliged to consider whether the Crown's consultation with respect to a project was adequate if the concern is raised before it (*Clyde River*, at para. 36). The responsibility to ensure the honour of the Crown is upheld remains with the Crown (*Clyde River*, at para. 22). However, administrative decision makers have both the obligation to decide necessary questions of law raised before them and an obligation to make their decisions within the contours of the state's constitutional obligations (*R. v. Conway*, 2010 SCC 22, [2010] 1 S.C.R. 765, at para. 77).

…

[48] As acknowledged in its reasons, the NEB, as a quasi-judicial decision maker, is required to carry out its responsibilities under s. 58 of the *NEB Act* in a manner consistent with s. 35 of the *Constitution Act, 1982*. In our view, **this requires it to take the rights and interests of Indigenous groups into consideration before it makes a final decision that could impact them.** …

…

[59] In *Carrier Sekani*, this Court recognized that "[t]he constitutional dimension of the duty to consult gives rise to a special public interest" which surpasses economic concerns (para. 70). **A decision to authorize a project cannot be in the public interest if the Crown's duty to consult has not been met** (*Clyde River*, at para. 40; *Carrier Sekani*, at para. 70). …

[bolding added]

[60] Justices Karakatsanis and Brown reiterated that "balance and compromise" are at the heart of the process:

> [59] … Nevertheless, this does not mean that the interests of Indigenous groups cannot be balanced with other interests at the accommodation stage. Indeed, it is for this reason that the duty to consult does not provide Indigenous groups with a "veto" over final Crown decisions (*Haida*, at para. 48). Rather, **proper accommodation "stress[es] the need to balance competing societal interests with Aboriginal and treaty rights"** (*Haida*, at para. 50).
>
> [60] Here, the NEB recognized that the impact of the project on the rights and interests of the Chippewas of the Thames was likely to be minimal. Nonetheless, it imposed conditions on Enbridge to accommodate the interests of the Chippewas of the Thames and to ensure ongoing consultation between the proponent and Indigenous groups. The Chippewas of the Thames are not entitled to a one-sided process, but rather, a cooperative one with a view towards reconciliation. **Balance and compromise are inherent in that process** (*Haida*, at para. 50).
>
> [bolding added]

The Test

[61] *Carrier Sekani*, para. 31, says the test has three elements: (1) the Crown's actual or constructive knowledge of a potential Aboriginal right or claim, and (2) contemplated Crown conduct (3) that would adversely affect the Aboriginal right or claim.

First Element – Crown Knowledge

[62] There is no need to tarry with the first element. The Provincial DOE's letter of December 22, 2016 acknowledged that the NSPI's Tusket Project triggered the Crown's duty to consult (above, para. 14).

Second Element – Crown Conduct

[63] Was the Board's proceeding "Crown conduct"?

[64] In *Carrier Sekani*, paras. 55-58, the Chief Justice said the tribunal may have the authority to conduct consultations as a protagonist, or to determine whether prior consultations have been adequate, or no authority on the matter. In the first or second instances, the tribunal's proceeding qualifies as Crown conduct.

[65] Here, the legislation did not authorize the Utility and Review Board to conduct direct consultation with First Nations. Neither did the Board assert such authority (Board's Decision, paras. 75-76).

[66] This leaves the question – did the Board have the authority to determine whether prior consultations had satisfied the standard of the Crown's duty to consult? The analysis of that issue, according to the Supreme Court, should follow the following directions:

- the Board must have the authority to determine issues of law;
- the legislation must not show a "clear demonstration that the legislature intended to exclude" the Board's authority to determine the constitutional issue of Aboriginal consultation;
- the potential adverse effect to the Aboriginal interest must be "relevant to the decision at hand" by the Board;
- the Board must be a "final decision maker" on the matter to which the adverse effect is relevant;
- the Board's relief must agree with "the remedial powers expressly or impliedly conferred upon it by statute".

[67] I will take these points in turn.

[68] **Power to decide issues of law:** The starting point is *Carrier Sekani*:

> [57] Alternatively, the legislature may choose to confine the tribunal's power to determinations of whether adequate consultation has taken place, as a condition of its statutory decision-making process. In this case, the tribunal is not itself engaged in the consultation. Rather, it is reviewing whether the Crown has discharged its duty to consult with a given First Nation about potential adverse impacts on their Aboriginal interest relevant to the decision at hand.
>
> …
>
> [69] … The **power to decide questions of law** implies a power to decide constitutional issues that are properly before it, **absent a clear demonstration that the legislature intended to exclude** such jurisdiction from the tribunal's power. …
>
> [bolding added]

[69] The approach stated in para. 69 had been articulated in *Paul v. British Columbia (Forest Appeals Commission)*, [2003] 2 S.C.R. 585, para. 39, and reiterated in *R. v. Conway*, [2010] 1 S.C.R. 765, para. 77.

[70] In *Clyde River*, Justices Karakatsanis and Brown cited *Carrier Sekani*'s para. 69, then elaborated:

> [36] … Regulatory agencies with the **authority to decide questions of law** have both the duty and authority to apply the Constitution, **unless the authority to decide the constitutional issue has been clearly withdrawn** (*R. v. Conway*, 2010 SCC 22, [2010] 1 S.C.R. 765, at para. 77). It follows that they must ensure their decisions comply with s. 35 of the *Constitution Act, 1982* … .
>
> [bolding added]

[71] In *Chippewas of the Thames*, paras. 29-37, the Court confirmed its approach from *Clyde River*.

[72] Here, the *Utility and Review Board Act* assigns to the Board the exclusive jurisdiction over matters that are conferred on the Board, and the power "to determine all questions of law and of fact", to make binding findings of fact and to issue orders that are enforceable as court orders:

> **Jurisdiction**
>
> 22 (1) The Board has exclusive jurisdiction in all cases and in respect of all matters in which jurisdiction is conferred on it.
>
> (2) The Board, as to all matters within its jurisdiction pursuant to this Act, may hear and determine all questions of law and fact.
>
> …
>
> **Order**
>
> 24 In any matter before the Board, it shall grant an order, either as specified in the application or notice of appeal or as the Board decides.
>
> …
>
> **Effect of finding**
>
> 26 The finding or determination of the Board upon a question of fact within its jurisdiction is binding and conclusive.
>
> …
>
> **Enforcement of order**
>
> 29 (1) An order made by the Board may be made a rule or order of the Supreme Court, and shall thereupon be enforced in like manner as a rule, order. decree or judgment of that Court.
>
> …
>
> (4) The Clerk shall forward the certified copy so endorsed to a prothonotary of the Supreme Court, who shall, upon receipt thereof, enter the

> same as of record, and it thereupon becomes and is an order of the Supreme Court and is enforceable as a rule, order, decree or judgment of the Court.

[73] **Clear demonstration of intent to exclude:** Does legislation clearly exclude the Board's authority to consider the constitutional issue of Aboriginal consultation?

[74] In *Carrier Sekani*, the Commission's enabling statute said: "the tribunal does not have jurisdiction over constitutional questions" (see para. 28 of the Court's reasons). The Supreme Court narrowly interpreted the restriction and concluded that the statute's words "do not indicate a clear intention on the part of the legislature to exclude from the Commission's jurisdiction the duty to consider whether the Crown has discharged its duty to consult" (para. 72). The Court held the Commission was empowered to determine whether Crown consultation had been adequate.

[75] Here, there is no legislated restriction to be narrowly interpreted. Nothing in the *Utility and Review Board Act*, the *Public Utilities Act* or any other statute demonstrates an intention to exclude the Board's authority to determine a constitutional issue, such as compliance with s. 35(1) of the *Constitution Act, 1982*, that pertains to a matter before the Board.

[76] The Board's unrestricted power to decide issues of law satisfies the Supreme Court's first and second directions.

[77] **Relevance to the decision at hand:** Then there is the third direction. In *Carrier Sekani*, McLachlin C.J.C. said:

> [57] Alternatively, the legislature may choose to confine a tribunal's power to determinations of whether adequate consultation has taken place, as a condition of its statutory decision-making process. In this case, the tribunal is not itself engaged in the consultation. Rather, it is reviewing whether the Crown has discharged its duty to consult with a given First Nation about potential adverse impacts on their Aboriginal interest **relevant to the decision at hand**.
>
> [bolding added]

[78] In this case, the potential adverse impact to Mi'kmaq interests clearly related to the issues before the Board.

[79] The NSPI Application costed and proposed to the Board methods to accommodate the potential adverse impacts to the Mi'kmaq archeology and fishery. The NSPI Application included:

- The Introduction (page 8) said that Section 6 of the Application discusses the steps NSPI will take to resolve First Nations concerns.

- The discussion of the Dam Safety Management Program (page 14) noted that NSPI had "prepared a site specific design to mitigate risk and First Nations impacts", and "[w]ith this information now available, NS Power is able to proceed with a fully costed and well-designed project plan".

- The Proposed Scope of the Project (page 19) said "[t]he construction footprint of the proposed scope also avoids disturbance of previously delineated archeological sites, keeping Mi'kmaq cultural resources intact and avoiding the need for archeological mitigation".

- The Breakdown of Spending as of April 30, 2017 (page 22), noted Archeology costs "to develop mitigation strategies acceptable to the Mi'kmaq of Nova Scotia and to the customer".

- The section on Variance to 2017 ACE Plan Submission (page 30) explained the increase in the Project's proposed capital cost from an initial $9,940,664 to the revised $18,157,609. One of the reasons was "the level of First Nations engagement required to appropriately address any First Nations concerns and successfully execute the Project became better understood".

- The section on First Nations and Archeology Considerations (page 34) said that one reason for refurbishment, instead of decommissioning and reconstruction, was that "costs associated with First Nations and archeology considerations are unknown and potentially costly if a decommissioning option is pursued". The Report said (page 35) "if a complete mitigation was required, excavation of the area within the boundaries of the site, removal of any artifacts using standard archeological methodology, and recording/mapping of the location of any uncovered artifacts would be required", meaning "[d]ecommissioning costs, should 'complete mitigation' be required, could be as high as $30,000,000", instead of $18,157,609.

- The Refurbishment proposal (pages 35-36) noted that the design considered the "constraints" of "registered pre-contact First Nations archeology sites surrounding the main dam structure". The Refurbishment proposal (page 37) also noted that one scenario had "the potential to alter the effectiveness of a nearby Acadia First Nation gaspereau fishing stand". The Report said NSPI took that factor, and others, into account in selecting the recommended scenario.

- The section on Risk Mitigation and Stakeholder Management (page 38) said that there were "four primary risks associated with project design and execution", three being "environmental issues", "known archeological sites" and "First Nations engagement". The environmental issues included possible adverse impact on the gaspereau fishery used by the Mi'kmaq (page 39). The archeological concern (pages 41-42) involved "over 70 archeological sites, features and areas of potential". Of these "seven archeological resources were deemed to be at high or potentially high risk of impact", which "include the submerged historic and First Nations sites to the north of the dam and the submerged known site AIDI-18". The Report (page 41) says "the scope of the project was altered to minimize the archeology risks".

- The section on First Nations Engagement (pages 43-44) noted the Mi'kmaq's expressed concerns that the water elevation of Lake Vaughan would be altered, exposing or affecting submerged artifacts, that the construction or operation of the main dam might affect the effectiveness of the fish ladder needed for the gasperau fishery. NSPI said it was "committed to balance the needs and concerns of Mi'kmaq of Nova Scotia in conjunction with regulatory and business requirements in order to execute successful capital work orders to the benefit of all customers".

- NSPI's Response to Information Requests 15 and 16, filed August 29, 2017, said any consideration of the decommissioning option could include assessment of the costs associated with archeological procedures, lowering Lake Vaughan to expose Mi'kmaq artifacts, preserving, documenting and cleaning the artifacts, as well as compensation to the Mi'kmaq for losses to their commercial gaspereau fishery from a change to the river flow.

[80] The Board's independent consultant, Midgard, and Intervenors filed with the Board submissions that NSPI's Application had overstated the requirements and costing for Mi'kmaq archeological preservation and maintenance of fish stock. NSPI replied with submissions on February 28, 2018 and again on May 14, 2018, that defended its approach.

[81] NSPI applied to the Board under s. 35 of the *Public Utilities Act*:

> **Approval of improvement over $250,000**
>
> 35 No public utility shall proceed with **any new construction, improvements or betterments in or extensions or additions** to its property used or useful in furnishing, rendering or supplying any service which requires the

> expenditure of more than two hundred and fifty thousand dollars without first securing the **approval thereof** by the Board.
>
> [emphasis added]

[82] NSPI asked the Board to approve the Project's scope – *i.e.* its construction, improvements, betterments, extensions or additions – and costing that included NSPI's proposed accommodation of Mi'kmaq concerns. The proposal represented NSPI's attempt, as the Application said (page 44), "to balance the needs and concerns of Mi'kmaq of Nova Scotia in conjunction with regulatory and business requirements in order to execute successful capital work orders to the benefit of all customers". A different scope, resulting from a different approach to accommodate and balance the Mi'kmaq's concerns, would reduce or heighten the potential adverse impact to Mi'kmaq interests by increasing or decreasing the capital costs that the Board was asked to approve.

[83] For example, if the Tusket Main Dam was decommissioned and rebuilt, instead of just refurbished as the NSPI Application proposed, then the Project's capital cost after a "complete mitigation" of the Mi'kmaq's concerns "could be as high as $30,000,000", to be recovered in rates, instead of the $18,157,609 in NSPI's Application (pages 34-35). The NSPI Application asked the Board to approve the less expensive balance without complete mitigation.

[84] In *Haida Nation*, para. 50 and *Chippewas of the Thames*, paras. 59 and 60, quoted earlier, the Court said "balance and compromise are inherent in [the] process" toward accommodation. The NSPI Application requested the Board's endorsement of NSPI's version of the balance and compromise. The potential adverse impacts to the Mi'kmaq's interests from the NSPI's Application were explicitly "relevant to the decision at hand" by the Board.

[85] **Final decision maker:** In *Clyde River*, Justices Karakatsanis and Brown said:

> [29] … The action of the NEB, taken in furtherance of its statutory powers under s. 5(1)(b) of the *COGOA* to make **final decisions** respecting such testing as was proposed here, clearly constitutes Crown action.
>
> …
>
> [39] … because the NEB is the **final decision maker**, the key question is whether the duty is fulfilled prior to project approval (*Haida*, at para. 67). …
>
> [bolding added]

[86] Similarly, in *Chippewas of the Thames,* Karakatsanis and Brown JJ. said:

> [37] As the **final decision** maker on certain projects, the NEB is obliged to consider whether the Crown's consultation with respect to a project was adequate if the concern is raised before it (*Clyde River*, at para. 36). …
>
> …
>
> [48] As acknowledged in its reasons, the NEB, as a quasi-judicial decision maker, is required to carry out its responsibilities under s. 58 of the *NEB Act* in a manner consistent with s. 35 of the *Constitution Act, 1982*. In our view, this requires it to take the rights and interests of Indigenous groups into consideration before it makes a **final decision** that could impact them. …
>
> [bolding added]

[87] In *Chippewas of the Thames*, Justices Karakatsanis and Brown explained what they meant by saying the NEB was a "final decision maker":

> [9] **The NEB occupies an advisory role** with respect to the issuance of a certificate of public convenience and necessity. **Under ss. 52(1) and 52(2)** [of the *National Energy Board Act*, R.S.C. 1985, c. N-7], it can submit a report to the Minister of Natural Resources setting out: (i) **its recommendation** on whether a certificate should be issued based on its consideration of certain criteria; and (ii) the terms and conditions that it considers necessary or desirable in the public interest to be attached to the project should the certificate be issued. **The Governor in Council may then direct the NEB** either to issue the certificate or to dismiss the application (s. 54(1)).
>
> [10] **Under s. 58** of the *NEB Act*, however, **the NEB may make orders**, on terms and conditions that it considers proper, exempting smaller pipeline projects or project modifications from various requirements that would otherwise apply under Part III, including the requirement for the issuance of a certificate of public convenience and necessity. Consequently, as in this case, smaller projects and amendments to existing facilities are commonly sought under s. 58. **The NEB is the final decision maker on s. 58 exemptions.**
>
> [bolding added]

[88] A tribunal that makes an enforceable order, without needing confirmation by another authority, makes a final decision. A tribunal that acts merely in an advisory capacity, and makes a recommendation to another authority, is not a final decision maker.

[89] In *Clyde River*, the proponents applied, under s. 5(1)(b) of the *Canada Oil and Gas Operations Act*, R.S.C. 1985, c. O-7, for an authorization to conduct seismic testing. Section 5(1)(b) said:

> 5(1) The National Energy Board may, on application made in the form and containing the information fixed by the National Energy Board, and made in the prescribed manner, issue
>
> …
>
> (b) an authorization with respect to each work or activity proposed to be carried on.

[90] Justices Karakatsanis and Brown (para. 29) said the NEB's statutory power "to make final decisions respecting such testing as was proposed here, clearly constitutes Crown action". The NEB decision was not just a recommendation to another authority, such as the Minister or Cabinet. It was final.

[91] Did the Board have the statutory power to make a final decision respecting NSPI's Application?

[92] Under the *Utility and Review Board Act*: (1) the Board's jurisdiction over the NSPI Application is "exclusive", (2) the Board's findings of fact are "binding and conclusive", (3) the Board "shall grant an order" and (4) its order is "made a rule or order of the Supreme Court, and shall thereupon be enforced in like manner as a rule, order, decree or judgment of that Court". [ss. 22(1), 24, 26 and 29(1), quoted above, para. 72]

[93] The Board's order, under s. 35 of the *Public Utilities Act*, is not advice or a recommendation to a provincial minister or to Cabinet. It is binding. The Board is a final decision maker on the NSPI Application.

[94] **The Board's remedial power:** The Board described its remedial options:

> [166] The Board generally would have two potential remedies in a situation where the Crown's duty to consult has not been completed:
>
> > i) The Board could adjourn the proceedings until the duty to consult had been fulfilled;
> >
> > ii) The Board could approve a project and impose terms and conditions, within its jurisdiction, to alleviate First Nations' concerns which have not yet been addressed.

[95] The Board preferred the first option and adjourned for three months so the parties could conduct further consultations.

[96] In *Carrier Sekani*, the Chief Justice said:

> [61] A tribunal that has the power to consider the adequacy of consultation, but does not itself have the power to enter into consultations, should provide whatever relief it considers appropriate in the circumstances, in accordance with the **remedial powers expressly or impliedly conferred upon it by statute.** The goal is to protect Aboriginal rights and interests and to promote the reconciliation of interests called for in *Haida Nation*. [bolding added]

[97] The *Utility and Review Board Act* says:

> **Adjournment of hearing**
>
> 20 A hearing may be adjourned from time to time by the Board on reasonable grounds on its own motion or on the request of a party to the proceedings.

[98] An adjournment of the NSPI Application was within the Board's power under s. 20.

[99] **The Province's remaining submissions:** I have discussed the Supreme Court's directions on "Crown conduct". I will turn to the Province's remaining submissions. The Province says the Board's proceeding was not "Crown conduct" because:

- S. 35 of the *Public Utilities Act* does not authorize the Board to approve "the Project as a whole";
- the Board had no authority to consider the "public interest";
- the Board was not exercising an "executive function";
- the Board "judicially reviewed" the approvals of the DOE and DFO.

[100] **No authority to approve the "Project as a whole":** The Province submits that, under s. 35 of the *Public Utilities Act*, the Board merely approves the prudency of capital costs for NSPI's recovery in its rates to customers. The Province cites the DOE's permit to alter the watercourse and the DFO's permit to harm fish as other decisions that relate to NSPI's "Project as a whole". The Board has no authority over the watercourse or fish. From this, the Province submits:

- a Board approval under s. 35 "is not a 'final decision' on the Project as a whole" [factum, para. 71(b)], and
- "the Board is not making a 'final decision' on the entire Project itself" [factum, para. 133].

Consequently, says the Province, the Board's decision is not "final" under *Clyde River* and *Chippewas of the Thames* and the Board's proceeding is not "Crown conduct" under *Haida Nation* and *Carrier Sekani*.

[101] The Province assumes that "final", in the passages from *Clyde River* and *Chippewas of the Thames* (quoted above, paras. 85-87), means "all encompassing".

[102] The assumption is mistaken. In *Clyde River* and *Chippewas on the Thames*, the Supreme Court did not say that, to be a "final decision maker", the tribunal must have approval authority for the "project as a whole". Neither did the Court say that a statutory tribunal may consider the adequacy of prior consultations only when that tribunal's statutory mandate encompasses every conceivable approval on the chain of causation that leads to an adverse effect. Nor did the Court say that the existence of a second authority, with an approval power over a different aspect of the project, disqualifies both authorities from assessing the adequacy of prior consultations with aboriginal groups.

[103] A tribunal that makes a binding decision – *i.e.* does not just give advice or a recommendation – is a "final decision maker": *Chippewas of the Thames*, paras. 9 and 10. The Board's decision under s. 35 of the *Public Utilities Act* is binding (enforceable as a court order) and "final". It does not matter that "the Project as a whole" also generated earlier decisions by the DOE and DFO for the alteration of the watercourse and harming of fish.

[104] I respectfully disagree with the Province's submission.

[105] **No "public interest":** The Province's factum says:

> 106. The Board is not … acting with the necessary "public interest" as recognized by the Supreme Court of Canada in *Carrier Sekani* ….
>
> 110. As such, the Province submits that it is "ratepayer interest" that s. 35 of the PUA is designed to protect, not a broader societal or "public interest" that gains constitutional status pursuant to s. 35 of the *Constitution Act, 1982*.
>
> …
>
> 111. In *Carrier Sekani*, the Supreme Court held that beyond its general power to consider "questions of law", the factors that the B.C. Utilities Commission was required to consider under s. 71 of the *Utilities Commission Act*, while focused mainly on economic issues, were broad enough to include the constitutional issue of Crown consultation, because the Commission was mandated to consider "any

other factor that the Commission considers relevant to the public interest". [citing paras. 69-70 of *Carrier Sekani*]

[106] Unlike British Columbia's s. 71, no statute gives Nova Scotia's Board the express authority to consider the "public interest". The Province submits the omission is critical and the Board's mandate does not encompass issues of aboriginal consultation.

[107] For each of two reasons, I do not share the Province's view.

[108] First, the submission misinterprets the Supreme Court's reasons.

[109] In *Carrier Sekani*, the Chief Justice said:

> [69] … The power to decide questions of law implies a power to decide constitutional issues **that are properly before it**, absent a clear demonstration that the legislature intended to exclude such jurisdiction from the tribunal's power. … "[S]pecialized tribunals with both the expertise and authority to decide questions of law are in the best position to hear and decide constitutional questions **related to their statutory mandates"**: *Conway*, at para. 6.
>
> [70] Beyond its general power to consider questions of law, the factors the Commission is required to consider under s. 71 of the *Utilities Commission Act*, while focused mainly on economic issues, are broad enough to include the issue of Crown consultation with Aboriginal groups. At the time, s. 71(2)(e) required the Commission to consider "any other factor that the commission considers relevant to the public interest". The constitutional dimension of the duty to consult gives rise to a special public interest, surpassing the dominantly economic focus of the consultation under the *Utilities Commission Act*. As Donald J.A. asked, "How can a contract formed by a Crown agent in breach of a constitutional duty be in the public interest?" (para. 42).
>
> [bolding added]

[110] In *Carrier Sekani*, "public interest" brought the constitutional issue "properly before" the Commission. The Chief Justice stated the test earlier in *Carrier Sekani*:

> [57] … the tribunal … is reviewing whether the Crown has discharged its duty to consult with a given First Nation about potential adverse impacts on their Aboriginal interest **relevant to the decision at hand**. [bolding added]

British Columbia's statutory criterion of "public interest" meant the consultation issue (with its constitutional "special public interest") was "relevant to the decision at hand" before the Utilities Commission.

[111] *Carrier Sekani* does not say that an express statutory mandate to consider the "public interest" is a *sine qua non* of any tribunal's jurisdiction to consider the adequacy of prior consultations. Rather, in each case, the question is whether the potential adverse impact is "relevant to the decision at hand" by the tribunal. Statutory authority to consider "public interest" is one avenue to relevance. It is not the only one.

[112] Here, the accommodation of potential adverse effects to the Mi'kmaq, balanced against cost to ratepayers, was spelt out in the NSPI Application to the Board. The matter was expressly "relevant to the decision at hand" (above, paras. 77-84). Relevance does not turn on whether the Board had explicit statutory authority to consider the "public interest".

[113] Second, the Board reasonably interpreted its mandate under the *Public Utilities Act* to encompass a significant component of public interest.

[114] The Board's Decision said:

> [88] The comprehensive role in utility regulation of the Board is expressed in the often quoted *Board of Commissioners of Public Utilities v. Nova Scotia Power Corp. et al.*, 1976 CanLII 1234 (NS CA) [(1976), 75 D.L.R. (3d) 72, page 77]:
>
> > The scheme of regulation established by the Act envisages and indeed compels control by the Board of all aspects of a utility's operation in providing a controlled service. Two great objects are enshrined – that all rates must be just, reasonable and sufficient and not discriminatory or preferential, and that the service must be adequately, efficiently and reasonably supplied to the public. Almost all provisions of the Act are directed toward securing these two objects – that a public utility give adequate service and charge only reasonable and just rates.
> >
> > The service requirement is expressed in s. 48, as follows:
> >
> > > 48. Every public utility is required to furnish service and facilities reasonably safe and adequate and in all respects just and reasonable.
>
> [89] The service requirement is now set out in s. 52 of the *PUA*, and there are now performance standards enacted in relation to service as well.
>
> [90] There is no language in s. 35 of the *PUA* which specifically directs the Board to consider the public interest, as was the case in the legislative language discussed in *Carrier Sekani*. This said, the concepts of adequacy and safety of service, along with just and reasonable service requirements, expressed in s. 52 of the *PUA*, are examples of public interest considerations the Board can consider.

> [91] That factors other than a pure economic cost-benefit and prudency analysis are considered by the Board is shown in the extensive record in this matter.
>
> [92] Evidence and expert analysis have been provided to the Board on whether the project is needed for safety reasons in the first place, in order to meet Canadian Dam Safety Guidelines. A number of potential scenarios, completely different than those considered in the NSE and DFO permit applications, have been discussed and analysed in the evidence.
>
> [93] The Board has the jurisdiction to consider all aspects of the proposed Project, to determine whether NS Power's facilities are safe and adequate, and whether alternative scenarios are available.

[115] The *Public Utilities Act* says: (1) "[t]he Board shall have the general supervision of all public utilities …" (s. 18), and (2) "[e]very public utility is required to furnish service and facilities reasonably safe and adequate and in all respects just and reasonable" (s. 52).

[116] NSPI is a "public" utility because its operations and service have a significant impact on the public. Most Nova Scotians obtain electrical power from NSPI. Clearly, as the Province and NSPI point out, the Board is tasked to safeguard financial prudence for the benefit of NSPI's ratepayers. But the Board's mandate extends beyond that factor to the others noted in the Board's reasons. Those factors share a common denominator of public interest.

[117] **No "executive function":** The Province's factum says:

> 86. The Board is not exercising "executive power" or the powers of the "Crown" when it considers a capital cost application under s. 35 of the *PUA*, as contemplated and explained most recently by the Supreme Court of Canada in *Clyde River*:
>
> > [29] By this understanding, the NEB is not, strictly speaking, "the Crown". Nor is it, strictly speaking, an agent of the Crown , since – as the NEB operates independently of the Crown's ministers – no relationship of control exists between them (Hogg, Monahan and Wright, at p. 465).

[118] With respect, there is more to it. *Clyde River*'s passage continues:

> [29] … As a statutory body holding responsibility under s. 5(1)(b) of *COGOA*, however, the NEB acts on behalf of the Crown when making a final decision on a project application. Put plainly, **once it is accepted that a regulatory agency exists to exercise executive power as authorized by legislatures, any distinction between its actions and Crown action quickly falls away**. In this context, the NEB is the vehicle through which the Crown acts. Hence this Court's

> interchangeable references in *Carrier Sekani* to "government action" and "Crown conduct" (paras. 42-44). It therefore does not matter whether the final decision maker on a resource project is Cabinet or the NEB. In either case, the decision constitutes Crown action that may trigger the duty to consult. **As Rennie J.A. said** in dissent at the Federal Court of Appeal in *Chippewas of the Thames*, **"[t]he duty, like the honour of the Crown, does not evaporate simply because a final decision has been made by a tribunal established by Parliament, as opposed to Cabinet" (para. 105). The action of the NEB, taken in furtherance of its statutory powers** under s. 5(1)(b) of *COGOA* to make final decisions respecting such testing as was proposed here, clearly constitutes Crown conduct.
>
> [bolding added]

[119] The Board had responsibility under s. 35 of the *Public Utilities Act* to make a final decision whether to approve the NSPI Application. Features of the Project described in the NSPI Application would potentially have an adverse effect on the Mi'kmaq's interests. According to *Clyde River*, para. 29, "it is accepted that a regulatory agency exists to exercise executive power as authorized by legislatures". The Board's approval, in furtherance of its statutory power, is executive action.

[120] The Province points out that "the Board acts primarily as a quasi-judicial economic regulatory tribunal" (factum, para. 87). With respect, that does not disqualify the Board's power of approval, under s. 35, from being "executive power as authorized by legislatures" (*Clyde River*, para. 29). In *Chippewas of the Thames*, Justices Karakatsanis and Brown spoke of the NEB's quasi-judicial authority:

> [48] As acknowledged in its reasons, the NEB, as a **quasi-judicial** decision maker, is required to carry out its responsibilities under s. 58 of the *NEB Act* in a manner consistent with s. 35 of the *Constitution Act, 1982*. In our view, **this requires it** to take the rights and interests of Indigenous groups into consideration before it makes a final decision that could impact them. [bolding added]

[121] NSPI's challenge comes from the other direction. NSPI cites *Mikisew Cree First Nation v. Canada (Governor General in Council)*, [2018] 2 S.C.R. 765, to support its submission that the Utility and Review Board does not exercise executive power. NSPI's factum, para. 99, emphasizes the following passages from paras. 40 and 41 of Karakatsanis J.'s reasons in *Mikisew*:

> 40 Applying a duty to consult to the development of legislation by ministers, as the Mikisew propose, also raises practical concerns. …
>
> 41 For these reasons, the duty to consult doctrine is ill-suited to be applied directly to the law-making process.

[122] With respect, *Mikisew* has no bearing on the Board's functions under s. 35 of the *Public Utilities Act*. In *Mikisew*, Karakatsanis J. said:

> [1] … The appellant Mikisew Cree First Nation argues that the Crown had a duty to consult them on the development of environmental legislation that had the potential to adversely affect their treaty rights to hunt, trap, and fish. This Court must therefore answer a vexing question it has left open in the past: Does the duty to consult apply to the **law-making process**?
>
> …
>
> [29] However, the question in this appeal is whether the honour of the Crown gives rise to a justiciable duty to consult when ministers **develop legislation** that could adversely affect the Mikisew's treaty rights. …
>
> …
>
> [32] For the reasons that follow, I conclude that **the law-making process** – that is, the **development, passage, and enactment of legislation** – does not trigger the duty to consult. …
>
> [bolding added]

[123] The Board's consideration of the NSPI Application, under s. 35 of the *Public Utilities Act*, did not involve the "law-making process" – *i.e.* the "development, passage, or enactment of legislation". Rather, the Board was a statutory decision-maker under existing legislation. In *Mikisew*, Karakatsanis J. said this about statutory decision-makers:

> [25] The duty to consult is one such obligation. In instances where the Crown contemplates executive action that may adversely affect s. 35 rights, the honour of the Crown has been found to give rise to a justiciable duty to consult [citations omitted]. This obligation has also been applied in the context of statutory decision-makers that – while not part of the executive – act on behalf of the Crown [citing *Clyde River*, para. 29]… .

[124] I am unpersuaded by the submissions of the Province and NSPI on this issue.

[125] **No power to "judicially review" prior approvals:** The Province's factum says:

> **The Board Cannot Judicially Review Prior Approvals**
>
> …
>
> 128. … the Board does not possess the "remedial powers" required at law to consider the adequacy of consultation and remedy any defects it may potentially

> identify relating to previously issued regulatory approvals over which it has no control.
>
> …
>
> 130. If a tribunal, such as the Board, does not have the necessary statutory authority or concomitant remedial powers to consider consultation and address the concerns raised by an Aboriginal group within the "relevant decision at hand", then the Aboriginal peoples that claim they are affected by inadequate prior consultation for the Project itself "must seek appropriate remedies in the Courts" [citing *Carrier Sekani*, para. 75, and *Haida Nation*, para. 51].

[126] The Province assumes that the Board conducted a roving judicial review of prior approvals by the DOE and DFO. To the contrary, the Board's Decision said:

> [157] The Board is not a reviewing court, but a tribunal which, in this case, will make a final determination as to whether or not the Tusket Main Dam Refurbishment Project should be approved.
>
> …
>
> [174] The Board does not have the jurisdiction to void any permits which have been issued by the Province, or DFO.

[127] The adequacy of consultations was relevant to the matter at hand before the Board – *i.e.* to features of the NSPI Application – as I have discussed. Under s. 35 of the *Public Utilities Act*, the Board was entitled to address the implications, including the constitutional ones, of the NSPI Application. The Board did not comment on the substantive merits of earlier approvals by the DOE (whether the watercourse may be altered) and DFO (whether fish may be harmed) under the provincial *Environment Act* and federal *Fisheries Act*.

[128] The Board merely adjourned the NSPI Application for three months so the parties could continue consultations. Section 20 of the *Utility and Review Board Act* authorizes the Board to adjourn "on reasonable grounds". Seeking compliance with s. 35(1) of the *Constitution Act, 1982* is a reasonable ground. The Board's relief was "in accordance with the remedial powers expressly or impliedly conferred upon it by statute" under *Carrier Sekani*, para. 61.

[129] I respectfully reject the Province's submission.

[130] **Summary:** The Board's findings of fact were supported by evidence. The Board reasonably interpreted its home statute. The Board correctly concluded that its consideration of the NSPI Application was Crown conduct under the Supreme Court's test.

Third Element – Causation of Adverse Effect

[131] NSPI says that the Board has no authority either to (1) "confirm" the DOE's (already issued) permit for the altered watercourse and the DFO's (already issued) permit to harm fish, or (2) give "substantive assurance" that the Project would maintain those permits through completion. Hence, according to NSPI, any adverse impact of a Board approval under s. 35 of the *Public Utilities Act* is "too remote" for the causation required by the third step in the *Haida Nation*/*Carrier Sekani* test.

[132] NSPI's factum puts it this way:

> 114. NSPI submits that, consistent with the case law cited above, any impact of a section 35 decision is too remote and indirect to trigger a duty to consult. While the Project itself might impact Aboriginal rights, a section 35 *PUA* decision does not confirm Crown permits or authorizations issued or to be issued in connection with the Project nor does it absolve the Crown of any continuing duty to ensure its conduct respects its duty to consult. A section 35 *PUA* decision is a disconnected preliminary approval process that provides no substantive assurance, right or momentum to a project moving forward from the perspective of government processes.

[133] This is a variation of the Province's proposition that, to exercise "Crown conduct", a tribunal must have the statutory authority to approve the "Project as a whole". NSPI adapts the point to whether there is causation of an adverse effect.

[134] In my view, the proposition has no merit.

[135] Most substantial projects have features that are subject to approval by more than one office at some level of government or statutory authority. At the appeal hearing, responding to a question from the Court, NSPI's counsel acknowledged that a municipal rezoning requirement may be "another approval" that, according to NSPI's proposition, would negate "causation of adverse effect" by the principal tribunal. Other examples come to mind. A proponent may need approval by a highway authority to move building materials, a permit to operate necessary machinery, an acknowledgement of compliance with occupational health and safety or workers' compensation standards, a building or occupancy permit for a new structure, a tax clearance or a business license.

[136] No statutory entity may "confirm" the approval of another whose authority derives from a different statute. No such entity may give "substantive assurance"

of what the other may do. It would be constitutionally impossible for a provincial tribunal, like the Board, to wade into DFO's federal jurisdiction over fisheries.

[137] If NSPI's proposition were correct, then whenever more than one approval is required for different aspects of a project – *i.e.* almost always – no single approving authority could cause an adverse effect. This would stultify the *Haida Nation*/*Carrier Sekani* test and counteract the "generous, purposive" rationale for the test that is meant to govern "adverse impacts, however made" (*Carrier Sekani*, paras. 43 and 46 and *Clyde River*, para. 25).

[138] The Province treated NSPI's application to the DOE as triggering the Crown's duty to consult (above, para. 14). This acknowledges that the DOE's consideration of whether to approve an altered watercourse may adversely affect a potential right under *Carrier Sekani*'s test. Yet the DOE's approval of an altered watercourse neither "confirmed" the other approvals required for the Project (DFO and Utility and Review Board) nor gave a "substantive assurance" that the DFO and the Board would issue and maintain their approvals.

[139] It is unnecessary that the Board confirm all the other approvals or assure that NSPI will maintain the conditions of other approvals that have been granted.

[140] Causation is a factual issue with a "but for" test and a civil standard of proof on a balance of probabilities. It suffices that, (1) without the Board's approval, the Project described in the NSPI Application probably would not proceed, meaning the adverse effect probably would not occur, and (2) with the Board's approval, the Project probably would proceed to cause the adverse effect.

[141] Without the Board's approval, would the Project proceed?

[142] Section 35 expresses a prohibition: "No public utility shall proceed with any new construction, improvements or betterments … to its property … without first securing the approval thereof by the Board".

[143] The Province submits that s. 35 should not be taken literally. The Province reads s. 35 as merely prohibiting NSPI from abusing its monopoly power by passing on to ratepayers the improvident capital cost of an unapproved project. According to that proposition, after a Board refusal under s. 35, NSPI could still refurbish the Tusket Main Dam at its own – *i.e.* its shareholders' – expense and refrain from including the amortized capital cost in its rates to its customers. Whether NSPI chooses to do so, says the Province, "is a practical

commercial/business decision" for NSPI [factum, para. 118, note 50], and not the Board's concern.

[144] The Board gave short shrift to that proposition, legally and factually:

> [87] While it is true that the Board's role in assessing an application pursuant to s. 35 of the *PUA* is primarily one of an economic regulator, reviewing a cost-benefit analysis, and assessing the economic prudency of a particular project, the Board does not only approve the capital expenditure, but also approves the project itself.
>
> …
>
> [97] A literal reading of s. 35 of the *PUA* indicates NS Power cannot proceed without Board approval. This is the position advanced by the ANSMC and Acadia First Nation. The situation may be slightly more nuanced, in that one of the potential remedies the Board has utilized, on limited occasions in the past, is to exclude expenditures for unapproved projects from the rate base.
>
> [98] However, a Board refusal of this Application, for a project of this magnitude, with ongoing financial obligations for operational safety and maintenance requirements, for an asset designed to directly produce electricity for distribution to the public, would almost certainly result in the project not proceeding.
>
> [99] Therefore, prior Crown approvals aside, the Board is effectively the final decision maker for the Project in the circumstances of this case.

[145] The Board interpreted s. 35 of the *Public Utilities Act*, the Board's home legislation. In my view, the Board's interpretation is reasonable. The Tusket Dam is integral to NSPI's hydro generation facilities. Electrical generation is a core utility function. The construction, commissioning and operation of the refurbished Main Dam described in the NSPI Application, after a Board refusal, would offend s. 35's prohibition, s. 18's statement that "[t]he Board shall have the general supervision of all public utilities" and this Court's ruling in *Board of Commissioners v. Nova Scotia Power Corp.*, *supra*, page 77:

> The scheme of regulation established by the Act envisages and indeed compels control by the Board of all aspects of a utility's operations in providing a controlled service.

[146] The Board's para. 98 is a finding of fact. In *Carrier Sekani*, para. 85 (also para. 92), the Chief Justice said that, on the judicial review of a tribunal's conclusion respecting causation of adverse effect, "[t]he question is whether this conclusion was reasonable based on the evidence".

[147] Here, there is no evidence that, if the Board refused approval under s. 35, NSPI would proceed with the rejected refurbishment anyway, spending millions of dollars at its shareholders' expense, without cost recovery in its rates. To the contrary, NSPI firmly asserted that the Project's future capital costs would be recoverable in rates from its customers:

- The NSPI Application said:

> While the cost of this Project is significant, it is more cost-effective for **customers** than decommissioning the Tusket Main Dam. [page 8]
>
> NS Power acknowledges that all spend **prior to UARB approval is at NS Power's shareholder risk** if the Board requires changes to the project or declines to approve the project in whole or in part. **All capital spend** is also subject to rules regarding its **treatment in rate base** pursuant to the Board approved Summary CEJC and Accounting Policy 1520 – Rate Base, with which this project complies. [page 23]
>
> This analysis indicates that the proposed scope of rebuilding the Tusket Main Dam to address dam safety risks is the least costly alternative for **customers**. [page 34]
>
> Based on this assessment, the EAM confirmed that the best option for **customers** is to rebuild the dam to meet CDA dam safety guidelines … . The present value of revenue requirements associated with the selected alternative is an increase, but is the best solution for **customers** given the analysis on decommissioning [page 37]
>
> [bolding added]

- NSPI was given an Information Request that asked "What is the basis for flowing these costs [archeological costs and artifact salvage] through to customers" following a decommissioning. On December 6, 2017, NSPI replied:

> As noted above, NS Power views the archeological costs associated with decommissioning a necessary and prudent component of the asset retirement costs associated with this hydro system and as such, **NS Power should have the ability to recover these costs from customers** if incurred. [bolding added]

- Asked by another Information Request "would NS Power's ratepayers be exposed to the cost impacts" resulting from the Project's risks, on December 6, 2017 NSPI replied:

> All of the costs discussed in part (d) that are the responsibility of NS Power would be considered costs necessary and prudently incurred to put

the project in service, thereby **recoverable from customers** as the benefit of the project accrues to customers. … [bolding added]

- NSPI's Reply to the comments of Midgard, the Board's independent consultant, and Intervenors, filed with the Board on February 28, 2018, repeats the submission:

> CONCLUSION
>
> As set out in NS Power's Application, refurbishing the Main Dam is the best cost option for **customers**.
>
> …
>
> … The cost alternatives, renewable generation considerations, and additional legal and environmental risks associated with decommissioning all suggest that refurbishing the Main Dam is the best option for **customers**.
>
> [bolding added]

- NSPI's closing submission to the Board, signed by its Regulatory Counsel, dated May 7, 2018, concludes with:

> The replacement of the Tusket Main Dam is in the best interest of **customers**. NS Power respectfully requests the Board to approve CI 29807 in the amount of $18,157,609. [bolding added]

[148] The Province endorsed the position that the capital costs would be recoverable from ratepayers. The Province's Intervenor Submission to the Board, dated February 14, 2018, said:

> 27. The Province makes no submission with respect to the estimated amounts, requirements, project alternatives, or other issues to be determined before the Board, other than to confirm the following:
>
> …
>
> C. As with any proponent, if NSPI is approved to undertake work on a Project that may require such costs as completing detailed archeological study and protection of Mi'kmaq artifacts, **such costs are properly a ratepayer cost** (relating to and flowing from that specific Project), and not a general "societal cost" to be paid by taxpayers at large. [bolding added]

[149] The Board reasonably found that, but for the Board's approval, the Project described in the NSPI Application would not proceed.

[150] After the Board's approval, would the Project proceed?

[151] Clearly NSPI wanted to do so. The NSPI Application (page 6) states:

> .. the investment is required to ensure the Tusket Main Dam structure is compliant with current Canadian Dam Association (CDA) dam safety guidelines and Nova Scotia Environment requirements. Additionally, the existing gates within the main dam structure have reached the end of their expected useful life and must be replaced. This structure is important to NS Power customers. It is a significant component of the Tusket Hydro System and without it all generation at the Tusket Powerhouse would be lost.

[152] Would there be any barrier to the Project? There is no evidence that the permits issued by the DOE and DFO were at risk of withdrawal. The NSPI Application (page 21), under the heading "Project Milestones", identified five milestones. The only one that related to authorizations was "Receive all Environmental Permits". The "Description" beside that milestone comprised:

> Nova Scotia Environment (NSE) Watercourse Alteration permit is issued for the planned duration of construction activities. Department of Fisheries and Oceans (DFO) Fisheries Act Authorization is granted.

[153] If the Project proceeds, would there be an adverse effect? The Board found:

> [101] In this matter, the footprint of the existing dam is being altered, with an impact on the water flows, and the potential exposure, or disturbance, by virtue of dewatering and construction activities, of pre-contact Mi'kmaw archeological artifacts and a continuing Aboriginal fishery. Therefore, Board approval does have the potential to impact asserted Aboriginal or treaty rights.

[154] This finding of fact is supported by evidence. The NSPI Application acknowledges throughout that the Project could adversely affect Mi'kmaq interests (above, paras. 78-84). The provincial Department of the Environment's letter of December 22, 2016 to KMKNO treated the NSPI Application as triggering consultation respecting adverse effects (above, para. 14).

[155] The evidence of causation here contrasts with the record in *Carrier Sekani*, where the Commission found that the Energy Purchase Agreement would not cause an adverse effect. In upholding that finding as reasonable, the Chief Justice noted:

> 92 … The uncontradicted evidence established that Alcan would continue to produce electricity at the same rates *regardless of whether the 2007 EPA was approved or not*, and that Alcan will sell its power elsewhere if BC Hydro does not buy it … . [Supreme Court's italics]

[156] Here there is direct and probable causation from the Board's decision under s. 35 of the *Public Utilities Act* to the potential adverse effect on the Mi'kmaq interests.

[157] The Board correctly applied the constitutional principles. It reasonably interpreted its home statute and made findings of fact supported by evidence.

Conclusion

[158] I would dismiss the appeal. No party requested costs. The disposition will be without costs.

Fichaud J.A.

Concurred:

Farrar J.A.

Bryson J.A.