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Stakeholder Submission RE: Initial Full Assessment Report, Cermaq Canada's Ross Pass and Millar Channel farms, by SAI Global Assurances Services

Upon review of the draft Aquaculture Stewardship Council (ASC) audit for Cermaq Canada's Ross Pass and Millar Channel farms, conducted by SAI Global, we have concerns about the robustness of the audit.

We find the draft audit report to be insufficient in evidence to demonstrate the farms successfully met the salmon standard criteria. We submit this is due to SAI Global failing to meet the requirements of the ASC Certification and Accreditation Requirements (CAR) and the Salmon Standard Audit Manual.

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

Sincerely,

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I. CAR Auditing and Process Requirements

a) Exclusion of harvest activities from initial audit

The ASC CAR V2.0 requires that "*The CAB's initial audit should include harvesting activities of the principle product to be audited*." (Audit Timing 17.4.2). Nevertheless, if the harvest is not witnessed at the initial audit, then the CAR requires:

> *17.4.7 An audit conducted during the harvesting of the principle product included for certification shall occur at least once during the validity of each certificate.*

The draft audit reports acknowledge harvesting at either Ross Pass or Millar Channel farms was not witnessed and the auditor suggests the witnessing of harvest at *another* Cermaq Canada farm in the future is sufficient for meeting the CAR's requirement of "harvest activities of the principle product" (17.4.2):

> *"Harvesting will be witnessed at a Cermaq Canada site prior to first surveillance audit at the Ross Pass farm."; and*
>
> *"Harvesting will be witnessed at a Cermaq Canada site prior to first surveillance audit at the Millar Channel farm."*

Fish processed from other Cermaq sites, including other ASC-certified farms, do not meet the definition of the 'principle product' in the context of the Ross Pass or Millar Channel ASC audits and, therefore, should not be used as a substitute in meeting auditing requirements. Substituting another Cermaq Canada site for the principle product (i.e. Ross Pass farm/Millar Channel farm) is a clear breach of the CAR requirements.

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 Certification and Accreditation Requirements (CAR) Version 2.0 has the following stated Process Requirements (17):

> ***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.

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 ,2.1.3 and 4.7.4; **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.

Insufficient evidence and records remain a concern we have highlighted in other audit reviews. On review, the limited evidence and records that are provided in the audit reports are either based on data from the current production cycle *at the time of the early audit* or the *previous* production cycle. Therefore, the reports fail 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. 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 CARv2.0 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.

c) Unit of Certification – Intermediary Stage

It is common practice in British Columbia for salmon farming production cycles to include an intermediary stage (such as nursery, transfer or early grow-out pens). For the primary product being

assessed, all stages of the production cycle should be included to ensure compliance with the ASC salmon standard indicators and the chain of custody – as per the defined Unit of Certification.

The CARv2.0 Annex A – The ASC Vocabulary states the following definition for the term 'Unit of Certification':

> *"The operation that is covered by a certificate. It includes all production and processing sites including the receiving water bodies, any harvest sites such as production ponds, and all storage or processing operations (including subcontracted operations) up to the point where the product enters further chain of custody."*

DFO reporting[1] shows fish were transferred to Millar Channel in March 2017. The Millar Channel draft audit report notes at least some fish were transferred in from the Ross Pass farm (page 30). We seek clarification if fish were also transferred from another Cermaq farm used as an intermediary stage for the current Millar Channel production cycle cohort. If so, the records and evidence from the intermediary farm should be included in the audit report to demonstrate compliance.

[1] http://www.pac.dfo-mpo.gc.ca/od-ds/aquaculture/lice-count-dens-pou-2017-rpt-pac-dfo-mpo-aquaculture-eng.csv

I. 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) and 4.7.3; 4.7.4 (copper monitoring)

The ASC audit manual states benthic and copper monitoring indicators must follow the sampling methodology outlined in *Appendix I-1 Sampling methodology for calculation of faunal index, macrofaunal taxa, sulphide and redox, and copper*.

With the release of Salmon Standard Version1.1, Appendix I-1 was updated with the following 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.*
>
> *<u>Methodology for auditing indicators relating to peak biomass and end of cycle:</u>*
> *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 [sic] 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 reports do not confirm whether the site visit audits were conducted at the required >75% peak biomass – as per 1) of the methodology. Additionally, the reports do not cite any estimates of values (based on the audit date) for the current production cycle for either the benthic (2.1.1;2.1.2;2.1.3) or copper sampling (4.7.3;4.7.4) - as per 2) of the methodology. Instead, the auditor cites the last completed production cycle values and states "compliant" for indicator 4.7.3 – for both draft audit reports.

Although non-conformities have been raised for Ross Pass and Millar Channel for the benthic and copper indicators (except 4.7.3) – these have not been processed a per the Appendix I-1 methodology.

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

b) Indicator 3.1.7 In areas of wild salmonids, maximum on-farm lice levels during sensitive periods for wild fish…

Both audit reports cite variance request 141. Approved ASC variance requests 88, 90 and 141, for Indicator 3.1.7 *In areas of wild salmonids, maximum on-farm lice levels during sensitive periods for wild fish,* defer to Fisheries and Oceans Canada's (DFO) PAR threshold of 3 motile lice per fish instead of the ASC requirement of 0.1 mature female lice per fish.

While the content and interpretation of the sea lice variances remain under further discussion within ASC and Accreditation Services International, we maintain the practical application of the variance by SAI Global is flawed and does not meet the intent of the sea lice indicator – which is to protect migrating juvenile wild salmon from elevated sea lice loads.

Ross Pass and Millar Channel (and indeed any B.C. farm) should need to demonstrate meeting the 3 motile lice per fish threshold in order to be certified for the ASC Salmon Standard.

The tables below show Ross Pass and Millar Channel farms exceeded the PAR 3 motile/per fish threshold in May 2017 – during the sensitive period.

Table 1 – Ross Pass farm

Date	DFO Motile/per fish (industry)[2]	Cermaq reporting[3]	DFO Notes
May 2017	4.92		Area management action planned
6 May		2.53	
7 May		4.23	
19 May		4.77	
20 May		6.2	
21 May		9.27	

Table 2 – Millar Channel farm

Date	DFO Motile/per fish (industry)[4]	Cermaq reporting[5]	Notes
May2017	4.92		Area management action planned
4 May		7.77	
20 May		5.3	

The draft audit reports fail to cite any sea lice counts - including when both farms breached the PAR 3 motile/per fish threshold in May 2017.

By applying no upper limit on absolute lice abundance, or on lice per fish, the CAB is replacing a metric indicator with a loose management objective. As such, B.C. farms are being treated as 'exempt' from Salmon Standard indicator 3.1.7. We submit this is grossly inappropriate and a Major Non-conformity should have been raised for each farm.

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

The auditor notes "the farm produces Atlantic salmon which is a non-native species", yet fails to provide the scientific research on the risk of establishment of the species. Specifically, evidence of compliance for 3.2.2C requires:

[2] http://www.pac.dfo-mpo.gc.ca/od-ds/aquaculture/lice-count-dens-pou-2017-rpt-pac-dfo-mpo-aquaculture-eng.csv
[3] https://www.cermaq.com/wps/wcm/connect/cermaq-ca/cermaq-canada/our-company/locations/ross-pass-2017
[4] http://www.pac.dfo-mpo.gc.ca/od-ds/aquaculture/lice-count-dens-pou-2017-rpt-pac-dfo-mpo-aquaculture-eng.csv
[5] https://www.cermaq.com/wps/wcm/connect/cermaq-ca/cermaq-canada/our-company/locations/millar-channel-2017

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

The CAB inappropriately cites an industry commissioned sea lice monitoring report as evidence of compliance for this indicator requirement:

"The report "Wild Juvenile Salmonid Monitoring Program - Discovery Islands - 2017, prepared by Mainstream Biological Consulting Inc and signed by Lance Stewardson, member of the College of Applied Biology, showed no evidence of risk of establishment of the species. 5244 fish were collected during the monitoring program from 29 sites around Discovery Island. No Atlantic salmon (Salmo salar) were captured during sampling completed."

The ASC requires a credible methodology for non-native escape monitoring. The methodology used for this report is based on sea lice monitoring on wild fish and is not sufficient for non-native species monitoring. In addition, the report focuses on an entirely different geographical region – not Clayoquot Sound.

The auditor also cites Andres (2015). Scientific studies show escapes remain a concern[6]. The limited number of snorkel surveys actually conducted by Andres[7] 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 Clayoquot region (i.e. of relevance to Ross Pass and Millar Channel farms).

The ASC also requires:

… evidence of scientific research completed <u>within the past five years</u> 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[8]. In the absence of any monitoring at all on half of the streams known to

[6] 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

[7] 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.

[8] Price, MHH, English, KK, Rosenberger, AG, MacDuffee, M & Reynolds, JD (2017). Canada's Wild Salmon Policy: an assessment of conservation progress in British Columbia,

support salmon, including those in the vicinity of Clayoquot, the potential to detect impacts from escapes is vastly reduced.

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 5.2.5 Maximum farm level cumulative parasiticide treatment index (PTI) score…

The draft audit reports state the PTI scores at the time of the on-site audits (11-14 December 2017) were 9.6 for both Ross Pass and Millar Channel. However, we note both farms have experienced elevated sea lice counts above the PAR threshold since September 2017 to present. [9] [10]

Table 3 - Ross Pass farm

Date	Cermaq reporting (motile/per fish)
19 Aug 2017	0.83
1 Sept 2017	0.52
19 Sept 2017	4.73
19 Oct 2017	5.85
4 Nov 2017	5.27
22 Dec 2017	5.23
16 Jan 18 2017	6.7
24 Jan 18 2017	5.83

Canadian Journal of Fisheries and Aquatic Sciences, https://doi.org/10.1139/cjfas-2017-0127

[9] https://www.cermaq.com/wps/wcm/connect/cermaq-ca/cermaq-canada/our-company/locations/millar-channel-2017

[10] https://www.cermaq.com/wps/wcm/connect/cermaq-ca/cermaq-canada/our-company/locations/ross-pass-2017

Table 4 - Millar Channel farm

Date	Cermaq reporting (motile/per fish)
5 Aug 2017	1.53
20 Aug 2017	3.13
2 Sept 2017	6.7
17 Sept 2017	11.2
18 Sept 2017	12.53
17 Oct 2017	7.73
18 Oct 2017	7.6
2 Nov 2017	5.73
3 Nov 2017	6.07
17 Nov 2017	4.87
18 Nov 2017	4.07
3 Dec 2017	4.37
4 Dec 2017	5.58
16 Dec 2017	5.12
17 Dec 2017	4.87
2 Jan 2018	6.83
3 Jan 2018	5.83
16 Jan 2018	6.87
19 Jan 2018	6.08
24 Jan 2018	6.29

Under the Marine Finfish Aquaculture Licence under the Fisheries Act,[11] companies are required to:

> *6.5 Starting July 1, 2016, the licence holder must conduct sampling annually between July 1 and February 28 for the term set out in this licence. The licence holder cultivating Atlantic salmon and trout must carry out a sea lice abundance assessment once every month for fish held in containment structures for more than 30 calendar days. Where data collected in Appendix VI-A indicates the sea lice abundance threshold of three motile Lepeophtheirus salmonis has been exceeded, the licence holder must:*
> *(a) increase monitoring to at least once every two weeks;*
> ***(b) within 30 calendar days of the first discovery, provide a plan to address the exceedance to the Department, for its considered response;*** *and*
> *(c) notify the Department as per section 7.1. [emphasis added]*

[11] http://www.pac.dfo-mpo.gc.ca/aquaculture/licence-permis/docs/licence-cond-permis-mar/licence-cond-permis-mar-eng.pdf

Therefore, it is possible the farms may be required to administer a third sea lice treatment, as per their licence conditions. If so, a third treatment would bring both farms to a PTI score of 16 – above the Standard's required ≤ 13.

We request clarification on how Cermaq intends to address the exceedance and if a third SLICE treatment has been administered (or is planned). We expect the auditor to adjust the PTI score and reassess compliance as necessary.

e) Indicator 5.2.10 If more than one antibiotic treatment is used in the most recent production cycle, demonstration that the antibiotic load [110] is at least 15% less that of the average of the two previous production cycles

The draft Ross Pass audit report raises a minor non-conformance for indicator 5.2.10 due to the site's antibiotic load increase:

> *"The site has had an increase of 22% of antibiotic use rather than the reduction of 15% required in the indicator."*

The CAB refers to an unprocessed variance request – as an apparent attempt to close out the NC.

> *"There has been a Variance number 233 applied for by another operator in the same region based on not feasibly able to reduce the total active ingredient used without jeopardizing fish health and welfare."*

On review of Wicklow farm's final audit report[12] (with which VR233 is associated), audit or notes state the VR was changed to an "information request" following a conversation with the ASC. VR233 has been removed from ASC's variance request log.[13] Regardless, it is important to note that VR233 has not been approved by the ASC.

CAR Form 1 – Request for Interpretation or Variance states the following:

> *Variations <u>that have been approved</u> may be applied when similar circumstances are present.*

Consequently, we submit it is improper for SAI Global to attempt to apply an unapproved variance.

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[12] http://asc.force.com/Certificates/servlet/servlet.FileDownload?retURL=%2FCertificates%2Fapex%2FASCCertDetails2%3Fid%3Da012400000vAgzIAAC&file=00P1o00000nmyRwEAI

[13] http://variance-requests.asc-aqua.org/wp-content/uploads/Variance-Requests-20180201-1.xlsx

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

No sea lice treatment dates are provided in the draft audit reports or publicly reported by Cermaq Canada.

The draft Ross Pass report states the ASC was informed in October 2017 of the two sea lice treatments via transparency reporting requirements. Based on sea lice reporting,[14] it assumed the first SLICE treatment was administered in May 2017. The second treatment likely occurred around September/October 2017.

Sea lice reporting[15] for Millar Channel indicates the first SLICE treatment occurred in June 2017. The draft report states the second SLICE treatment occurred after October 2017.

As discussed above, under d), sea lice counts continue to exceed the PAR threshold since September to present for Ross Pass and Millar Channel. Therefore, it appears despite their respective second SLICE treatments - both farms have not been successful in reducing sea lice loads.

Both draft reports state for indicator 5.3.1: "*There has been no successive treatments for lice*". This is incorrect as the second SLICE treatments occurred within months of the initial treatment.

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.*

We find, for both Ross Pass and Millar Channel farms, the auditor failed to identify the two successive treatments, assess their effectiveness or confirm that bio-assays have occurred.

[14] http://www.pac.dfo-mpo.gc.ca/od-ds/aquaculture/lice-count-dens-pou-2017-rpt-pac-dfo-mpo-aquaculture-eng.csv

[15] http://www.pac.dfo-mpo.gc.ca/od-ds/aquaculture/lice-count-dens-pou-2017-rpt-pac-dfo-mpo-aquaculture-eng.csv