Stakeholder Comments in response to Draft Audit,
Marine Harvest Canada, Monday Rock
by SAI Global Assurances Ltd. dated March 14, 2016
Report code ASC020

Comments prepared by: Living Oceans Society on behalf of David Suzuki Foundation, Ecology Action Centre, Pacific Coast Wild Salmon Society and Watershed Watch Salmon Society.

Date: March 30, 2016

The above-noted stakeholders do not support the application of Marine Harvest Canada (MHC) for Aquaculture Stewardship Council (ASC) certification of Monday Rock salmon aquaculture farm in Quatsino Sound.

Upon review of the draft audit conducted by SAI Global, we have deep concerns about the audit quality and lack of robust data to substantiate conformities. We wish to observe that the public consultation materials are deficient, therefore hindering stakeholders' ability to fully assess the credibility of the audit report.

The following documents/evidence, should have been made available, at the time of the audit draft, for stakeholder review:

- The ASC's decision and rationale on the Variance Request (VR) for Criterion 3.1.7;
- The VR "Appendix 1" (i.e. MHC's contracted "local experts report")
- The "full appendix" to be provided in the full report, as referred to in 8.24 (to justify why, given cages 7 & 8 challenge the ASC's Chain of Custody criterion, the farm should be certified).

We reserve the right to comment further, particularly with respect to the documents and reasons pertaining to the VR for Criterion 3.1.7 and Chain of Custody issues, once full disclosure of the documents has been made. At this point, we maintain that certification of Monday Rock should not be granted, based on the following grounds. Please note that all references to the ASC Farm Certification and Accreditation Requirements ("CAR") are to version 1, which was in effect at the time of the audit.

I. Audit Timeline and ASC Farm Certification and Accreditation Requirements (CAR)

a) Exclusion of harvest activities from initial audit

The ASC CAR requires that "*the CAB's initial audit shall include harvesting activities of the principle product to be included for certification*" (Audit Timing 17.4.2). The on-site audit was performed November 9-12, 2016, at least five months prior to the planned harvest (April/May of 2016). The CAR contemplates situations where audits might be conducted without including harvest activities, and provides:

*17.4.3 If the CAB determines that **it is not possible** to conduct the initial audit as specified in 17.4.2, the CAB shall:*

17.4.3.1 Record this determination in the audit report

17.4.3.2 Provide a justification for the alternative timing

There is no evidence in the draft audit report that it would have been impossible to conduct the farm's first audit in April or May of 2016 and no justification provided for conducting it earlier than specified in the CAR.

b) Closure of major non-conformities within three months

The practical effect of conducting the audit earlier than prescribed is that major non-conformities (NCs) appear to remain open for more than the stipulated three months following the audit. CAR requirement 17.8.1.2 states the following regarding major NCs:

a) The CAB shall require that major non-conformities shall be satisfactorily addressed by an applicant:

i. Prior to certification being granted.

ii. Within three months of the date of the audit or a full re-audit shall be required.

iii. That the root cause of the non-conformity is identified.

Non-conformities found with respect to sea lice infestation and benthic sampling are apparently still not closed, more than four months after the audit was completed.

We say the non-conformities "appear" to remain unclosed because MHC is already advertising on its website that it has been "granted an exception to indicator 3.1.7; sea lice are instead

managed in accordance with our Pacific Aquaculture Regulation"[1]. There is no reference in the draft audit report to the granting of a variance for indicator 3.1.7; indeed, the report indicates that such a variance is being sought and will be supported by a report, commissioned by MHC that is to elaborate the reasons for the variance request. Noting the discrepancy between these statements and the assertion by MHC on its website that it already has approval for managing to the PAR, we seek production of the documents filed in support of the VR and the reasons, if any, for granting it.

The draft audit report notes that benthic sampling (2.1.3 c,d,e) was just being conducted at the time of the audit, November, 2015; and that it would take "~3 months" for lab analysis of the samples. It was accordingly apparent from the outset of this audit that this Major Non-Conformity would not be closed within three months and thus the audit should have been deferred in the absence of any evidence at all (even from prior years) of sampling of this soft-bottomed site.

Samples required (including minor non-conformities 2.1.1 g and 2.1.2e, i) to be taken at peak biomass would have been anticipated, at the time of the audit, to be taken in April or May of 2016, some five to six months following the audit. In fact, peak biomass was reached in late March, when the decision was taken to harvest the farm rather than treat the fish for lice infestation. Given the time lapse between audit and peak biomass, Monday Rock should be required to undergo a full re-audit. It was known at the outset that the farm would not reach peak biomass in time to address any major or minor non-conformities that result from not including harvest in the audit.

The Certification and Accreditation Requirements (CAR) define an audit timeline relative to a farm's production schedule. By auditing when they did, SAI Global knowingly made the resolution of any harvest related major and minor non-conformities within the required three-month deadline impossible.

c) Age of Audit Data

The CAR 17.9.1.1 *Certification Decisions* requires

"that audit evidence shall be no more than six months old".

The indicator for Criterion 2.2.4 requires, "[E]vidence of ***weekly*** monitoring of nitrogen ***and phosphorous*** levels…" and that for first audits, at least 6 months of data must be provided. The most recent CCME sampling was 2012. Not only is there no weekly monitoring, but the incomplete data is four years old.

[1] http://marineharvest.ca/globalassets/canada/pdf/asc-dashboard-2016/monday-march-22.pdf

Criterion 2.2.5 requires “demonstration of calculation of biochemical oxygen demand (BOD [21]) of the farm on a production cycle basis…beginning with **the production cycle first undergoing certification …”** The auditor has breached this requirement by using 2014 harvest cycle biochemical oxygen demand (BOD) data.

II. Identified Major Non-Conformities: Variance Requests and Closure Issues

a) Major Non-Conformity Sea Lice: Criterion 3.1.7c

Based solely on the information provided for stakeholder comment, we observe that this major NC has been outstanding for more than three months and is thus not eligible for closure without a new audit (CAR 17.8.1.2). If it is the case that the Variation Request has actually been granted within the three month period, we reiterate our request that the rationale be made available to stakeholders for public comment. –Furthermore, we strongly maintain that the VR decision should be revisited, based on the evidence provided below and as per the requirement of CAR’s normative reference 17.9 that states that evidence for certification decisions:

17.9.2.2 … shall include audit evidence gathered as the result of information submitted by stakeholders

The evidence below confirms that Monday Rock was not only unable to meet the ASC’s threshold of 0.1 adult female lice per fish, but also consistently exceeded the Department of Fisheries and Oceans’ PAR threshold of 3 motile *Lepeophtheirus* spp. per fish and the conditions of its licence. We also demonstrate below that MHC did not undertake timely, effective management actions or apply appropriate protocols in analysing the impact of its louse management on wild juvenile salmon.

Elevated Lice Levels

Monday Rock experienced elevated lice levels on the current production cycle as early as January, 2015, when adult female lice count was .2, or double the ASC Salmon Standard. By February, 2015 motile *Lepeophtheirus* spp. (leps) were recorded at 4 and adult female leps at 1.

Although different from the ASC indicator 3.1.7c, sub-section 7.3(a) of the Canadian Marine Finfish Aquaculture Licence[2] clearly defines requirements intended to protect wild juvenile salmonids during their sensitive outmigration period from March 1 to June 30 inclusive. Where the abundance threshold of three motile leps per farmed salmon has been exceeded at a facility the licence holder must among other things "**initiate action** within 15 calendar days of discovery to reduce the absolute lice inventory at this facility over subsequent weeks".

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

According to the Conditions of Licence, action should have been initiated *at the latest* 15 days after March 1st.

According to a file on the MHC web page[3], the first treatment of emamectin benzoate (EB) at the Monday Rock facility was not initiated until April 20, 2015. Average sea lice abundance levels had by early April reached 12.3 motile leps/fish and 1.4 audit female lice/fish. No second count was conducted that month as required by the PAR, "due to initiation of treatment"[4]. There would have been ample time during the month of April prior to treatment to carry out the minimum required sea lice abundance assessments every two weeks, for example, on April 3rd and again on April 17th. There was a delay of 50 days and not 15 days from March 1st before treatment was undertaken to reduce absolute lice abundance at the site. Thus, MHC was not in compliance with licence conditions, the PAR or the intent of the ASC Standard 3.1.7.

Despite treatment, Monday Rock continued to report elevated lice levels in May (5.1/2.2) and June (2.7/1.4) and did not initiate hydrogen peroxide treatment until July, 2015. Treatment brought overall lice levels below the PAR trigger, but it is noteworthy that two-thirds of the lice then remaining (0.4 of 0.6) were adult females: the farm continued to exceed the ASC Standard by a factor of 4, and the level of female lice indicated the likelihood of a rise of abundance.

It should be noted that lice levels continued to increase while MHC was practising a protocol they refer to as "integrated pest management" within the area. All four operating farms in the area experienced lice levels in excess of the PAR trigger throughout the sensitive period, reaching levels higher than 3X the PAR trigger and as many as 6 female lice per fish.

As lice levels at Monday Rock began to climb again in early 2016, MHC did not treat the fish, but left them in the water well into the sensitive period in March, reaching levels more than 4X the PAR trigger before deciding to harvest.

This timeline of events for the current production cycle demonstrates MHC's inability to effectively apply timely management action to manage sea lice. In fact, the Monday Rock farm (as well as the neighbouring farm, Koskimo) and MHC have consistently received citations from DFO in prior years, for "deficiencies" in lice protocols and records:

- 2014: "Lice protocol or Lice records as per COL Appendix VI or VI-A need improvement"[5]
- 2013: "Lice protocol or lice records as per COL Appendix VI or VI-A needs improvement"[6]

[3] http://marineharvest.ca/globalassets/canada/ pdf/additional-information-sharing/allsites_feb_2016_web.pdf
[4] http://www.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/docs/lice-pou/2015/Q2-T2/A-eng.pdf
[5] http://www.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/docs/health-sante/2013/2013-G-eng.pdf
[6] http://www.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/docs/health-sante/2013/2013-G-eng.pdf

- 2012: "Lice protocol or lice records as per COL Appendix VI or VI-A needs improvement"[7]
- 2011: "Lice protocol or lice records as per COL Appendix VI or VI-A needs improvement" (note: cited twice)[8]

This lengthy record of failure to manage and record the management of sea lice suggests not only a failure of management protocols, but also calls into question the siting of the facility: if MHC is truly doing its best with respect to sea lice management, then the siting of the facility must preclude effective lice management and should be reconsidered.

In both of the last two production cycles, the effect of mismanagement of lice has been that lice levels on area farms far exceeded the DFO trigger and conditions of licence throughout the sensitive period. As detailed below, no analysis of the impact of this failure on wild juvenile salmon is evident in the audit.

Failure to Observe Best Management Practices

MHC has not, in the current or prior production cycles, taken all available steps to manage sea lice.

Contrary to the following statement in the ASC discussion paper, *Proposed Revisions to the Salmon Standard Related to the Management of Sea Lice,*

> "Recent research from Canada supports the contention that current sea lice monitoring requirements, thresholds and management actions ensure that the intent of the standard in protecting wild salmonid populations during outmigration –is being met. Rogers' et al. 2013 research paper, found that careful timing of sea lice control on salmon farms reduced parasite loads when wild juvenile salmon are nearby"

management practice at Monday Rock has failed to follow best management practice as outlined by Rogers et al[9], referenced above. Rogers et al. (2013) strongly favours treatment with SLICE during the winter months, even if triggering levels of lice have not been reached:

[7] http://www.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/docs/health-sante/2012/2012-G-eng.pdf

[8] http://www.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/docs/health-sante/2011/2011-G-eng.html

[9] Rogers, et al., 2013, *Modeling Parasite Dynamics on Farmed Salmon for Precautionary Conservation Management of Wild Salmon*

> "Winter treatment may prove effective both to reduce louse abundance on migration routes in advance of the March–June juvenile wild salmon migration [47], and to minimize average annual sea louse abundance on farms [48]. In a study of two salmon farms in the Broughton Archipelago, Krkošek et al. [47] found that maximum reductions in louse abundance on farms lagged SLICE® treatment by 1–3 months, suggesting that treatment to suppress louse abundance prior to the migration ought to take place in January. Sea louse ecology and studies of louse suppression on farms suggest similar timing to utilize SLICE® most effectively. In his review of sea louse ecology, Costello [13] suggested that treatment during winter is important to reduce louse numbers on farms because female sea lice tend to grow larger and produce more eggs during the winter than during other seasons. Peacock et al. [31] found that an increase over time in the proportion of treatments taking place during October–March was associated with a corresponding decrease in average annual sea louse abundance on farmed salmon and wild juvenile salmon in the Broughton Archipelago. These findings suggest that winter treatment on salmon farms may be important for juvenile Pacific salmon".

MHC has consistently deferred treatment until later in the spring, often within the sensitive period, with the predictable result that lice levels are not maintained below the PAR trigger of 3 motile lice per fish.

Wild juvenile salmon monitoring and evidence of a feedback loop in management practice:

The ASC Salmon Standard provides, at Appendix II-1.C:

> ***5. Setting and revising a maximum ABM lice load:***
>
> *a. The entire ABM scheme will set a maximum lice load, expressed as total mature female lice on all farms in the area. In areas of wild salmonids, the ABM scheme must demonstrate how the scheme incorporates the results of wild monitoring into revisions of this total lice load over time (see Section 2 below for additional details on this feedback loop)*

MHC produced one wild juvenile salmon monitoring report from sampling conducted in April and May of 2015. The sample size was too small, and all but one of the sampling locations too distant from Monday Rock to be able to draw much of a conclusion about impacts on wild salmon at all.

While the report concludes that lice levels were low in the area overall, it in fact demonstrates that that lice abundance was nearly five times higher on wild juvenile salmon sampled near

active farms than away from active farms. Comparing the average abundance of lice on fish sampled away from active farm sites (0.25 lice/fish in samples collected in Holberg Inlet [Sample Sites #1-3]) to average abundance on fish near active farms (1.24 lice/fish on samples collected in Quatsino Sound [Sample Sites #4-10]), it is apparent that lice loads increased with proximity to salmon farms.

The report concludes that there may be a high number of sea lice naturally occurring in Holberg Inlet because Site #1 had some of the highest numbers of sea lice from collected fish samples. However, site #1 produced the largest number of fish samples of all the sample sites: 79% of the total number of fish samples collected came from Site #1 yet only 42% of the total number of lice and the lice abundance there was actually 0.36 lice/fish whereas lice abundance on fish samples collected at Site #8 was 1.22 lice/fish or more than three time higher than Site #1. The authors stopped short of making that comparison in their conclusions. Sampling Site #8 is nearest to Koskimo, another active farm site with high lice levels near the Monday Rock farm.

Only 5 wild juvenile coho and no pink or chum salmon were captured and sampled at the beach seine sites #9 & 10, nearest to Monday Rock. This sample size is far too small to form any conclusions at all about the contributing impact of Monday Rock to wild juvenile salmon lice loads.

Thus, the main conclusion to be drawn from the sampling programme is that, considered on an area-wide basis, salmon farms in Quatsino Sound are impacting lice loads on wild juvenile salmon. There is no indication in the draft audit that this fact was recognized or taken into account in management practices; indeed, the 2016 management actions followed the same approach as had been used in prior years in which lice management practice was cited by DFO as 'requiring improvement'. The absence of any true area-based management, as defined by the CAR, means that this indicator of the Standard could not be scored as "conforming" in any event.

b) Major Non-Conformity: Benthic Sampling

See I b) above. The draft audit report notes that benthic sampling (2.1.3 c,d,e) was just being conducted at the time of the audit, November, 2015; and that it would take "~3 months" for lab analysis of the samples. It was accordingly apparent from the outset of this audit that this Major Non-Conformity would not be closed within three months and thus the audit should have been deferred in the absence of any evidence at all (even from prior years) of sampling of this soft-bottomed site. Nonetheless, it appears that four months post-audit, the analysis of samples has not been completed, nor the results provided to ASC. No variance request has been identified with respect to the provision of sampling results; we therefore conclude that

the NC remains open beyond the permitted 3-month window for closure following the audit (CAR 17.8.1.2) and the farm should be required to undergo a re-audit as a result.

III. **Major Non-Conformities that should have been included in the Audit**

Annex A – *The ASC Vocabulary* of the CAR (19.1 Annex A) defines a **Major Non-Conformity** as the following:

"Any non-conformity with an ASC requirement that has one or more of the following characteristics:

- The absence or total breakdown of a system that is likely to result in a failure to achieve the objective of the relevant ASC Standard Criteria or another applicable certification requirement
- Would result in the probable shipment of product that does not conform to ASC requirements
- Is likely to result in a failure of the system or materially reduce the ability of the client to assure the integrity of the certified product
- Is shown to continue over a long period of time
- Is repeated
- Is systematic or is the result of the absence or a total breakdown of a system
- Affects a wide area and/or causes significant damage
- Is not corrected or adequately responded to by the client once identified
- Where two (2) or more minor non-conformities may together meet any of the above criteria"

The following ought to have been scored as Major Non-Conformities, based on the above definition:

a) CAR Normative Reference 17.6 Determining the start of the Chain of Custody (CoC)

The CAB failed to fully determine the risk of non-certified product entering the Chain of Custody (CoC). Normative reference 17.5 of the CAR, "*Determination of the eligibility of aquaculture products to enter further Chains of Custody and the points at which they can enter"*, requires the CAB to evaluate the risk of the "possibility of mixing or substitution of certified and non-certified product" at various points of the farming and supply processes. In turn, the CAB is to document the risk (17.5.1) and describe any traceability and/or segregation to manage the risk.

The report states under indicator 8.24a and page 23:

"The cages 7 and 8 smolts originate from Georgie Lake and they have been separate from input to the rest of the cages. There has been no grading up to now. The company wishes to allow the remaining cages to be certified. This is in line with a variance granted in Scotland for exactly the same reason. A full appendix will further explain the decision in the final report. The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10."

The report also states under 9. Determination for Chain of Custody (CoC) Certification (p. 24) that "products from Monday Rock Fish Farm may enter further chains of custody and are eligible to carry the ASC label". The CAB fails to document the possible risk of cages 7 and 8 entering the CoC or describe any traceability that will manage the risk. This allows for the potential for non-certified product to be falsely labelled as ASC, thereby undermining the credibility of the label. Therefore, a Major Non-conformity should be applied to 17.6 as per the ASC definition: "Would result in the probable shipment of product that does not conform to ASC requirements".

b) Water quality in and near the site of operation: Criterion 2.2.4 a, b and c

The indicator for Criterion 2.2.4 requires… "evidence of **weekly** monitoring of nitrogen ***and*** **phosphorous** levels…". It is inappropriate to score the indicators at (a)-(c) as "N/A" where no variance from the Standard has been granted. The auditor has essentially replaced the required assessment of this criterion of the Standard with an assessment of compliance with national law, which is neither relevant nor within the authority of the auditor.

A Major Non-conformity should be raised as the indicator's requirement to measure phosphorous (and for first audits, the need for at least 6 months of data) is not being met. In addition, the most recent CCME sampling was 2012. Not only is there no weekly monitoring, but the incomplete data is four years old, which is in breach of CAR 17.9.1.1, that audit evidence shall not be more than six months old.

We contend that a Major Non-conformity should be raised for criterion 2.2.4 a, b and c, in accordance with the ASC definition:

"The absence or total breakdown of a system that is likely to result in a failure to achieve the objective of the relevant ASC Standard Criteria or another applicable certification requirement"

c) Area-based management (ABM) and ABM of sea lice: Criterion 3.1.1 and 3.1.3

Appendix II-1 lists the components that constitute an ABM scheme under the ASC standard. None of these components have been achieved by MHC. Criteria 3.1.1a and 3.1.1b are

inappropriately listed as conforming. Conversely, 3.1.1c appropriately states "There is no ABM in this area", however inappropriately lists the indicator as "N/A".

Appendix II-2, *Setting and revising ABM lice loads and on-farm lice levels,* requires the ABM scheme to determine "total load". As mentioned previously, MHC fails to demonstrate they are a part of an ABM scheme as defined by the ASC standards. Therefore, there is no ABM scheme that determines the total load. Further, if total load for an area is in fact calculated by MHC, these data are not made publicly available and there is no evidence of their being referenced to wild juvenile salmonid sampling results, or being fed into a continuous management improvement loop.

There is in British Columbia no true area-based management for sea lice, as the only requirements of the DFO are based on the 3 motile lice/fish trigger. No consideration of cumulative effects of farms in an area on wild salmonids is required or undertaken; and there is no evidence that monitoring of wild salmon has been taken into account in management measures for this farm—in fact, management measures over the past years demonstrate no concern for impacts on wild salmon. Thus, Monday Rock fails to comply with criterion 3.3.1 in its entirety. The draft audit scores this criterion as "conforms"; we contend that this is not an option available to the auditor in the absence of the documentation required by the standard.

Therefore, a Major Non-conformity should be raised for criteria 3.1.1 and 3.1.3, in accordance with the ASC definition:

"The absence or total breakdown of a system that is likely to result in a <u>failure to achieve the objective</u> of the relevant ASC Standard Criteria or another applicable certification requirement"

IV. Minor Non-Conformities that should be included in the Audit

a) Criterion 2.1.1: Redox potential or sulphide levels in sediment outside of the Allowable Zone of Effect (AZE)

In relation to prior years' evidence, the audit report says, at 2.1.1 f), "While the sampling at peak biomass has not yet been taken there is historical sulphide sample and measuring carried out in Monday Rock for the DFO. The results are gained using the approved methods" but does not report the values from prior benthic sampling or indicate that they comply with the Standard.

b) Criterion 2.1.4: Definition of a site-specific AZE based on a robust and credible modelling system

Criterion 2.1.4 c) C. and its associated CAR instruction require the auditor to "Confirm that farms have validated the general applicability of the site-specific AZE using monitoring data (i.e. 'ground truthing')." The auditor has assigned this a score of "N/A", commenting that "This is being done in conjunction with the sampling as required by DFO and by the ASC." This criterion is applicable to all farms seeking certification and again, we question whether or not it is within the authority of the auditor to waive mandatory requirements of the Standard or CAR. We suggest that this is in fact a minor non-conformity, as it has clearly not been done and is a requirement that is applicable to the site. Further, it is unclear whether or not compliance is within reach of the farm, as it is unclear whether or not monitoring data for a period greater than six months is available to the farm. It would appear unlikely, given the comment at 2.1.4(a) that the AZE for the site was first modeled in 2015.

c) Criterion 2.2.1: Weekly average percent saturation of dissolved oxygen (DO) on farm

The CAB is required to "Witness DO monitoring and verify calibration while on site. On-site values should fall within range of farm data for DO. If an out of range measurement is observed, raise nonconformity" (2.2.1 e) E. 'Auditor Evaluation'). There is no indication here that the auditor witnessed monitoring, verified the calibration of instruments or checked monitored values against the range of farm data for DO. The scoring "Conforms" cannot be reasonably assessed based on the information provided.

d) Criterion 2.2.3: For jurisdictions that have national or regional coastal water quality targets, demonstration through third-party analysis that the farm is in an area recently classified as having "good" or "very good" water quality

The CAR's instructions for the auditor for Criterion 2.2.3b) require the auditor to "Confirm that there has been a recent third-party analysis (within two years prior to the audit) to classify areas according to national or regional water quality targets. It should be noted here that the auditor's comments, quoted below, do not accurately represent the findings of this paper, the absence of any qualifications given for the authors (employees, one presumes, of Global Aquafood Development Corp.) or the nature of the literature review. The authors located the paper referenced and determined that it is not based on any water quality data collected within the past two years; and to the extent it does purport to 'classify' the water, it does so based on data collected by DFO offshore of the west coast of Vancouver Island, and not in Quatsino Sound. The paper does offer the observation that,

> "Very few studies post 2005 show any updated nutrient loading figures for salmonid species, the majority of data on nutrient release figures from fish farms comes from mass balance and modelling, in general figures from pre-2005 data are used as input value into the models.

The paper also notes concerns with benthic health and claims that area farms are consistently monitoring benthic health as a condition of licence, which raises a concern that either its authors are mistaken, or the auditor has failed to discover available data on benthic monitoring.

While the paper's authors do offer the conclusion that the "water quality can be considered very good", they cite no reference to that effect and their qualifications for drawing the conclusion are not given.

A minor non-conformity should be raised, based on the information available; and MHC should provide updated third-party water quality analysis to close out the non-conformity.

General Observations on Audit Quality and Accuracy

It was frequently extremely difficult to understand how the 'comments' section of the draft audit was responsive in any way to the CAR's requirements for the auditor's conduct of the audit. While this may be due in part to the fact that the auditor was clearly not working in his native language, there were numerous instances where the comment simply did not support the scoring of the criterion.

In other cases, inaccuracies in referencing literature led to uncertainties that require explanation. We have referenced above a question concerning literature on Quatsino Sound water quality; below are other references to literature that require clarification or replacement with evidence or authority to support the assertions made:

a) Page 13; Refers to MHC being a participant in the Broughton Area Management Plan (BAMP) and then says it has "…just been published in March 2015." Rogers, et al., 2013, *Modeling Parasite Dynamics on Farmed Salmon for Precautionary Conservation Management of Wild Salmon* was published in PLOS One on April 5, 2013. Please clarify the peer reviewed article published in 2015 and the source journal.

b) Page 13: The auditor states, "There is a paper available from 'Open Access' called Spatio-Temporal migration patterns of Pacific Salmon smolts in Rivers and coastal marine

waters. Melnychuk et al. There is an update for April on the Mainland Inlet Pink Salmon update bulleting Number 7. “

However, Melnychuck et al., 2010 refers only to smolt migration on the east coast of Vancouver Island and is not relevant to smolt migration timing and spatial patterns in Quatsino Sound. The Mainland Pink Salmon bulletin is not relevant to Quatsino Sound.

c) Page 14: The auditor states, "MHC also under took independent surveys in 2010 following an escape." This survey did not include watersheds in Quatsino Sound and is irrelevant to the certification of Monday Rock. It is unclear if this evidence is relied upon in any way by the auditor in support of his scoring of the criteria on the assessment; if so, other evidence will be required.

Conclusion

We respectfully submit that this audit does not meet the requirements of the CAR as to methodology or compliance with the Salmon Standard in the several respects set out above. The farm itself should not be considered for certification at this time, as a result of the many non-conformities, both major and minor, identified herein. To certify a farm that is out of compliance with the conditions of its licence, governing regulations and the ASC Salmon Standard would gravely weaken the credibility of ASC certification.

Finally, we reserve the right to make further representations once full disclosure of the audit evidence, as referenced above, has been made.