

ATTN: Isla Paterson
Accreditation Officer
Acoura Marine Limited
asc@acoura.com

19th September, 2016

Stakeholder Submission RE: Draft Public Certification Report, Marine Harvest Canada's Goat Cove farm, by Acoura Marine Ltd., dated 20th July 2016 (Public Comment Period: 5-19 September 2016).

Upon review of the draft Aquaculture Stewardship Council (ASC) audit for Marine Harvest Canada's (MHC) Goat Cove farm, conducted by Acoura Marine Ltd., the below-noted stakeholders have serious concerns regarding the omissions and lack of available evidence within the report. We believe that approving ASC certification of this farm would severely undermine the salmon standard established by the ASC.

The ASC Certification and Accreditation Requirements (CAR V2.0) stipulates the availability of sufficient records/evidence are needed in order to conduct an audit. Due to facts that the audit timing occurred before the harvest and the intermediary stage was omitted, we find the draft audit report consequently does not provide sufficient evidence that demonstrates the farm has successfully met the salmon standard criteria, simply because the data is incomplete.

In addition, we believe it would be irresponsible for Acoura Marine Ltd to grant ASC certification given Goat Cove and Jackson Pass (the intermediary stage) farms, along with all other MHC Klemtu farms, have recently experienced high sea lice loads and possible SLICE resistance. Consequently, the farms have demonstrated their inability to comply with the approved ASC variance. Therefore, the certification of Goat Cove would undermine the credibility of the ASC, the salmon standard and Acoura Marine Ltd.

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

Sincerely,

Kelly Roebuck
Living Oceans Society

John Werring
David Suzuki Foundation

Stan Proboszcz
Watershed Watch Salmon Society

Colleen Turlo
Ecology Action Centre

HEAD OFFICE
Box 320
Sointula, BC V0N 3E0
Tel 250 973 6580

REGIONAL OFFICE
Suite 2000 – 355 Burrard Street
Vancouver, BC V6C 2G8
Tel 604 696 5044 Fax 604 696 5045

www.livingoceans.org

www.livingoceans.org

1. CARv2.0 Process Requirements: Audit Timing

We note the audit was conducted under Version 2.0 of the ASC Certification and Accreditation Requirements, as per the footer of the draft audit report.

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.

The audit failed to meet these CARv2.0 process requirements, as the audit data and sufficient records/evidence covering the periods of time specified in the salmon standard were not yet available. The following further details our concerns.

a) Salmon Standard requirements: Current production cycle data

With the audit taking place before harvest, the records and evidence for the applicable standard requirements are simply not available.

The audit took place before sufficient and complete records/evidence were available to assess:

- 3.4.1 *Maximum number of escapees in the most recent production cycle*
- 3.4.3 *Estimated Unexplained loss*
- 4.2.1 *Fishmeal Forage Fish Dependency Ratio*
- 4.2.2 *Fish Oil Forage Fish Dependency Ratio*
- 5.1.5 *Maximum viral disease-related morality*
- 5.1.6 *Maximum unexplained morality rate*
- 5.2.1 *On farm documentation... chemicals and therapeutants used...*
- 5.2.5 *Maximum farm level cumulative parasiticide treatment index (PTI) score*
- 5.2.7 *Allowance for prophylactic use of antimicrobial treatments*
- 5.2.8 *Allowance for use of antibiotics listed as critically important...WHO*
- 5.2.9 *Number of treatments of antibiotics*
- 5.4.4 *If an OIE-notifiable disease is confirmed...*

All of the indicators above are listed as “conforming” - despite not having available all the sufficient records and evidence required.

For example, since the audit was conducted (June 2016), sea lice numbers have exceeded the PAR threshold (3 motile lice/per fish), with MHC reporting 3.87 motile/per fish at Goat Cove on August 28th 2016. This evidence is not reflected in the draft audit report for public review, demonstrating that incorrect audit timing can result in insufficient records and evidence. Therefore, there is a high risk and the likely potential to miss evidence that may affect certification, as an incomplete production cycle equates to incomplete evidence.

b) Incomplete Production Cycle Data – 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 to the ASC salmon standard indicators and the chain of custody.

There is no mention of an intermediary stage in the draft audit report. However, we understand fish were transferred from Jackson Pass farm to Goat Cove on 16th October 2015. Records and evidence from the intermediary farm should be included in the audit report to demonstrate compliance. Also, see Indicator 3.1.7 and non-compliance to the variance below.

c) 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).

Again, by conducting the audit before the harvest, there is incomplete evidence to conclude the farm is conforming to the salmon standard indicators. The indicators listed above in 1a) are not able to be assessed until sufficient records and evidence from the completed production cycle are available.

While we acknowledge the audit report meets CAR 17.4.6 requirement of listing and providing an alternative timing, we submit the justification of *“...intending to have certified product on the market...”* compromises the integrity and rigour of the ASC and salmon standard.

For reasons detailed in 1a)-c), we submit the CAB failed to meet their obligations under 17.4 of the CAR. Similarly, MHC failed to meet their client obligations listed under CAR 17.1 (Unit of Certification).

2. Non-Conformities

Indicator 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 class

The salmon standard indicates jurisdiction water quality targets should include nutrients N, P, chlorophyll A. The Canadian Councils of Ministers of the Environment (CCME) guidelines require only nitrate concentration and therefore should be deemed inadequate. 2.2.3b references conclusions of the "Summary of information related to Water Quality conditions for Finlayson / Mathieson Channels and Milbanke Sound" (GlobalAquafood Development Corporation 2016). The analysis report is required to be from a third-party. We query the third-party impartiality of the analysis report given that GlobalAquafood (Founder: Dr. Stephen F Cross) appear to be in a conflict of interest given their strong support¹ for the BC aquaculture industry.

Therefore, compliance to 2.2.4 should be required.

Indicator 2.5.7 In the event of a lethal incident, evidence that an assessment of the risk of lethal incident(s) has been undertaken and demonstration of concrete steps taken by the farm to reduce the risk of future incidences

A juvenile humpback whale was entangled in an unidentified MHC Klemtu farm on 12th September 2016². The event should require MHC to provide evidence of a risk assessment and concrete steps to avoid future incidences.

Indicator 3.1.4 Frequent on-farm testing for sea lice, with test results made easily publicly available within seven days of testing

Indicator 3.1.4 requires public reporting of results within seven days of testing. Up until 12th September 2016, the MHC ASC Dashboard for Goat Cove³ listed sea lice test data dated 5th July 2016. Sea lice test data for 28th August 2016 was posted 13th September 2016 – 16 days after testing. In addition, the time gap between the two reports suggest either testing was not performed at the monthly rate or the testing results were not posted publicly; both required by the salmon standard for conformance.

¹ <http://www.aquacultureassociation.ca/assets/Uploads/AAC-Bulletin-112-1.pdf>

² <http://marineharvest.ca/about/news-and-media/container2016/Distressed-whale-released/>

³ http://marineharvest.ca/planet/salmon_certification/sites-under-assessment-for-asc/data-reporting-for-goat-cove/

Indicator 3.1.5 In areas with wild salmonids, evidence of data and the farm’s understanding of that data, around salmonid migration routes, migration timing and stock productivity in major waterways within 50 kilometers of the farm

The audit report refers to wild salmonid monitoring near Queen Charlotte Strait which is located vastly more than 75 km from Goat Cove. Therefore, this CAB comment appears to belong in the Bull Harbour draft audit report. Consequently, this indicator has not been adequately addressed specifically to the location of the Goat Cove farm.

Indicator 3.1.7 In areas of wild salmonids, maximum on-farm lice levels during sensitive periods for wild fish and Compliance with the Variance

The draft audit report does not cite a Variance Request, however it can be assumed based on other ASC BC salmon farm audits, that reference to Variance Request 141 will occur.

In VR 141, the CAB recommended:

“Therefore, we recommend that Monday Rocks farm to be certified with a higher sea lice trigger based on the legal definition of 3 motile lice per fish within the context of clause PI 3.1.7”

The Variance Request was approved by the ASC, with a reference to deferring to the Pacific Aquaculture Regulations (PAR):

“Canadian regulations differ from the ASC standard in that up to 3 mature female sea lice per fish are allowed before treatment is triggered. Only one chemical treatment is allowed”.

It is important to note that the quoted statement by ASC is erroneous. The PAR trigger for management action is 3 *motile* lice per fish; and BC salmon farmers have access to two therapeutants, SLICE and hydrogen peroxide, with the ability to treat as often as required to control lice within the threshold. **In any event, the conclusion from the Variance Request was to defer to the PAR requirement of 3 motile lice vs. the Salmon Standard of 0.1 adult females /fish.**

Based on the referenced approved variance, it can be expected that the both Jackson Pass and Goat Cove farms would need to demonstrate meeting the PAR requirements of 3 motile lice per fish in order to be conforming to 3.1.7 of the ASC Salmon Standard.

The below table shows Jackson Pass significantly exceeded the PAR 3 motile threshold in September (11.8 motile/per fish) and October 2015 (26.5 motile/per fish).

Table 1: Jackson Pass Farm sea lice timeline (transferred to Goat Cove 16 October 2015)

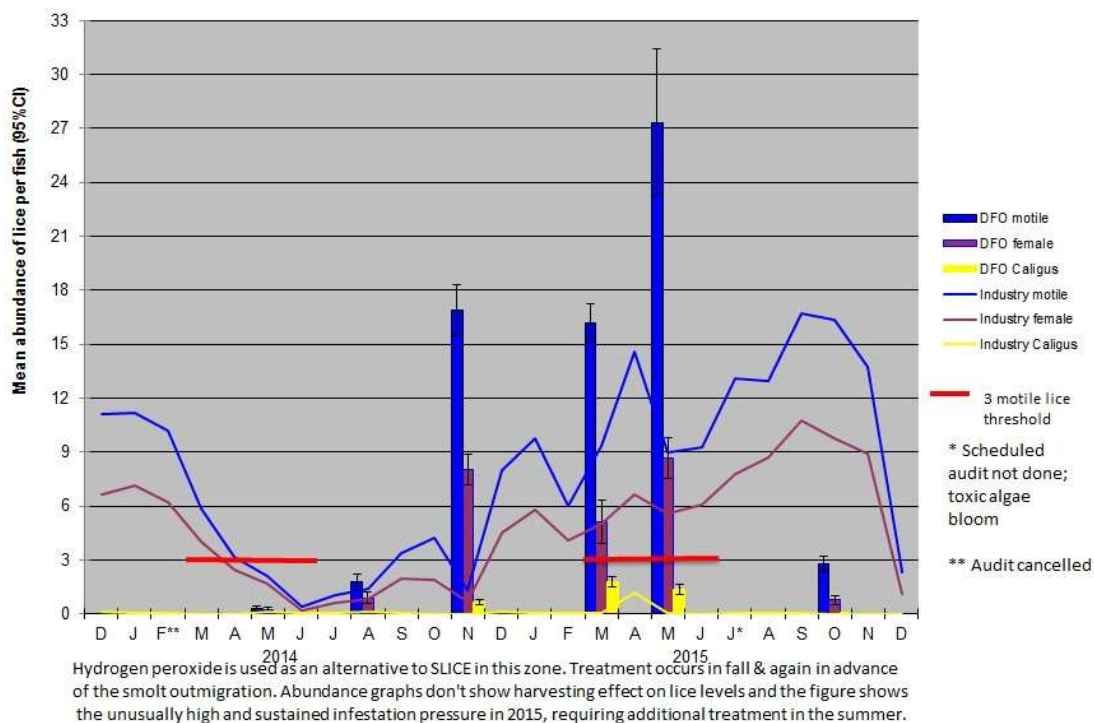
Date	Counts performed	Motile/per fish (DFO reporting: industry)	DFO Comments	Motile/per fish and comments (MHC reporting*)	Motile/per fish (Fish Health Zone 3.5 – other farms)
April 2015	2	0.3			LP 23.3 / SP 14.6
May 2015	1	0.2	2nd count precluded by management requirements of a fish health event		LP 1.8 / SP 18.4 (DFO audit 27.3) / KB 1.6
June 2015	2	0.2			LP 1.8 / SP 16.7 / KB 26.2
July 2015	2	1.4			LP 13.1 / SP end of harvesting / KB 3.5
Aug 2015	1	1.3			LP 12.9 / KB 23.5
Sep 2015	2	11.8	Management action planned	11.85 "Treatment pending"	LP 16.7 / KB 9.8
Oct 2015	2	26.5	Management action underway	28.71 "Fish moved to Goat Cove..."	LP 27.2 / KB 5.5 (DFO audit 2.8)
16 Oct 2015	Transfer to Goat Cove & Hydrogen Peroxide Treatment				

*Website reporting commenced September 2015 LP = Lime Point, SP = Sheep Passage, KB = Kid Bay

The above table also includes three other farms in Fish Health Zone 3.5 during the same period of time. Clearly MHC had significant challenges in effectively managing sea lice numbers at their Klemtu are farms, as lice loads greatly exceeded thresholds and amplifying from site to site.

The below DFO graph, titled 'Abundance of sea lice at Atlantic salmon farms in fish health zone 3.5', clearly shows the challenges with managing sea lice at farms within the area and demonstrates how the PAR threshold was exceeded in the zone or "management area" for the entire year 2015 until December.

Abundance of sea lice at Atlantic salmon farms in fish health zone 3.5
Monthly mean for the zone calculated from industry monitoring reports with mean and
variance from those counts performed by DFO. Second-year fish 2014-2015.



Graph: Fish Health Zone 3.5 sea lice abundance⁴

During 2015, MHC submitted a proposal to increase production at Goat Cove from 2815 metric tonnes to 4000—an increase of 1185 tonnes.⁵ In response, stakeholders submitted to DFO grave concerns on sea lice management:

“Our observations point to a potential problem in managing sea lice on salmon farms in the Central Coast area, which could put local out-migrating wild juvenile salmon at risk... we are concerned additional density in this area will compound the risk”

In May 2016, DFO acknowledged the sea lice management challenges and rejected the proposal:

“the application for the production increase at Marine Harvest’s Goat Cove facility has not been approved due to ongoing sea lice management challenges in the Klemtu area.”⁶

⁴ <http://www.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/docs/lice-pou/2015/Q4-T4/B-eng.html>

⁵ <https://www.watershed-watch.org/wordpress/wp-content/uploads/2016/03/March-7-2016-Letter-re-Goat-Cove-1.pdf>

⁶ <https://www.watershed-watch.org/get-involved/aquaculture/goat-cove/>

It should also be noted a DFO 2014 compliance audit report for Goat Cove found:

- *Lice protocol or lice records as per COL Appendix VI or VI-A need improvement*⁷

The audit reports notes, “total motiles reached treatment trigger of 3 on week beginning 21 May”. Most recently, since the ASC audit, Goat Cove has breached the PAR threshold with a reported 3.87 motile/per fish for sampling conducted on the 28th August 2016.

Consequently, given the evidence of MHC’s inability to effectively manage sea lice levels at their Klemtu farms, the absence of a true area based management (as per NC7) and breaches of the 3 PAR threshold at both Jackson Pass and Goat Cove farms, it can be stated **that compliance to the ASC variance of the PAR threshold has clearly not been met.**

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

The salmon standard audit manual states the following:

“Example: sea lice treatment with emamectin benzoate

*The SAD SC recommends that a typical baseline for effectiveness of emamectin benzoate is a **minimum of 90 percent reduction in abundance of lice** on the farmed fish. To determine whether treatment has produced the expected effect, farm and auditor must review pre- and post-treatment lice counts. **If the calculated percent reduction in lice is < 90% then the treatment did not produce the expected effect and a bio-assay should be performed to determine whether sea lice have developed resistance.**”*

Two applications of SLICE (emamectin benzoate) were applied at Goat Cove farm on the 1st November 2015 and 19th May 2016 (not April as stated in the audit report Sections 5.2.1a & 5.2.3a).

⁷ <http://www.pac.dfo-mpo.gc.ca/aquaculture/reporting-rapports/docs/health-sante/2014/2014-G-eng.html>

Table 2: Goat Cove Farm 2nd SLICE treatment and motile abundance timeline

Date	Motile/per fish (DFO reporting: industry)**	Motile/per fish and comments (MHC reporting*)
May 2016	2.5	2.47 "SLICE"***
5 & 7 May 2016		2.35
10 & 14 May 2016		1.8
19 May 2016		TREATMENT: #2 SLICE
21 May 2016		2.59
Week of 21 May*		Above 3
25 May		1.25
3 June 2016		2.6
11 June 2016		1.58
15 June 2016		1.63
18 June 2016		1.7
24 & 25 June 2016		1.43
29 June & 1 July 2016		1.23
5 July 2016		1.43
July 2016		2.26***
28 Aug 2016		3.87

*ASC audit report **DFO reporting currently only available until May 2016 ***Reported under MHC monthly average abundance calculation

Table 2 shows pre-SLICE treatment sea lice abundance reported by MHC was 1.8 motile/per fish on 10th and 14th May 2016. Sea lice abundance rose to 2.59 motile/per fish, as reported two days after the second SLICE application. The audit report notes during the week of 21st May 2016, sea lice reached the "treatment trigger of 3". The next MHC reported sea lice counts was 25th May at 1.25 motile/per fish and 3rd June at 2.6 motile/per fish.

Calculating 90% of 1.8 (based on 10th/14th May report) equals 1.62. Therefore, average abundance should have been reduced to 0.18 motile/per fish or below after the second SLICE treatment in order to conform to indicator 5.3.1.

As noted earlier, immediately after the SLICE treatment, sea lice abundance actually rose above 3 motile/per fish before the drop to 1.25 motile/per fish. Even with a leeway allowance for treatment to take effect, comparing the pre-treatment 1.8 (10th/14th May) to the post 1.25 (25th May) is an **efficacy of 30.5%**. Table 2 shows sea lice abundance numbers continued to climb again in June, never meeting an efficacy in excess of 90%. In fact, the latest report from MHC shows Goat Cove in breach of the PAR threshold at 3.87 motile/per fish.

This occurrence is in line with trends observed with other MHC Klemtu farm sites over the past two years which has seen sea lice levels above the allowable limit of 3, despite two SLICE treatments. Given Goat Cove's efficacy of 30.5%, there is a legitimate concern that SLICE resistance has occurred.

The audit report statement that the farm is in 'compliance' with indicator 5.3.1 with "...efficacy in excess of 90%" is incorrect. As our evidence above shows, Goat Cove's efficacy after the second SLICE treatment was well below 90% at 30.5%, therefore a bio-assay analysis is required for Goat Cove to conform to salmon standard indicator 5.3.1.

Indicators 8.15-8.23 Smolt Production; 8.32-8.33 Additional Requirements for Smolt Producers

These indicators are not appropriately assessed as it simply refers to all being "internal" in nature (8.15-8.23). Whether the smolt producer is MHC or 'internal', the ASC salmon standard indicators are still required to be completed (e.g. antibiotics used, amount, etc) to demonstrate compliance. Likewise, the audit report fails to demonstrate compliance with indicators 8.32-8.33, which are listed as "As included in the ASC submission".

Indicator 8.34 Macro-invertebrate surveys downstream

No Big Tree compliancy info provided to demonstrate conformance.