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30<sup>th</sup> January 2018,

**Stakeholder Submission RE: Initial Full Assessment Report, Marine Harvest Canada's Alexander Inlet farm, by Acoura Marine**

Upon review of the draft Aquaculture Stewardship Council (ASC) audit for Marine Harvest Canada's Alexander Inlet farm, we find Acoura Marine has failed to comply with the ASC Certification and Accreditation Requirements (CAR).

Of particular concern is the ineligibility of the Alexander Inlet farm site for ASC certification. The unit of certification (i.e. the farm) does not meet the minimum 18-month requirement outlined in the CAR, as it was only 12-months operational at the time of audit. Granting ASC certification to the Alexander Inlet farm would be a clear breach of Acoura Marine's accreditation and in violation with the ASC CAR.

Our comments and concerns are provided in detail below. We look forward to hearing how Acoura Marine will address these outstanding concerns.

Sincerely,

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## **I. CAR Process Requirements and Audit Timing**

We submit Acoura Marine has failed to comply with the ASC Certification and Accreditation Requirements (CAR) for the reasons detailed below.

### **a) Ineligible Unit of Certification**

The ASC CAR Version 2.1 states the following Process Requirement (17):

#### *17.1 Unit of Certification*

*17.1.2 Organisations seeking certification shall have been in operation for no less than eighteen months (18) or one harvest cycle as defined in the standard(s), whichever is less.*

This requirement was introduced under CAR Version 2.0. ASC document titled, *LIST OF MAJOR CHANGES TO CAR V2.0\_01122015.pdf*, states the following rationale for its inclusion:

*17.1 – Unit of certification Add a requirement regarding maturity (production cycle) of the UoC*

The draft audit report notes stocking at Alexander Inlet farm began 17<sup>th</sup> October 2016 (pg. 45). An October 2016 production cycle start date is also confirmed by DFO<sup>1</sup> and Marine Harvest records.<sup>2</sup> Based on the 18-month minimum CAR requirement for an Unit of Certification, Alexander Inlet will be eligible to apply for ASC certification in April 2018.

Acoura Marine's onsite audit at the Alexander Inlet farm was conducted on the 6<sup>th</sup> November 2017. Therefore, the farm site was a little over 12 months operational at the time of the ASC audit. This clearly does not meet the minimal 18-month requirement outlined in the CAR.

**We submit Marine Harvest's Alexander Inlet farm site is ineligible for ASC certification. Granting ASC certification would be a clear breach of Acoura Marine's accreditation - as such an action would be in violation of the ASC CAR 17.1.2.**

### **b) Insufficient records and evidence**

A number of salmon standard indicators are listed in the audit report as "conforming" despite insufficient records or evidence due to the audit taking place before the harvest. The ASC CAR has the following stated Process Requirements (17):

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<sup>1</sup> <http://www.pac.dfo-mpo.gc.ca/od-ds/aquaculture/lice-count-dens-pou-2016-rpt-pac-dfo-mpo-aquaculture-eng.csv>

<sup>2</sup> [http://marineharvest.ca/globalassets/canada/pdf/additional-information-sharing/2016-sea-lice/allsites\\_oct\\_2016\\_web.pdf](http://marineharvest.ca/globalassets/canada/pdf/additional-information-sharing/2016-sea-lice/allsites_oct_2016_web.pdf)

### **17.1 Unit of Certification**

*17.1.2.1 All clients seeking certification shall have available records of performance data covering the periods of time specified in the standard(s) against which the audit(s) is to be conducted; and*

### **17.4 Audit Timing**

*17.4.5 Audits shall not be conducted until sufficient records/evidence are available for all applicable standard requirements as the minimum.*

The issue is compounded by the fact that Alexander Inlet is a new farm that is yet to complete its first production cycle. The following further details our concerns.

With the audit taking place before harvest, the records and evidence for the applicable standard requirements are simply not available. For example, the benthic monitoring indicators set out in Criterion 2 can only be addressed by sampling conducted at the farm's peak biomass (i.e. harvest). Several indicators rely on similar end-of-cycle calculations, such as the Estimated Unexplained Loss (3.4.3); Maximum viral disease-related mortality (5.1.5); Maximum unexplained mortality rate (5.1.6); Maximum farm level cumulative parasiticide treatment index score (5.2.5); Number of treatments of antibiotics (5.2.9) and Fishmeal/Fish Oil Forage Fish Dependency Ratio (4.2.1/4.2.2). Numerous indicators focus on whether an event occurs beyond a stipulated threshold during a stated period up to and including the production cycle under audit, such as Maximum number of lethal incidents (2.5.6); Maximum on-farm lice levels (3.1.7); Maximum number of escapes (3.4.1) and OIE-notifiable disease occurrence (5.4.4).

With the exceptions of 2.1.1, 2.1.2 and 2.1.3; **the indicators above are listed as “conforming”, despite not having available any of the records and evidence required.**

The CAR requires sufficient records and evidence for the initial full assessment audit, requiring a complete production cycle in order to confirm conformance with all applicable salmon standard indicators. An incomplete production cycle equates to incomplete evidence and records. The report fails to provide a full production cycle of data for the most recent cohort of fish.

Listing indicators that require a full production cycle of data as ‘conforming’ - despite approximately four to six months’ worth of production cycle yet to be completed - allows for the potential for non-conforming product to be certified and enter the market with the ASC logo. As long as early auditing continues, the potential for non-conformance remains. At the very least, non-conformance should be raised for the indicators for which a full production cycle worth of data is needed. The non-conformance should be closed before certification is granted.

The full assessment audit failed to meet CARv2.1 17.4.5 requirements, as the data and sufficient records/evidence covering the periods of time specified and required in the salmon standard were not yet available. Consequently, we find the CAB failed to meet their obligations under the ASC's CAR.

### **Salmon Standard requirements: Previous production cycle data**

In addition to the lack of a full production cycle worth of sufficient records and evidence, no previous production cycle data is available for the Alexander Inlet farm as it is currently conducting its first cycle.

The following indicators require records and evidence from previous production cycles:

- 2.5.6 *Maximum number of lethal incidents*  
("Maximum number of lethal incidents on the farm over the prior two years")
- 5.1.4 *Percentage of mortalities that are recorded...*  
("Farms are required to maintain mortality records from the current and two previous production cycles. For first audit, records for the current and prior production cycle are required")
- 5.1.6 *Maximum unexplained mortality rate...*  
("...from each of the previous two production cycles, for farms with total mortality > 6%")
- 5.2.1 *On-farm documentation... chemicals and therapeutants used*  
("If not already available, assemble records of chemical and therapeutant use to address all points in 5.2.1a for the previous two production cycles. For first audits, available records must cover one full production cycle immediately prior to the current cycle")
- 5.2.3 *Percentage of medication events that are prescribed by a veterinarian*  
("Records can be kept in conjunction with those for 5.2.1 and should be kept for the current and two prior production cycles")
- 5.2.7 *Allowance for prophylactic use of antimicrobial treatments*  
("Maintain records for all purchases of antibiotics (invoices, prescriptions) for the current and prior production cycles")
- 5.2.9 *Number of treatments of antibiotics*  
("a. Maintain records of all treatments of antibiotics (see 5.2.1a). For first audits, farm records must cover the current and immediately prior production cycles in a verifiable statement."

**All of the indicators above are listed as "conforming" - despite the lack of prior years' data.**

## II. Salmon Standard Requirements

For the Salmon Standard indicators below, we submit the CAB did not conform to the following CARv2.0 requirement:

### **17.3 Audit methodology**

*17.3.1 The ASC audit shall use the ASC Audit Manual as guidance for the standard(s) for which the client is being audited.*

Further details to our reasoning are provided below.

#### **a) Indicators 2.1.1; 2.1.2; 2.1.3 (benthic monitoring)**

As per the ASC Audit Manual, compliance evidence for benthic testing should be obtained in accordance with the sampling methodology outlined in *Appendix I-1 Sampling methodology for calculation of faunal index, macrofaunal taxa, sulphide and redox, and copper.*

The release of Salmon Standard Version 1.1 included changes to Appendix I-1. These included the following additional auditing guidelines:

*Although the site visit should coincide with harvest period, it may be undertaken before end of harvest (at >75% peak biomass) and estimates of indicators requiring data from peak biomass / end of cycle provided in the draft report. The CAB shall review actual figures before the certification decision is made and include these figures in the final report.*

*Methodology for auditing indicators relating to peak biomass and end of cycle:*

- 1) CABs shall carry out site visit audit at >75% peak biomass.*
- 2) At the time of the audit the farm shall provide the CAB with estimates of values at that date for indicators that rely on information only available with the farm reaches peak biomass / end of cycle. The Farm shall provide the CAB with values of samples taken at peak biomass and end of cycle when they become available.*
- 3) CAB shall raise a non-conformity for indicators where estimated values are used instead of actual values and note the estimated value in the draft audit report. It shall be explained in the draft audit report where figures are estimated and explain that these are to be updated in the final audit report.*
- 4) CAB shall review the actual values and supporting evidence when they come back at peak biomass / end of cycle in order to make a certification decision.*
- 5) CAB shall not make a certification decision and issue final report until actual values are provided for all indicators except biotic indicators 2.1.2 and 2.1.3.*

*6) In the case that biotic values are not available at the time of drafting the final report the CAB shall carry out a risk assessment to evaluate whether the biotic values are likely to meet the ASC standard. If the CAB finds evidence that the results of the biotic analyses are likely to meet the ASC standard then certification can be granted.*

*7) The CAB shall review biotic findings at the surveillance audit and raise non-conformities as appropriate when results have been found not meet the ASC standard.*

The draft report does not confirm whether the site visit audit was conducted at the required >75% peak biomass, as per 1) of the methodology. Additionally, the report does not cite any estimates of values (based on the audit date) for the current production cycle, as per 2) of the methodology.

Although non-conformities have been raised for Alexander Inlet farm for the benthic indicators, these have not been processed as per the Appendix I-1 methodology.

We submit the CAB has failed to follow the ASC Audit Manual, as well as the Salmon Standard v1.1. Appendix I-1 and its methodology for auditing indicators relating to peak biomass and end of cycle.

**b) Indicator 2.2.3 For Jurisdictions that have national or regional coastal water targets...; and  
Indicator 2.2.4 Evidence of weekly monitoring...**

The draft Alexander Inlet audit report fails to reference or apply variance 198 to Indicator 2.2.3. VR 198 appropriately states,

*“Chile and Canada are amongst the salmon production regions which do not have such a national classification and therefore they are bound by indicator 2.2.4.”*

As acknowledged by the variance request, with no national water classification, Canadian farms are required to comply with Indicator 2.2.4. The Canadian Council of Ministers of the Environment (CCME) 2012 guidelines for water quality referenced here do not meet the definition of “national or regional water quality targets”. The ASC standard identifies nitrate, phosphorus and chlorophyll A (footnote 16) as the relevant nutrients for water quality targets. CCME guidelines only measure nitrate and cannot be used as evidence of “national water classification”.

VR 198 was approved by the ASC VR-committee on the 13<sup>th</sup> November 2016. As per the ASC’s variance process, the reapplication of an approved variance occurs when a “certifier encounters an identical situation for which an earlier variance request has been submitted and approved”.<sup>3</sup>

The farm ought to be required to demonstrate compliance with Indicator 2.2.4; or an application should be made to apply the provisions of Variance 198 to this audit.

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<sup>3</sup> <https://www.asc-aqua.org/what-you-can-do/get-certified/about-our-certification/>

**c) Indicator 3.2.2 If a non-native species is being produced, evidence of scientific research...**

The auditor notes the farm produces non-native Atlantic salmon and cites Canadian Technical Report of Fisheries and Aquatic Science 3061 (Andres 2015).

The ASC requires a credible methodology for non-native escape monitoring. Scientific studies show escapes remain a concern<sup>4</sup>. The limited number of snorkel surveys actually conducted by Andres<sup>5</sup> and his students, during the peak runs of other species, do not constitute 'monitoring'. More specifically, the Andres study did not include any water bodies within the Klemtu region or the B.C. Central Coast (i.e. of relevance to the Alexander Inlet farm). Rivers and streams included by Andres were located on Vancouver Island.

The ASC also requires:

*... evidence of scientific research completed within the past five years that investigates the risk of establishment of the species within the farm's jurisdiction*

Andres' surveys were completed in 2011 and 2012 - more than five years ago. DFO has not monitored for non-native establishment and, until recently, their Atlantic Salmon Watch program was defunct. A recent study found DFO wild salmon monitoring to be woefully inadequate, with around half of B.C. wild salmon streams not monitored<sup>6</sup>. In the absence of any monitoring at all on half of the streams known to support salmon, including those in the vicinity of Alexander Inlet, the potential to detect impacts from escapes is vastly reduced.

Specifically, evidence of compliance for 3.2.2C requires:

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<sup>4</sup> Volpe, J., B. Glickman et al. (2001). "Reproduction of aquaculture Atlantic salmon in a controlled stream channel on Vancouver Island, British Columbia." Transactions of the American Fisheries Society 130: 489-494.

Volpe, J., E. Taylor, et al. (2000). "Evidence of natural reproduction of aquaculture-escaped Atlantic salmon in a coastal British Columbia river." Conservation Biology 14: 899-903.

Fisher, A.C., Volpe, J.P. & Fisher, J.T. 2014. Occupancy dynamics of escaped farmed Atlantic salmon in Canadian Pacific coastal salmon streams: implications for sustained invasions Biol Invasions (2014) 16: 2137. doi:10.1007/s10530-014-0653-x

<sup>5</sup> Andres, B. 2015. Summary of reported Atlantic salmon (Salmon salar) catches and sightings in British Columbia and results of field work conducted in 2011 and 2012. Can. Tech. Rep. Fish. Aquat. Sci. 3061: 19 p.

<sup>6</sup> Price, MHH, English, KK, Rosenberger, AG, MacDuffee, M & Reynolds, JD (2017). Canada's Wild Salmon Policy: an assessment of conservation progress in British Columbia, Canadian Journal of Fisheries and Aquatic Sciences, <https://doi.org/10.1139/cjfas-2017-0127>

*C. Confirm that the scientific research included: multi-year monitoring for non-native farmed species; used credible methodologies & analyses; and underwent peer review...*

The Andres summary report is not peer reviewed, did not use a credible methodology and looked at only 4 Vancouver Island streams in both of the 2 years' field work reported. The only prior monitoring of those streams was conducted more than a decade earlier and it did find evidence of multiple year-classes of juvenile Atlantic salmon in two of those same streams.

No such scientific study, as required by the ASC, currently exists for the B.C. region. An independent scientific research study that is multi-year, with credible and appropriate methodology and analyses and underwent peer review should be required for B.C. salmon farmers to demonstrate compliance with Indicator 3.2.2.

**d) Indicator 5.3.1 Bio-assay analysis to determine resistance when two applications of a treatment have not produced the expected effect**

As per the below table, Alexander Inlet farm has experienced three hydrogen peroxide treatments for sea lice.

<b>Date</b>	<b>DFO Reporting Average <i>L. salmonis</i> motiles per fish</b>
Oct 2016	
Nov 2016	0.9
Dec 2016	2
Jan 2017	1.12
Feb 2017	0.92
March 2017	0.37
<b>7 March 2017</b>	<b>H2O2 Treatment #1</b>
April 2017	0.38
May 2017	0.85
June 2017	0.7
July 2017	0.36
<b>8 July 2017</b>	<b>H2O2 Treatment #2</b>
Aug 2017	2.74
Sep 2017	3
Oct 2017	6.27
<b>31 Oct 2017</b>	<b>H2O2 Treatment #3</b>

DFO reporting<sup>7</sup> shows Alexander Inlet farm's July 2017 sea lice count was 0.36 *L. salmonis* motile per fish. The second H2O2 treatment was administered on the 8<sup>th</sup> July 2017.<sup>8</sup> Despite the treatment, the August 2017 sea lice count was 2.74 and continued to increase.

The ASC Audit Manual's auditor evaluation states:

*C. Review farm records to confirm that bio-assays were done in every case where successive treatments did not produce the expected effect.*

Reduced sensitivity towards hydrogen peroxide has been known to occur in the salmon farming industry, for example Scotland and Norway.<sup>9</sup> The draft audit report refers to florfenicol treatment success, but fails to identify the H2O2 treatments, assess their effectiveness or confirm that bio-assays have occurred.

#### **e) Smolt Requirements 8.22/8.23 Indigenous consultation**

**The draft audit report fails to acknowledge that the Ocean Falls hatchery resides in the Heiltsuk Nation territory.** On 24<sup>th</sup> November 2017, the Heiltsuk Tribal Council released a media advisory<sup>10</sup> stating *"Heiltsuk leadership terminated their stewardship protocol agreement with Marine Harvest Canada Inc. related to their hatchery in Ocean Falls, BC, stating that "Marine Harvest's business can no longer be condoned by Heiltsuk"*. The media release was in support for 'Namgis, Musmagw Dzawada'enuwx and Kwikwasutinuzw Haxwamis who have vocally declared their opposition to fish farms in their territory for nearly 30 years.

The draft audit report states "All smolts are supplied internally" and fails to assess MHC's compliance with indicators 8.22/8.23. The draft audit report should appropriately identify the territory where a hatchery or net-pen farm resides and whether consultation/agreements comply with the salmon standard.

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<sup>7</sup> <http://www.pac.dfo-mpo.gc.ca/od-ds/aquaculture/lice-count-dens-pou-2017-rpt-pac-dfo-mpo-aquaculture-eng.csv>

<sup>8</sup> [http://marineharvest.ca/globalassets/canada/pdf/additional-information-sharing/2017-sea-lice/mhcallsites\\_july\\_2017\\_web.pdf](http://marineharvest.ca/globalassets/canada/pdf/additional-information-sharing/2017-sea-lice/mhcallsites_july_2017_web.pdf)

<sup>9</sup> <https://www.sciencedirect.com/science/article/pii/S2352513415000034>

<sup>10</sup> <http://respectourenvironment.com/northern-nations-stand-in-solidarity-with-occupations>