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2025 **NSARB-2025-001**

Nova Scotia Aquaculture Review Board

IN THE MATTER OF: Applications made by WFN FISH FARM LIMITED PARTNERSHIP (FORMERLY KNOWN AS WAYCOBAH FIRST NATIONS BAND COUNCIL AND AS WE'KOQMA'Q FIRST NATION) for a BOUNDARY AMENDMENT TO AQ#0814X and for two new MARINE FINFISH AQUACULTURE LICENCES and LEASES, AQ#1430 and AQ#1431 for the cultivation of RAINBOW TROUT (Oncorhynchus mykiss) in WHYCOCOMAGH BAY, INVERNESS COUNTY

WFN Fish Farm Limited Partnership

APPLICANT

-and-

Minister of Fisheries and Aquaculture

PARTY

Affidavit of Dr. Amanda Swim

I, Amanda Swim, of Salmon River Nova Scotia, affirm and give evidence as follows:

1. I am the Manager of the Aquatic Animal Health Unit and hold the position of Chief Aquatic Animal Health Veterinarian (Chief Veterinarian) within the Nova Scotia Department of Fisheries and Aquaculture (the Department). The position of Chief Veterinarian is a role defined in the Nova Scotia *Aquaculture Management Regulations* passed in 2015 (AMRs).

2. I am responsible for the management of the Department's aquatic animal health programs which encompass all health management aspects of the AMRs. In addition, our unit oversees veterinary service and laboratory support to licensed aquaculture sites in Nova Scotia and Provincial Enhancement Hatcheries.

3. I received my Doctor of Veterinary Medicine degree at the Atlantic Veterinary College, Charlottetown PEI graduating in 2004. I am a current member of, and hold licensure with, the Nova Scotia Veterinary Medical Association. I also hold current memberships with the Canadian Veterinary Medical Association, the American Association of Fish Veterinarians, the World Aquatic Veterinary Medicine Association and am past president of the Eastern Aquaculture Veterinary Association.

4. I started my employment with the Department as an Aquatic Animal Health Veterinarian in 2006. In that position, I applied standard veterinary practice to aquatic animal populations farmed on aquaculture sites in Nova Scotia and the provincial enhancement hatcheries. I took on the role of Chief Veterinarian in October of 2022. Attached to this Affidavit as **Exhibit A** is a copy of my resume.

5. I have personal knowledge of the evidence sworn to in this affidavit except where otherwise stated to be based on information or belief.

6. I state, in this affidavit, the source of any information that is not based on my own personal knowledge, and I state my belief in the source.

7. The Department conducts an internal review of applications submitted to the Aquaculture Review Board (ARB). Under my oversight, the Aquatic Animal Health Unit assesses these applications, taking into account the provincial aquaculture health surveillance programs, legislation, and culturing practices suitable in Nova Scotia.

8. I oversaw the Aquatic Animal Health Unit's contribution to this review process, from an aquatic animal health perspective, for WFN Fish Farm Limited Partnership's (the Applicant) application for a boundary amendment, AQ#0814x, and two new marine finfish aquaculture licenses and leases, i.e. AQ#1430 and AQ#1431.

Aquatic Animal Health

9. Fish health surveillance of cultured fish is a focus of the Aquatic Animal Health Unit. The Provincial Marine Finfish Health Surveillance Program ensures that marine finfish aquaculture sites are being managed in a way that mitigates the presence and potential spread of disease and ensures regular veterinary presence on farms. By monitoring fish health, proactive measures can be instituted if a disease were to arise, to help mitigate risks.

10. There are 6 full time staff within the Aquatic Animal Health Unit: the Chief Veterinarian, two Aquatic Animal Health Veterinarians, an Aquatic Animal Health Program Specialist, an Aquatic Animal Health Biologist, and an Aquatic Animal Health Coordinator who is also a registered veterinary technician.

11. The roles and responsibilities of the Veterinarians within the Unit include: the provincial finfish health surveillance programs, activities relating to the AMRs including the Farm Management Plan (FMP) Program, health assessment input relating to aquatic animal transfers, file application reviews, and oversight of veterinary care and laboratory supports, to name a few.

12. Operators, their veterinarians, operational staff, and laboratory staff have a duty to report the following occurrences to the Department under the AMRs:

    a) suspicion or detection of certain pathogens in fish;

    b) mortality events above a regulated threshold; and,

    c) known or suspected fish escapes.

13. Provincial veterinarians are involved in the assessment and response of such cases of mandatory reporting notification as outlined in the AMRs.

14. The Aquatic Animal Health Unit also liaises with Provincial and Federal colleagues involved in aquatic animal health regulation and management activities to help ensure emerging issues relating to fish health are identified and inputs are focused on healthy cultured populations for restocking programs and as a food source.

15. The Department's regulatory oversight is not the only authority related to health management aspects of cultured aquatic animals in Canada. The Canadian Food Inspection Agency (CFIA) addresses aquatic animal diseases of finfish, molluscs and crustaceans through the National Aquatic Animal Health Program co-delivered with Fisheries and Oceans Canada (DFO) with laboratory support. There is mandatory reporting to CFIA of specific pathogens of concern detected in cultured aquatic animals, as well as programs for the monitoring of fish disease and responding in order to control outbreaks in certain cases. CFIA's authority also relates to fish movements, aimed to prevent disease spread into Canada, between provinces, and within provinces.

16. In Canada, the National Code on Introductions and Transfers of Aquatic Organisms outlines a consistent process for review of intentional movements of aquatic animals within provinces and territories.

17. Nova Scotia has an Introductions and Transfers Committee to provide recommendations on aquatic animal transfers. A DFO representative chairs the committee with the authority to issue transfer licences under Section 56 of the *Fishery (General) Regulations*. The Department's Aquaculture Division provides input to this committee through the Chief Veterinarian. More specifically, as the Chief Veterinarian, I issue an aquatic animal health transfer permit for all finfish entering aquaculture sites in Nova Scotia, in accordance with Nova Scotia's AMRs.

18. In addition, aquaculture operators have an obligation to report use of therapeutic products to DFO yearly through the federal *Aquaculture Activity Regulations*.

Section 17 Factors

19. The parts of the Applicant's boundary amendment and two new site applications evaluated by the Department are relevant to several of the factors listed in section 17 of the *Aquaculture Licence and Lease Regulations*. This affidavit is organized by the section 17 factors most relevant to the Applications evaluated by the Aquatic Animal Health Unit.

Section 17(1)(a): Contribution to Community and Provincial Economic Development

Production Plan

20. I oversaw the Aquatic Animal Health Unit's evaluation of several aspects of the Applicant's production plan for the proposed boundary amendment application (AQ#0814x) and the two new lease and licence applications (AQ#1430, AQ#1431), from

an aquatic animal health perspective. In this affidavit, my comments apply to all three sites, unless specifically stated otherwise.

21. I evaluated the proposed species and historical strains from an aquatic animal health perspective. All incoming populations to be considered for stocking at Nova Scotia marine aquaculture sites require an aquatic animal health transfer permit from the Department's Aquatic Animal Health Unit. Historically, the Applicant has received the required transfer permits for each stocking event.

22. Rainbow trout (*Oncorhynchus mykiss*) is a suitable species to be cultivated in Nova Scotia.

23. The Aquatic Animal Health Unit evaluated the stocking density proposed by the Applicant. Stocking density looks at the biomass of fish occupying a specific volume of water (kg/m^3). Densities will vary with life stage, size and species, as well as the cage size and shape. This proposed maximum stocking density of 20 kg/m^3 is reasonable for these sites and this is in line with the industry in general.

24. The Aquatic Animal Health Unit also assessed the cage array and size of the cages proposed for AQ#0814x, AQ#1430, and AQ#1431 in the current applications. The Applicant's proposed cage arrays are:

    (a) 2 x 5 100m High Density Polyethylene (HDPE) cages for the amended AQ#0814;

    (b) 10 – 100m cages for the production arrays at the new marine aquaculture site AQ#1430; and,

    (c) 10 – 100m cages for the production arrays at the new marine aquaculture site AQ#1431.

25. From an aquatic animal health perspective, these cage arrays appear to be reasonable infrastructure proposals for Whycocomagh Bay. To date, the proposed cultivation infrastructure has been productively utilized.

26. Furthermore, the Applicant's proposed cage arrays for AQ#0814x, AQ#1430, and AQ#1431 are common within the Nova Scotia and global marine salmonid aquaculture industries.

27. Additionally, the provincial marine finfish health surveillance program's ongoing monitoring of the Applicant's cultured animals will provide insight on the impact of site infrastructure to overall farm health during all future production cycles.

28. Another aspect of the production plan evaluated by the Aquatic Animal Health Unit is the Applicant's proposed fallow period. For AQ#0814x, AQ#1430 and AQ#1431 the proposed fallowing periods are in line with the Department's recommended minimum 3-month fallow period for a site that is consistently stocked for less than 22 months, which is the case for the production plan in these applications. Nova Scotia's recommended fallowing practices are in line with industry standards and best practices.

29. As the Chief Veterinarian, I can require operators to adjust fallow periods if, among other reasons, the presence of a pathogen and/or parasite warrants it.

Section 17(1)(c): Oceanographic Environment and Biophysical Characteristics

30. As part of the technical evaluation of these applications, the Aquatic Animal Health Unit assesses certain aspects of the oceanographic environment from an aquatic animal health perspective, namely: currents, salinity, water quality, and water depths.

Currents

31. Ocean current velocity is a key environmental parameter that can influence the health and welfare of rainbow trout at marine aquaculture farms.

32. Current speeds considered favourable for the health and overall wellbeing of fish at aquaculture marine farms are variable and are based on factors of the farm at a particular time (such as the size of the fish present and species stocked).

33. Currents at the aquaculture site must be sufficient to ensure effective water exchange and replenishment of dissolved oxygen, but not so severe the current speeds impose an excessive demand on the fish, exhausting their energy.

34. The average current speeds assessed in the application information ranges between 2.26-11.70 cm/s, which is below levels that would create excessive energy demand on the fish.

35. Additionally, the lower end of the average current speed of 2.26 cm/s may result in reduced oxygen replenishment from effective water exchanges the farm is exposed to. Therefore, enhanced dissolved oxygen monitoring is necessary with actionable mitigation measures in place to reduce potential negative effects in scenarios where reduced dissolved oxygen may be observed.

Salinity

36. The Aquatic Animal Health Unit also evaluated the salinity of the water at the proposed lease sites.

37. The salinity range provided by the Applicant was 15 to 27 parts per thousand of salts in seawater, or 1.5-2.7% salts in the seawater.

38. This range in salinity is reasonable for successfully culturing an anadromous fish such as Rainbow trout, which can spend its adult life in seawater.

Water Quality

39. The temperature range of -0.59 °C to 22.6 °C, as assessed in the application information, is within the known historical tolerable range for Rainbow trout in the marine environment.

40. High and low water temperatures may have negative impacts on fish health, but the risk can be mitigated. Specifically, health risks associated with low water temperatures, especially when temperatures approach 1 °C, may be mitigated.

41. Such mitigation measures could include, but are not limited to:

    (a) Temporarily stopping or reducing feeding rates;

    (b) Stopping or reducing activities on site that may be stressful for the fish (i.e. handling of fish);

    (c) Increased fish behaviour monitoring for signs of agitation or stress; and,

    (d) Increased water quality monitoring (i.e. water temperatures and dissolved oxygen).

42. Health risks associated with high water temperatures, especially when temperatures rise to 18 °C or higher, may be mitigated with the following measures:

    (a) Temporarily stopping or reducing feeding rates, or adjusting the feeding regime to cooler periods of the day;

    (b) Stopping or reducing activities on site that may be stressful for the fish (i.e. handling of fish);

    (c) Reducing stocking densities prior to warm water periods;

    (d) If possible, adjusting the depths of the enclosure nets to allow fish to access deeper cooler water;

    (e) Ensuring enclosure nets are cleaned to allow sufficient water exchanges for adequate dissolved oxygen;

    (f) Increased fish behaviour monitoring for signs of agitation or stress;

    (g) Increased water quality monitoring (i.e. water temperatures and dissolved oxygen); and,

    (h) Providing aeration and/or dissolved oxygen supplementation.

43. These mitigation strategies can be employed at the Applicant's proposed new and expanded aquaculture lease sites.

44. The Aquatic Animal Health Unit is aware that the Applicant has enhanced dissolved oxygen and temperature monitoring strategies when biophysical parameters meet set thresholds. For example, historically, the cages at the overwintering area (which is within the proposed AQ#0814x) have been supplied with oxygen via liquid oxygen tanks and air diffusers in each cage.

45. Furthermore, management measures are likely to reduce the risk to the health and welfare of farmed fish at these sites with regards to dissolved oxygen and temperatures (e.g. holding off of feeding, halting harvest operations, and ceasing routine mortality dives until appropriate water temperature and oxygen levels make it safer to conduct these activities).

46. It is the understanding of the Aquatic Animal Health Unit that the Applicant is also researching and investing in new dissolved oxygen technologies which may have impacts for all three current applications, including an oxygen generator.

47. The Department's minimum compliance requirements for water quality, which must be included in the Applicant's FMP, include up to date daily and monthly water quality monitoring, recording of dissolved oxygen and temperature, and strategies for mitigating risks associated with low oxygen and high and low temperatures.

Water Depths

48. The Aquatic Animal Health Unit staff assessed the provided depth information for the approximate locations of the production cage arrays, for each of the Applicant's three proposed leases and determined that the overall depths at each lease site are unlikely to have an adverse effect on aquatic animal health.

Section 17(1)(f): Sustainability of Wild Salmon

Aquatic Animal Health Transfer Permit

49. All finfish populations being received at an aquaculture operation in Nova Scotia must have an accompanying aquatic animal health transfer permit issued by the Department, prior to movement. This is described within the AMRs.

50. The transfer permit assures that specific veterinary health management, clinical service, and laboratory supports have been involved in the rearing of the animals and satisfactory testing results have occurred associated with the given population. The transfer permit must accompany the animals during transport and remain in the receiving facility records.

51. The finfish being stocked at marine sites in Nova Scotia must be transferred from a facility that participates in the Atlantic Provinces Finfish Transfer Policy, which is a health policy for the transfer of live cultured finfish. The issuance of a Certificate of Health for Transfer relating to this policy assures that the animals have been tested, with satisfactory results, according to the requirements of the policy and veterinary involvement through adequate site visits and sampling has occurred.

52. Health testing of fish populations, review of health history, and evaluation of vaccination status and test results by veterinarians prior to stocking animals at a marine site are all strategies which will help support the success of the Applicant's farm and mitigate potential health risks once animals are placed in the proposed leased sites.

Health Surveillance Monitoring

53. The Aquatic Animal Health Unit's Marine Finfish Health Surveillance Program is comprised of "Provincial Surveillance" visits and "clinical" visits to marine farms throughout the year. A clinical visit involves an initiation of fish monitoring protocols that are acted on by the site management and a veterinary service team. A Provincial Surveillance visit, though it includes fish monitoring by a veterinary service team, is an on-going process of regulated health monitoring which is scheduled in advance and meets the criteria of a pre-determined health monitoring program.

54. The FMP requires all operators to have a designated veterinarian to provide health oversight of their farmed aquatic animals.

55. The Department's Aquatic Animal Health Unit veterinarians have historically carried out the role of designated veterinarian for the Applicant's marine finfish operations in Whycocomagh Bay. The Department's Aquatic Animal Health Unit veterinarians have therefore provided clinical services at the Applicant's existing lease sites when needed, in addition to meeting the minimum requirements of the Marine Finfish Health Surveillance Program.

56. Surveillance and early detection are considered integral components for effective disease monitoring for marine finfish aquaculture operations.

57. To ensure compliance with the provincial Marine Finfish Health Surveillance Program, a marine aquaculture lease site must have a minimum of six Provincial Surveillance veterinary visits per calendar year (from January to December).

58. At least two of these visits will be performed by the Chief Veterinarian or Veterinary Designate from the Department's Aquatic Animal Health Unit.

59. On average, a Provincial Surveillance visit will occur every 6 weeks for each marine farm. To be considered a Provincial Surveillance visit (and one of the 6 mandatory annual visits), the visit must be performed no sooner than 4 weeks from the previous Provincial Surveillance visit, and no later than 8 weeks from the last visit.

60. The remaining four Provincial Surveillance veterinary per year visits may be performed by a veterinary service from outside the Department.

61. During a Provincial Surveillance visit, the veterinarian conducts sampling, examination and diagnostic testing to look for pathogens of concern and any other health issues. The veterinarian reviews records related to health management of the farm which may include mortality records, feed records, inventory, water quality parameters, etc.

Sea Lice Monitoring & Management

62. Sea lice management in the Nova Scotia marine finfish aquaculture industry employs an integrated approach to management. This strategy has all producers in a region, under the direction of a site veterinarian or Provincial Aquatic Animal Health veterinarian, use a

multifactorial approach to combatting finfish pests. These factors include monitoring (with appropriate record keeping), surveillance (review of counts and examining fish by staff), site fallowing, optimum stocking densities, year-class separation, good fish health management, biosecurity protocols, and if required, rotation of chemotherapeutants and coordination of treatments (treatments could include non-chemotherapeutants).

63. Sea lice records must be maintained and made available electronically for review by the Chief Veterinarian within 7 days of data collection.

64. Nova Scotia has a history of low infections of *Lepeophtheirus salmonis* (salmon lice). Having low action thresholds is important so significant new infections may be quickly controlled. If treatment is deemed necessary, a Sea Lice Treatment Plan must be completed by the licence holder and submitted to the Chief Veterinarian or Designate for approval.

65. Due to the brackish water cultivation environment of Whycocomagh Bay, the risk posed by sea lice is further reduced. Due to the historical non-presence of sea lice at Rainbow trout farms in Whycocomagh Bay, an adapted sea lice monitoring program was created, specific to the FMPs for AQ#0814x, AQ#1430, and AQ#1431.

66. The adapted Sea Lice Management Programs for AQ#0814x, AQ#1430, and AQ#1431 dictate that sea lice counts are completed once per month on each proposed lease site from April to December if water temperatures are between 4-20 °C. This regime will continuously be assessed and can be adjusted by the Chief Aquatic Animal Health Veterinarian at any time.

67. Only products approved by Health Canada can be used for the treatment of sea lice.

68. Furthermore, approved treatment products must be used according to product labels and following all health and safety requirements and all Federal and Provincial regulations.

69. If bath treatments were to occur on site, they must be conducted in completely enclosed containment.

70. Sea lice treatments, including both non-chemotherapeutant and chemotherapeutant, would be considered for use on these three proposed lease sites, depending on the situation and the most up to date information on the treatment efficacies, as these are always evolving/developing.

Mandatory Reporting

71. Along with the Provincial Marine Finfish Health Surveillance Program and Sea Lice Management Program, all licence holders have a regulatory responsibility to report elevated mortality events and known or suspected pathogens of concern to the Department, as outlined in section 21 of the AMRs.

72. If these applications are approved by the ARB, prior to each stocking period in the Spring, the Department will complete and approve a fish health content assessment corresponding to the FMPs for each of the Applicant's proposed leases in Whycocomagh Bay.

73. This fish health content assessment will include an evaluation of elements of the previous year's production cycle, farming changes, and improvements from an aquatic animal health perspective.

74. The Aquatic Animal Health Unit has performed annual fish health content assessments for the Applicant's existing lease sites, the last of which was completed on April 17, 2025. The assessment was deemed satisfactory to support the stocking of sites for the 2025 year.

Performance Review

75. On January 10, 2025, prior to the Minister of Fisheries and Aquaculture (the Minister) referring these applications to the ARB for review, the Aquatic Animal Health Unit completed performance reviews for AQ#0814x, AQ#1430 and AQ#1431.

76. As part of those performance reviews, the Aquatic Animal Health Unit determined that the Applicant's existing leases have operated in a manner that follows aquatic animal health regulatory processes, as outlined in the AMRs.

77. Specifically, the Applicant has participated in the Provincial Marine Finfish Health Surveillance Program, and is receiving veterinary care services and laboratory supports from the Department's Aquatic Animal Health Unit veterinarians and health professionals.

78. From an aquatic animal health regulatory perspective, the Applicant's historical operations in Whycocomagh Bay are satisfactory. The Applicant has complied with minimum mandatory reporting requirements and has worked with the Provincial Chief Aquatic Animal Health Veterinarian and/or Veterinary Designate in developing and improving their health management practices since obtaining their existing leases and licenses in 2011, 2019, and 2021, respectively.

Updates To Performance Review for AQ#0814x

79. On March 5, 2025, after the Minister's referral of these applications to the ARB, the Applicant reported a mortality event to the Department which occurred in winter 2025, at the overwintering area of proposed lease and license AQ#0814x.

80. The details of this mortality event, as reported to the Department by the Applicant in March 2025, were as follows:

    (a) In December 2024, the Applicant moved all cages from AQ#0814, AQ#600, AQ#0845, AQ#5010, and AQ#5013 into the existing overwintering area for winter 2024/2025;

    (b) In early January 2025, the Applicant installed and turned on aerators at the existing overwintering area to augment the oxygen supply. These aerators prevent ice from forming over the cages and allow improved gaseous exchange in the overwintering area;

(c) Additionally, on February 12, 2025, the Applicant added pure oxygen supplementation with microbubble diffusers at the overwintering area;

(d) Despite this aeration and oxygen supplementation, the dissolved oxygen availability at the existing overwintering site was insufficient, leading to a hypoxic event (i.e. a period during which dissolved oxygen concentrations in the water decline below levels required to support normal physiological function of animals in the marine environment); and,

(e) As a result of this hypoxic event, significant mortalities occurred.

81. On March 6, 2025, the Department responded to the Applicant's mortality event notification by sending Fish Health Veterinarian Dr. Anthony Snyder, from the Aquatic Animal Health Unit, to the lease site to assess the situation and investigate the mortality event.

82. Dr. Snyder performed diagnostic analyses at the overwintering area, including a fish health assessment of sample fish and an assessment of the Applicant's biophysical monitoring records from prior to the mortality event notification. Dr. Snyder continued this monitoring through Spring 2025.

83. Dr. Snyder's diagnostics demonstrated that the root cause of this mortality event was non-infectious, leading to the conclusion and diagnosis that the mortalities were attributable to water hypoxia.

84. Further investigation into the root causes of this mortality event by the Aquatic Animal Health Unit team has shown that:

(a) The oxycline (i.e. the level or concentration of dissolved oxygen within a water column) in Whycocomagh Bay is typically higher in the upper strata of the Bay, where the Applicant's cages sit and its fish are cultivated, whereas the lower/deeper waters of the Bay have consistently reduced oxycline levels;

(b) Anoxic or low oxygen water from the deeper levels of the water column in Whycocomagh Bay can be brought to the surface where the Applicant's fish are cultivated in various circumstances, including: during storms with strong winds, following rapid surface water cooling, after the addition of freshwater from heavy rainfall events;

(c) Water disturbances of this kind in Whycocomagh Bay can result in a sudden movement of anoxic water in the water column, potentially causing a hypoxic event at the higher strata of the water column, where fish are cultivated; and,

(d) In addition to the oxycline "flip" that the Aquatic Animal Health Unit found to have occurred at the Applicant's farm on this occasion, our records review indicated that the number of fish overwintering at existing AQ#0814 during the 2024-2025 winter season was higher than what is typical for the Applicant's operation. Fewer fish being harvested the previous fall was noted as the cause for this.

85. Hypoxic events of this nature, (i.e. which are caused by a shift in the oxycline in a deep water column like Whycocomagh Bay) are difficult to predict. However, the Applicant's FMP now incorporates monitoring procedures which can inform them better in the future of when there is a higher risk of a similar oxycline "flip" occurring in the water column (e.g. regular monitoring of water temperatures and dissolved oxygen levels in the water column, recording of freshwater influx events like increased rainfall and river flow, and recording of other environmental changes/events which may impact oxycline in the Bay like surface ice formation and strong wind events).

86. These monitoring requirements in the Applicant's FMP can inform the Applicant of when mitigation measures should be taken across its Whycocomagh Bay operations to reduce the likelihood of further hypoxia-induced mortality events (e.g. implementation of additional aeration and dissolved oxygen supplementation).

87. Furthermore, the overall production plan for this Rainbow trout operation has been adjusted since winter 2025 to reduce the maximum biomass at the overwintering area of proposed AQ#0814x, which will reduce the impact of potential naturally occurring low oxygen events in Whycocomagh Bay.

88. In conclusion, with respect to this winter 2025 mortality event, the Applicant complied with the Department's minimum regulatory compliance requirements for reporting mortality events and for the subsequent safe disposal of the resulting mort biomass with advisement and oversight from the Aquatic Animal Health Unit fish health veterinarians (i.e. myself and Dr. Snyder).

Section 17(g): The number and productivity of other aquaculture sites in the public waters surrounding the proposed aquacultural operation

89. The Applicant is the only aquaculture lease and licence holder in the area.

Biosecurity

90. This proposed boundary amendment and two new site applications would not represent an increase in the number of aquaculture operators working out of Whycocomagh Bay, from a biosecurity perspective.

91. The Applicant has proposed that the three leases (AQ#0814x, AQ#1430, and AQ#1431) would be managed together as a single farming unit. By managing the 3 proposed leases together, coordination of management strategies for biosecurity and potential health concerns will entail coordinated responses on all three lease sites by the Applicant.

92. Furthermore, the Applicant has biosecurity protocols detailed in their FMPs which have been reviewed and approved by the Department for implementation.

93. The Applicant operates from private property. The wharf infrastructure present at the shore provides access to the three farms (AQ#0814x, AQ#1430, and AQ#1431) and is for the sole use of the farm operations. No additional biosecurity protocols are needed at the wharf to limit biosecurity risks from other users.

94. I was not physically present before Ms. Menczel-O'Neill when I affirmed this affidavit. I was linked with Ms. Menczel-O'Neill using video conferencing technology.

Affirmed before me by videoconference from Truro, Nova Scotia (location of affiant) to Halifax, Nova Scotia (location of lawyer taking oath) on the 18th day of February, 2026.

[redacted]

Caitlin Menczel-O'Neill
A Barrister of the Supreme Court
of Nova Scotia

[redacted]

Amanda K. Swim

NSARB-2025-001

This is Exhibit “A” referred to in the
Affidavit of Amanda K. Swim
affirmed before me by video-conference
on February 18, 2026

[redacted]

Signature
CAITLIN MENCZEL-O'NEILL
A Barrister of the Supreme Court of Nova Scotia

AMANDA K. SWIM

[redacted]

Amanda.Swim@novascotia.ca

EDUCATION

September 2000 – May 2004 — **Doctor of Veterinary Medicine**
Atlantic Veterinary College, Charlottetown PE

September 1994 – May 1998 — **Bachelor of Science, Double Major**
Biology & Psychology
Saint Mary's University, Halifax NS

WORK EXPERIENCE

October 2022 – present — **Chief Aquatic Animal Health Veterinarian**
Nova Scotia Department of Fisheries and Aquaculture,
Bible Hill NS

- Manage the Aquatic Animal Health Unit
- Oversee provincial aquaculture health surveillance & management programs
- Responsible for the health management components within the *Aquaculture Management Regulations*
- Oversee the provision of veterinary service and laboratory supports to the aquaculture industry in Nova Scotia

June 2006 – October 2022 — **Aquatic Animal Health Veterinarian**
Nova Scotia Department of Fisheries and Aquaculture,
Bible Hill NS

- Clinical prescribing veterinarian; health and disease management for land-based finfish/shellfish, marine finfish/shellfish farms, and Provincial enhancement Hatcheries
- Perform biosecurity vessel and facility audits; farm management policy development, and training to government and industry staff
- Employ Provincial fish health surveillance sampling and testing programs

- Regulatory oversight, assistance in policy development for Fisheries and Coastal Resources Act (Aquaculture Management Regulations)
- Emergency clinical veterinary care provision
- Periodic responsibilities of the Provincial Chief Aquatic Animal Health Veterinarian (Acting Capacity)
- Performing necropsy/pathology reports, fish health summaries/certificates, and water chemistry investigations
- Complete record keeping and communications relating to provincial health surveillance programs and veterinary cases
- Liaise with provincial and federal representatives involved in aquaculture regulatory and health management activities
- Review and approve health management content of Farm Management Plans
- Develop farm management policy and present educational content as required
- Review file applications from an aquatic animal health perspective.

December 2005 – June 2006 **Canadian Food Inspection Agency**
CFIA Headquarters, Ottawa ON
International Programs - Policy development associated with the import & export of animals & animal products.

March 2005 – December 2005 **Canadian Food Inspection Agency**
Mitchell's Pork Plant & Wynyard Poultry Plant Saskatoon SK
Swine & Poultry Meat Hygiene Veterinary Inspector; responsible for ensuring Humane Transportation & Slaughter Federal Legislation

September 2004 – March 2005 **Central & Westward Animal Hospitals**
Small Animal Practice, Saskatoon SK
Locum veterinarian for two locations; provided veterinary medical care to pet animals.

May 2004 – August 2004	**Southport Animal Hospital** *Small Animal Practice, Stratford PE* Full-time veterinarian; provided veterinary medical care to pet animals.
May 2002 August 2002	**St. Paul Veterinary Clinic** *Mixed Animal Practice, St. Paul AB* Veterinary student full time summer position: provided veterinary support to mainly beef cattle producer clients.
May 2001 August 2001	**Canadian Food Inspection Agency** *Nepean Ottawa, ON* Veterinary student full time summer position under the supervision of Canada's Chief Veterinary Officer, involvement with various projects within the Animal Products Directorate.
June 1998 August 1998	**Naturalist – Peggy's Cove Whale & Puffin Tours**, *Peggy's Cove, NS* Identified and provided commentary on local wildlife & nature in St. Margaret's Bay.
April 1998 June 1998	**Laborer – Coldwater Sea Products – Mussel Farm,** *Glenhaven, NS* Responsibilities included the daily up-keep and filling of mussel sock lines.
May 1998 May 1998	**Research Assistant – Bedford Institute of Oceanography,** *Dartmouth, NS* Research assistant aboard coast guard research vessel. Collected samples for haddock fecundity study during ground tows of various locations.
May 1997 August 1997	**Creel Surveyor & Researcher – Ministry of Natural Resources of Ontario** *Algonquin Park, ON* Gill netted, tagged, and aged fish of different species. Recorded various parameters and analyzed data from angled fish.

AWARDS & MEMBERSHIPS

Current member of the Nova Scotia Veterinary Medical Association
Current member of the Canadian Veterinary Medical Association
Current member of the World Aquatic Veterinary Medical Association
Current member of The American Association of Fish Veterinarians
Past President of the Eastern Aquaculture Veterinary Association
Recipient of the Atlantic Veterinary College's
    2004 Phibro Award in Aquaculture &
    2003 Van Toever Award in Aquaculture & Leadership
Recipient of the 2004 Canadian Veterinary Medical Association Plaque award given to a graduate nominated by their classmates for outstanding qualities of scholarship, leadership and sportsmanship.
Atlantic Veterinary College Class of 2004 Vice President 2002-2004

OTHER INVOLVEMENTS

Past School Advisory Council Chair - Harmony Heights Elementary
Summer Assistant Coach of soccer
Member of Evolve Fitness Truro NS

REFERENCES AVAILABLE ON REQUEST