Form 3 - Public Disclosure Form

This form shall be submitted by the CAB no less than thirty (30) working days prior to any onsite audit * *. Any changes to this information shall be submitted to the ASC within five (5) days of the change and not later than 10 days before the planned audit. If later, a new announcement is submitted and another 30 days rule will apply.*

The information on this form shall be public * *and should be posted on the ASC website within three (3) days of submission.*

This form shall be written to be readable to the stakeholders and other interested parties.

This form should be translated into local languages when appropriate

PDF 1 Public Disclosure Form

PDF 1.1 Name of CAB	SAI Global
PDF 1.2 Date of Submission	18th June 2018
PDF 1.3 CAB Contact Person	
PDF 1.3.1 Name of Contact Person	Linda McDonnell
PDF 1.3.2 Position in the CAB's organisation	Programme Administrator
PDF 1.3.3 Mailing address	3rd Floor, Block 3, Quayside Business Park, Mill Street, Dundalk, Co.Louth, Ireland

* Except unannounced audits, for which this form will be sent to the ASC and AAB without being published

PDF 1.3.4 Email address	linda.mcdonnell@saiglobal.com
PDF 1.3.5 Phone number	00353(0)429320912
PDF 1.3.6 Other	

PDF 1.4 ASC Name of Client

PDF 1.4.1 Name of Company	Marine Harvest Canada
PDF 1.4.2 Name of Contact Person	Katherine Dolmage
PDF 1.4.3 Position in the client's organisation	Certification Manager
PDF 1.4.4 Mailing address	124-1334 Island Hwy Campbell River BC, Canada V9W 8C9
PDF 1.4.5 Email address	katherine.dolmage@marineharvest.com
PFD 1.4.6 Phone number	250-850-3276

* Except unannounced audits, for which this form will be sent to the ASC and AAB without being published

PDF 1.4.7 Other	

PDF 1.5 Unit of Certification

PDF 1.5.1 Single Site	x
PDF 1.5.2 Multi-site	
PDF 1.5.3 Group certification	

PDF 1.6 Sites to be audited

Site Name	GPS Coordinates	Other Location Information	Planned Site Audit(s)	Date of planned audit
Midsummer Island	50 39.508 126 39.938		01st - 03rd Aug 18	01st - 03rd Aug 18

PDF 1.7 Species and Standards

Standard	Species (scientific name) produced	Included in scope (Yes/No)	ASC endorsed standard to be used	Version Number
ASC Salmon standard	Salmo Salar	Yes	ASC Salmon standard	V1.1- April 2017

Name/organisation	Relevance for this audit	How to involve this stakeholder (in-person/phone interview/input submission)	When stakeholder may be contacted	How this stakeholder will be contacted

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Port McNeill Council	Government	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Regional District of Mt Waddington	Government	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Da'naxda'xw First Nation	First nations	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Kwicksutaineuk-ah-kwaw-ah-mish First Nation	First nations	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Mamalilikulla-Qwe'Qwa'Sot'Em First Nation	First nations	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Namgis First Nation	First nations	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Tlowitsis Nation	First nations	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Tsawataineuk (Dzawada'enuxw	First nations	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Musgamagw Tsawataineuk Triban Council	First nations	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Ducks Unlimited	First nations	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email

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Pacific Salmon Foundation	Conservation	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
David Suzuki Foundation	Conservation	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Living Oceans Society	Conservation	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Friends of Clayoquot Sound	Conservation	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Coast Forestry Products Association	Conservation	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Canadian Pacific Sustainable Fisheries Society	Forestry	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Vancouver Island North Tourism	Tourism			
James Walkus Fishing Company	Contractors/Suppliers	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Flurers Smokery	Contractors/Suppliers	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Skretting	Contractors/Suppliers	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Noboco	Contractors/Suppliers	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email

* Except unannounced audits, for which this form will be sent to the ASC and AAB without being published

BC Centre for Aquatic Health Sciences	Contractors/Suppliers	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
BC Salmon Farmers Association	Research	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Canadian Aquaculture Industry Association	Industry	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
United Steelworkers	Industry	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email

Contract Signed:	Jun-18
Start of audit:	01/08/2018
Onsite Audit(s):	01st -03rd Aug 2018
Determination/Decision:	Nov-18

PDF 1.9 Proposed T

Column1	Name	ASC Registration Referen
Lead Auditor	Fergal Guilgoyle	
Witness auditor	Javier Unibazo	

PDF 1.10 Audit Team

Social Auditor	Simon Goldby	

* Except unannounced audits, for which this form will be sent to the ASC and AAB without being published

ASC Audit Report - Opening

General Requirements

C1 Audit reports shall be written in English and in the most common language spoken in the areas where the operation is located.

C2 Audit reports may contain confidential annexes for commercially sensitive information.

C2.1 The CAB shall agree the content of any commercially sensitive information with the applicant, which can still be accessible by the ASC and the appointed accreditation body upon request as stipulated in the certification contract.

C2.2 The public report shall contain a clear overview of the items which are in the confidential annexes.

C2.3 Except for the annexes that contain commercially sensitive information all audit reports will be public.

C3 The CAB is solely responsible for the content of all reports, including the content of any confidential annexes.

C4 Reporting Deadlines for certification and re-certification audit reports (in working day)

C4.1 Within thirty (30) days of the completing of the audit the CAB shall submit a draft report in English and the national or most common language spoken in the area where the operation is located.

C4.2 Within five (5) days the ASC should post the draft report to the ASC website.

C4.3 The CAB shall allow stakeholders and interested parties to comment on the report for fifteen (15) days.

C4.4 Within twenty (20) days of the close of comments, the CAB shall submit the final report to the ASC in English and the national or most common language spoken in the area where the operation is located.

C4.5 Within five (5) days the ASC should post the final report to the ASC website.

C4.6 Audit reports shall contain accurate and reproducible results.

C5 Reporting Deadlines* for surveillance audit reports

C5.1 Within ninety (90) days of the completing of the audit the CAB shall submit a final report in English and the national or most common language spoken in the area where the operation is located.

C5.2 Within five (5) days the ASC should post the final report to the ASC website.

C5.3 Audit reports shall contain accurate and reproducible results.

1 Title Page

1.1 Name of Applicant	Marine Harvest Canada

1.2 Report Title [e.g. Public Draft Certification Report/ Final certification report/Surveillance report]	Final Certification Report
1.3 CAB name	SAI Global Ltd
1.4 Name of Lead Auditor	Fergal Guilfoyle
1.5 Names and positions of report authors and reviewers	Lead Auditor - Fergal Guilfoyle Social Auditor - Simon Goldby Aquaculture Scheme Manager Reviewer - Javier Unibazo Technical Reviewer - Luis Martinez
1.6 Client's Contact person: Name and Title	Katherine Dolmage Certification Manager
1.7 Date	01-Nov-18

2 Table of Contents

3 Glossary

Terms and abbreviations that are specific to this audit report and that are not otherwise defined in the ASC glossary	MHC - Marine Harvest Canada BC - British Columbia

4 Summary

A concise summary of the report and findings. The summary shall be written to be readable to the stakeholders and other interested parties.

4.1	A brief description of the scope of the audit (*including activities of the UoC being audited*)	Farm site at Midsummer Island, Broughton, Vancouver Island. Producing Atlantic Salmon in 10 cages on a sheltered site with accommodation on a nearby island. Site is owned an operated by Marine Harvest Canada.
4.2	A brief description of the operations of the unit of certification	The site takes in fish from an intermediate site at 800-1000g. Site grows the stock for just over one year before harvest.
4.3	Type of unit of certification (*select only one type of unit of certification in the list)*	Single farm, owned by client.
4.4	Type of audit (*select all the types of audit that apply in the list)*	Initial audit

4.4.1 Number of sites included in the unit of certification

	Owned by client	Subcontracted by client
Initial audit - 08/2018	1	0
Surveillance audit 1 - mm/ yyyy		
Surveillance audit 2 - mm/ yyyy		
Recertification audit - mm/ yyyy		

4.5	A summary of the major findings	One major finding against 6.5.3. Lone worker risk assessment found to be inadequate. 5 minor findings were issued.

4.6	The Audit determination	Certification of the site is approved.

5 CAB Contact Information

5.1	CAB Name	SAI Global
5.2	CAB Mailing Address	3rd Floor Block 3 Quayside Business Park Mill Street
5.3	Email Address	linda.mcdonnell@saiglobal.com
5.4	Other Contact Information	

6 Background on the Applicant

6.1	Information on the Public Disclosure Form (Form 3) except 1.2-1.3. All information updated as necessary to reflect the audit as conducted.	Marine Harvest Canada is one of Canadas largest salmon farming companies. MHC is a subsidiary of Marine Harvest Norway, a publically quoted company.
6.2	A description of the unit of certification (*for initial audit)* / changes, if any (*for surveillance and recertification audits)*	The single production site at Midsummer Island, including operation facilities and accommodation on nearby island.
6.3	Other certifications currently held by the unit of certification	BAP

6.4	Other certification(s) obtained by the UoC before this audit	
6.5	Estimated annual production volumes of the unit of certification of the current year	3,075 tonnes
6.6	Actual annual production volumes of the unit of certification of the previous year *(mandatory for surveillance and recertification*	
6.7	Production system(s) employed within the unit of certification *(select one or more in the list)*	Floating pens, square cages.
6.8	Number of employees working at the unit of certification (*see notes in comment to this cell*)	6
6.9	Size, and/or number of ponds, pens (if multi site, per site)	10 square net pens, 30m x 30m each.

7 Scope

7.1	The Standard(s) against which the audit was conducted, including version number	ASC Salmon Standard V1.1
7.2	The species produced at the applicant farm (*in English and Latin names)*	Salmon (Salmo Salar)

7.3	A description of the scope of the audit including a description of whether the unit of certification covers all production or harvest areas (i.e. ponds) managed by the operation or located at the included sites, or whether only a sub-set of these are included in the unit of certification. If only a sub-set of production or harvest areas are included in the unit of certification these shall be clearly named.	The scope of the audit is all 10 net pens on the production site, all ancillary floating structures (feed barges, mort floats etc.) and the operation facilities and accommodation on the nearby island. Harvesting was not witnessed at the audit, it will be scheduled at a subsequent audit.
7.4	The names and addresses of any storage, processing, or distribution sites included in the operation (including subcontracted operations) that will potentially be handling certified products, up until the point where product enters further chain	Product enters CoC at the processing facility. No storage or distribution sites included in scope of audit.
7.5	Description of the receiving water body(ies).	Marine waters in Broughton Archipelago, east of Vancouver Island, BC, Canada.

8 Audit Plan

8.1	The names of the auditors and the dates when each of the following were undertaken or completed: conducting the audit, writing of the report, reviewing the report, and taking the certification decision.	Fergal Guilfoyle - Lead Auditor Simon Goldby - Social Auditor Date of desk review 26-27th July 2018. Date of onsite audit - 1st August 2018. Date of office audit 3rd August 2018. Date of report writing 6th - 12th August 2018. Technical Review 24/8/18, Certifciation Decision 7/11/18
8.2	Previous Audits (if applicable):	

NC reference number	Standard clause reference	Closing deadline - status - closing date of each NC

8.2.1	Initial audit - 08/2018		
	Surveillance audit 1 - mm/ yyyy		
	Surveillance audit 2 - mm/ yyyy		
	Recertification audit - mm/ yyyy		
	Unannounced audit - mm/ yyyy		
	NC close-out audit - mm/ yyyyy		
	Scope extension audit mm/ yyyy		

8.3 Audit plan as implemented including:

		Dates	Locations
8.3.1	Desk Reviews	26-27th August 2018	Ireland
8.3.2	Onsite audits	1st Aug 2018	Midsummer Island
8.3.3	Stakeholder interviews and Community meetings	NA	
8.3.4	Draft report sent to client	03-Sep-18	
8.3.5	Draft report sent to ASC	17-Sep-18	
8.3.6	Final report sent to Client and ASC	12-Nov-18	

8.4 Names and affiliations of individuals consulted or otherwise involved in the audit including: representatives of the client, employees, contractors, stakeholders and any observers that participated in the audit.

8.5 Stakeholder submissions, including written or other documented information and CAB written responses to each submission at different stages of the certification process (audit notification, during on-site audit, public comment period)

Name of stakeholder (if permission given to make name public)	Relevance to be contacted	Date of contact	CAB responded Yes/No	Brief summary of points Raised	Use of comment by CAB	Response sent to stakeholder
Living Oceans Society	Conservation	09-Oct-18	yes	See attached submission from stakeholder	See attached response from CAB	Letter issued to stakeholder

8.6 E5.1.i List of sites exempted from the scope of an initial audit and how they meet conditions in E5.1.i

8.6.1 E5.1.ii Justification for auditing site(s) meeting conditions under E5.1.i

8.7	E5.1.1.i List of sites removed after the initial audit	
8.7.1	E5.2.2 Reason for the removal of sites from the certificate.	
8.8	E5.4 Map of sites included in the unit of certification has been attached	
8.9	E5.5 Site(s) in fallowing period included in the audit (*only for surveillance and re-certification audits)*	

Client Internal Management System

	Pre-requisite, without which an external audit is not allowed to take pl
	If not met, a major NC is raised by CAB

Internal procedures

	Brief description	Status (*met/not met*)
17.1.3.2.b).iii.A Document control procedure		
17.1.3.2.b).iii.B Record keeping and retention procedure		
17.1.3.2.b).iii.C Procedure for managing changes to ASC requirements		
17.1.3.2.b).iii.D Procedure for conducting annual management reviews		
17.1.3.2.b).iii.E Procedure for managing complaints submitted to Management by stakeholders and staff members as per specified in the applicable (farm) standard		
17.1.3.2.b).iii.F Procedure for the evaluation and implementation of corrective and preventive actions		
17.1.3.2.b).iii.G Procedure for conducting root cause analyses for nonconformities, and for addressing identified root causes		
17.1.3.2.b).iii.H Procedures to ensure compliance with legal requirements		
17.1.3.2.b).iii.I Procedures for conducting an annual internal audit, covering ASC requirements		
17.1.3.2.b).iii.J Procedures for planning for and evaluation of the results of internal audits		
17.1.3.2.b).iii.K Procedures for the scheduled reporting of performance of management systems and sites		

17.1.3.2.b).iii.L Procedures for identifying and segregating all products within each site, among sites within the unit of certification, and products that are not included in the unit of certification		
17.1.3.2.b).iii.L.1 Description of how certified products are identified and segregated to prevent mixing with non-certified before the start of the MSC/ASC certified chain of custody		
17.1.3.2.b).iii.L.2 Description of the conditions under which products must be segregated, and measures to prevent mixing directly or indirectly		
17.1.3.2.b).iii.L.3 Procedure for traceback of products from the start of the MSC/ ASC certified chain of custody back to the production unit (*cage/net/pen/ pond/tank/raceway*)		
17.1.3.2.b).iii.M Procedures for traceability of inputs used for each site as specified in the standard being audited to		

Management review

17.1.3.2.b).iv Yearly management review is carried out (*date of the last review, by whom, outcome, etc* .)		

Internal audit

17.1.3.2.b). v.A A full internal audit has been completed prior to this onsite audit (*dates, scope, outcome, etc.*)		
17.1.3.2.b). v.A.1 The internal audit included all relevant ASC requirements at all sites and the central office		

17.1.3.2.b). v.A.1.1+ 2 Social requirements excluded from internal audits and justification		*CAB's acceptance*
17.1.3.2.b).v.A.3 Internal auditors are competent as required in Annex B		
17.1.3.2.b).vii.B Implementation of corrective and preventive actions		

Traceability

17.1.3.2.b).iii.L.3 Test traceback from sale(s) by the client's central office back to production unit(s) of site(s)		

Subcontracting

17.1.3.2.b).vi.B.1 All of the operations of subcontracted farms are subject to the same procedures as the rest of the unit of certification		
17.1.3.2.b).vi.B.2 The product produced by the subcontractors is owned by the certificate holder		
17.1.3.2.b).vi.B.3 The central office has the same oversight and right to control over the operations of subcontractors as it has for its own operations		
17.1.3.2.b).vi.B.4 All of the operations of the subcontracted farms are included in the multi-site certificate.		
17.1.3.2.b).vi.B.5 The contract is transparent, mutually accepted by both parties and include the above provisions (17.1.3.2.b.vi.B.1-4)		
17.1.3.2.b).ix Compliance to all relevant ASC requirements of all sites within the unit of certification is monitored		
17.1.3.2.b).x Notification to the CAB of any non-conformities against applicable local regulations that are relevant to the ASC scope of certification within three (3) days of detection		

Risk evaluation

Table E1 - ASC sample size calculator for sites and staff interviews in multi-site certification	
Is this the initial audit of the client or operation?	No
How many sites does the client or operation have?	
How many sites has the clinte or operation ADDED since the last audit?	
How many employees does the client or operation have?	
Threat	**Risk Level**
1. Management system weakness	
2. Weakness of client's internal site checklist	
3. Internal audit weakness	
4. Staff training weakness	
5. Multiple management systems	
6. Records management weakness	
7. Subcontractors including subcontracted farms and subcontracted services (related to the operations of the unit of certification	
8. Use of resources	
9. Record of NCs raised by the ASC CAB and response	
10. Complaints resolution weakness	
11. Traceability weakness	
12. Country risk assessment score	

E2. The CAB shall add the list of additional threats (Annex E, E4.2.1.ii) to this table and provide its risk category and an explanation to support it to this table.

Additional risks identified by the CAB (E7.1.1.i, 7.2.2, 8.1.1.i)		
Threat	**Thresholds for determining level of risk**	**Risk Level**
	Low: Medium: high:	

Sample size (Sites)	
Sample size (Employees)	
E2.1.vi Sample size for records	
E9.2 Explanation of sample selection	

AUDIT MANUAL - ASC Salmon Standard v1.1

Scope: species belonging to the genus *Salmo* and *Oncorhynchus*

INSTRUCTION TO FARMS/AUDITORS:

This audit manual was developed to accompany version 1.1 of the ASC Salmon Standard.

References in this Audit Manual to Appendices can be found in the ASC Salmon Standard document.

PRINCIPLE 1: COMPLY WITH ALL APPLICABLE NATIONAL LAWS AND LOCAL REGULATIONS						
Criterion 1.1 Compliance with all applicable local and national legal requirements and regulations						
		Compliance Criteria (Required Client Actions):	**Audit evidence** **1. Write down all audit evidence. Audit evidence (including evidence of conformity and nonconformity) should be recorded so that the audit can be repeated by a different audit team.** **2. Replace explanatory text.** **3. If you see any Compliance Criteria which is not listed below, please describe also in the cells below.** **A. Review compliance with applicable land and water use laws.**	**Evaluation** (Per indicator, select one category in the drop-down menu)	**Description of NC** Provide an explanation of the reason(s) for the classification of any NCs or non-applicability	**Value/ Metric** Provide values - if applicable for the respective Indicator
1.1.1	**Indicator:** Presence of documents demonstrating compliance with local and national regulations and requirements on land and water use **Requirement:** Yes **Applicability:** All	a. Maintain digital or hard copies of applicable land and water use laws. b. Maintain original (or legalised copies of) lease agreements, land titles, or concession permit on file as applicable. c. Keep records of inspections for compliance with national and local laws and regulations (if such inspections are legally required in the country of operation). d. Obtain permits and maps showing that the farm does not conflict with national preservation areas.	Marine Harvest Canada hold an aquaculture license and additional permits for the operation of a fish farm on the site at Midsummers Island. Department of Fisheries and Oceans Canada (DFO) issued an aquaculture license on July 1st 2016 which expires on June 30th 2022. (AQFF 115233 2016/2022). This sets a maximum combined peak biomass of 2500 tonnes of Atlantic Salmon. Also required is a License of Occupation, for the foreshore, from the Province of British Columbia (File Number 1404380) issued on June 20th 2013. The license of occupation terminates on the 5th anniversary of the issue date, June 20th 2018. Subsequent to this termination the site can operate on a month to month basis while the DFO license is valid, until June 30th 2022. Also required is a navigation waters permit (2000-501007-001 T2203).	Compliant		
1.1.2	**Indicator:** Presence of documents demonstrating compliance with all tax laws **Requirement:** Yes **Applicability:** All	a. Maintain records of tax payments to appropriate authorities (e.g. land use tax, water use tax, revenue tax). Note that CABs will not disclose confidential tax information unless client is required to or chooses to make it public. b. Maintain copies of tax laws for jurisdiction(s) where company operates. c. Register with national or local authorities as an “aquaculture activity".	Marine Harvest Canada is a registered business in British Columbia (Company Business License 101204, expires 27th Feb 2019). Tax receipts from the government Agents Revenue Management System (Service BC) indicate the payment of taxes to the local government (e.g. June 29 2018 Folio number 785027508034). Marine Harvest Canada is a subsidiary of Marine Harvest ASA a group based in Norway. The annual report and stock market quarterly updates are available on the parent company website.	Compliant		
1.1.3	**Indicator:** Presence of documents demonstrating compliance with all relevant national and local labour laws and regulations **Requirement:** Yes **Applicability:** All	a. Maintain copies of national labour codes and laws applicable to farm (scope is restricted to the farm sites within the unit certification.) b. Keep records of farm inspections for compliance with national labour laws and codes (only if such inspections are legally required in the country of operation).	Marine Harvest Canada operates under the British Columbia provisional law and federal Canadian law for this site. No reported breaches of any labour or corporate law were found during audit. All labour laws are adhered to, evidenced during interviews with staff.	Compliant		
1.1.4	**Indicator:** Presence of documents demonstrating compliance with regulations and permits concerning water quality impacts **Requirement:** Yes **Applicability:** All	a. Obtain permits for water quality impacts where applicable. b. Compile list of and comply with all discharge laws or regulations. c. Maintain records of monitoring and compliance with discharge laws and regulations as required.	The DFO aquaculture license contains conditions which must be adhered to. Site is compliant with all conditions. No conditions relate to water quality and no discharge license is required, over and above permits detailed in 1.1. Freshwater sites, such as the hatchery detailed in section 8 of this audit report, require permits to discharge into fresh waterbodies and these sites are compliant (e.g. Darymple discharge license PE07802).	Compliant		
PRINCIPLE 2: CONSERVE NATURAL HABITAT, LOCAL BIODIVERSITY AND ECOSYSTEM FUNCTION						
Criterion 2.1 Benthic biodiversity and benthic effects [1]						

Footnote	[1] Closed production systems that can demonstrate that they collect and responsibly dispose of > 75% of solid nutrients from the production system are exempt from standards under Criterion 2.1. See Appendix VI for requirements on transparency for 2.1.1, 2.1.2 and 2.1.3.					
Instruction to Clients and CABs on Criterion 2.1 - Modification of the Benthic Sampling Methodology For farms located in a jurisdiction where specific benthic sampling locations are required under law, clients may request to modify the benthic sampling methodology prescribed in Appendix I-1 to allow for sampling at different locations and/or changes in the total number of samples. Where modifications are sought, farms shall provide a full justification to the CAB for review. Requests for modification shall be supported by mapping of differences in sampling locations. In any event, the sampling locations must at a minimum include samples from the cage edge and samples taken from inside and outside of a defined AZE. CABs shall evaluate client requests to modify benthic methodology based on whether there is a risk that such changes would jeopardize the intent and rigor of the ASC Salmon Standard. If the CAB determines that proposed modifications are low risk, the CAB shall ensure that details of the modified benthic sampling methodology are fully described and justified in the audit report.						
2.1.1	**Indicator:** Redox potential or [2] sulphide levels in sediment outside of the Allowable Zone of Effect (AZE) [3], following the sampling methodology outlined in Appendix I-1 **Requirement:** Redox potential > 0 mV or Sulphide ≤ 1,500 µMol/L **Applicability:** All farms except as noted in [1]	Note: Under Indicator 2.1.1, farms can choose to measure redox potential (Option #1) or sulphide concentration (Option #2). Farms do not have to demonstrate that they meet both threshold values. a. Prepare a map of the farm showing boundary of AZE (30 m) and GPS locations of all sediment collections stations. If the farm uses a site-specific AZE, provide justification [3] to the CAB. b. If benthos throughout the full AZE is hard bottom, provide evidence to the CAB and request an exemption from 2.1.1c-f, 2.1.2 and 2.1.3. c. Inform the CAB whether the farm chose option #1 or option #2 to demonstrate compliance with the requirements of the Standard. d. Collect sediment samples in accordance with the methodology in Appendix I-1 (i.e. at the time of peak cage biomass and at all required stations). e. For option #1, measure and record redox potential (mV) in sediment samples using an appropriate, nationally or internationally recognized testing method. f. For option #2, measure and record sulphide concentration (µM) using an appropriate, nationally or internationally recognized testing method. g. Submit test results to ASC as per Appendix VI at least once for each production cycle. If site has hard bottom and cannot complete tests, report this to ASC.	A modelling exercise was conducted and a site specific AZE has been determined using Depomod. VR 25 (approved) applies to MHC sites, including Midsummer Island, to allow for use of modified benthic sampling regime. Samples were taken, at peak biomass, during the audit (2nd Aug 2018). Client chooses to use option #2 sulphide. All stations sampled were in compliance with the sulphide limit of ≤ 1,500 µMol/L (e.g. outside AZE A average of 3 replicates = 420, outside AZE B average of 3 replicates = 190 and outside AZE C average of 3 replicates = 68.1).	Compliant		420
Footnote	[2] Farm sites can choose whether to use redox or sulphide. Farms do not have to demonstrate that they meet both.					
Footnote	[3] Allowable Zone of Effect (AZE) is defined under this standard as 30 meters. For farm sites where a site-specific AZE has been defined using a robust and credible modelling system such as the SEPA AUTODEPOMOD and verified through monitoring, the site-specific AZE shall be used.					
2.1.2	**Indicator:** Faunal index score indicating good [4] to high ecological quality in sediment outside the AZE, following the sampling methodology outlined in Appendix I-1 **Requirement:** AZTI Marine Biotic Index (AMBI [5]) score ≤ 3.3, or Shannon-Wiener Index score > 3, or Benthic Quality Index (BQI) score ≥ 15, or Infaunal Trophic Index (ITI) score ≥ 25	Notes: - Under Indicator 2.1.2, farms can choose one of four measurements to show compliance with the faunal index Requirement: AMBI (Option #1); Shannon-Wiener Index (Option #2); BQI (Option #3); or ITI (Option #4). Farms do not have to demonstrate that they meet all four threshold values. - If a farm is exempt due to hard bottom benthos (see 2.1.1b), then 2.1.2 does not apply and this shall be noted in the audit report. a. Prepare a map showing the AZE (30 m or site specific) and sediment collections stations (see 2.1.1). b. Inform the CAB whether the farm chose option #1, #2, #3, or #4 to demonstrate compliance with the requirement. c. Collect sediment samples in accordance with Appendix I-1 (see 2.1.1). d. For option #1, measure, calculate and record AZTI Marine Biotic Index [5] score of sediment samples using the required method. e. For option #2, measure, calculate and record Shannon-Wiener Index score of sediment samples using the required method.	Benthic samples were taken at peak biomass 2nd August 2018. Faunal results were not available but were expected to be analysed and reported within 3 months. Estimated values for Shannon Weiner Index Scores, based on sulphide readings as per 2.1.1, using Hargrave et al 2008, ranged from 3.45 to 3.6, estimated to be in compliance. Also,	Minor		

	Applicability: All farms except as noted in [1]	f. For option #3, measure, calculate and record Benthic Quality Index (BQI) score of sediment samples using the required method.	estimated values for ITI ranged from 62 - 75, estimated to be in compliance, based on sulphide results from 2.1.1.			
		g. For option #4, measure, calculate and record Infaunal Trophic Index (ITI) score of sediment samples using the required method.				
		h. Retain documentary evidence to show how scores were obtained. If samples were analysed and index calculated by an independent laboratory, obtain copies of results.				
		i. Submit faunal index scores to ASC (Appendix VI) at least once for each production cycle.			Benthic results not available at time of audit.	
Footnote	[4] "Good" Ecological Quality Classification: The level of diversity and abundance of invertebrate taxa is slightly outside the range associated with the type-specific conditions. Most of the sensitive taxa of the type-specific communities are present.					
Footnote	[5] http://www.azti.es/en/ambi-azti-marine-biotic-index.html.					
2.1.3	**Indicator:** Number of macrofaunal taxa in the sediment within the AZE, following the sampling methodology outlined in Appendix I-1 **Requirement:** ≥ 2 highly abundant [6] taxa that are not pollution indicator species **Applicability:** All farms except as noted in [1]	a. Document appropriate sediment sample collection as for 2.1.1a and 2.1.1c, or exemption as per 2.1.1b.	Benthic samples were taken at peak biomass 2nd August 2018. Faunal results were not available but were expected to be analysed and reported within 3 months. It is estimated that the analysis will satisfy this criteria due to the low sulphide levels, long fallow period, relatively low biomass and good current regime at this site. Results will be forwarded once available.	Minor	Benthic results not available at time of audit.	
		b. For sediment samples taken within the AZE, determine abundance and taxonomic composition of macrofauna using an appropriate testing method.				
		c. Identify all highly abundant taxa [6] and specify which ones (if any) are pollution indicator species.				
		d. Retain documentary evidence to show how taxa were identified and how counts were obtained. If samples were analysed by an independent lab, obtain copies of results.				
		e. Submit counts of macrofaunal taxa to ASC (Appendix VI) at least once for each production cycle.				
Footnote	[6] Highly abundant: Greater than 100 organisms per square meter (or equally high to reference site(s) if natural abundance is lower than this level).					
2.1.4	**Indicator:** Definition of a site-specific AZE based on a robust and credible [7] modelling system **Requirement:** Yes **Applicability:** All farms except as noted in [1]	a. Undertake an analysis to determine the site-specific AZE and depositional pattern.	MHC have completed a modelling exercise using Depomod for this site. A site specific AZE has been determined. Monitoring results to date, provided to DFO annually, have indicated the suitability of this model.	Compliant		
		b. Maintain records to show how the analysis (in 2.1.4a) is robust and credible based on modelling using a multi-parameter approach [7].				
		c. Maintain records to show that modelling results for the site-specific AZE have been verified with > 6 months of monitoring data.				
Footnote	[7] Robust and credible: The SEPA AUTODEPOMOD modelling system is considered to be an example of a credible and robust system. The model must include a multi-parameter approach. Monitoring must be used to ground-truth the AZE proposed through the model.					
Criterion 2.2 Water quality in and near the site of operation [8]						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
Footnote	[8] See Appendix VI for transparency requirements for 2.2.1, 2.2.2, 2.2.3 and 2.2.5.					

2.2.1	**Indicator**: Weekly average percent saturation [9] of dissolved oxygen (DO) [10] on farm, calculated following methodology in Appendix I-4 **Requirement:** ≥ 70% [11] **Applicability:** All farms except as noted in [11]	**Instruction to Clients for Indicator 2.2.1 - Monitoring Average Weekly Percent Saturation of Dissolved Oxygen** Appendix I-4 presents the required methodology that farms must follow for sampling the average weekly percent saturation of dissolved oxygen (DO). Key points of the method are as follows: - measurements may be taken with a handheld oxygen meter or equivalent chemical method; - equipment is calibrated according to manufacturer's recommendations; - measurements are taken at least twice daily: once in the morning (6 -9 am) and once in the afternoon (3-6 pm) as appropriate for the location and season; - salinity and temperature must also be measured when DO is sampled; - sampling should be done at 5 meters depth in water conditions that would be experienced by fish (e.g. at the downstream edge of a net pen array): - each week, all DO measurements are used in the calculation of a weekly average percent saturation. If monitoring deviates from prescribed sampling methodology, the farm shall provide the auditor with a written justification (e.g. when samples are missed due to bad weather). In limited and well-justified situations, farms may request that the CAB approve reduction of DO monitoring frequency to one sample per day. Exception [see footnote 12] If a farm does not meet the minimum 70 percent weekly average saturation requirement, the farm must demonstrate the consistency of percent saturation with a reference site. The reference site shall be at least 500 meters from the edge of the net pen array, in a location that is understood to follow similar patterns in upwelling to the farm site and is not influenced by nutrient inputs from anthropogenic causes including aquaculture, agricultural runoff or nutrient releases from coastal communities. For any such exceptions, the auditor shall fully document in the audit report how the farm has demonstrated consistency with the reference site. Note 1: *Percent saturation* is the amount of oxygen dissolved in the water sample compared to the maximum amount that could be present at the same temperature and salinity.			
		a. Monitor and record on-farm percent saturation of DO at a minimum of twice daily using a calibrated oxygen meter or equivalent method. For first audits, farm records must cover ≥ 6 months.	Dissolved oxygen is recorded at the site twice daily, using a calibrated handheld oxygen meter. Readings are checked against realtime probe in cages. Weekly average DO results were submitted to ASC. Results for past 6 months range from 72 - 96%. Seasonally there tends to be a period from Sept to Dec when DO levels drop in the region, during this time the site has a procedure to record DO at a reference site (50° 40.149'N 126° 40.433'W) on any occasions when D0 at the site falls below 70%.	Compliant		70-98%
		b. Provide a written justification for any missed samples or deviations in sampling time.				
		c. Calculate weekly average percent saturation based on data.				
		d. If any weekly average DO values are < 70%, or approaching that level, monitor and record DO at a reference site and compare to on-farm levels (see Instructions).				
		e. Arrange for auditor to witness DO monitoring and calibration while on site.				
		f. Submit results from monitoring of average weekly DO as per Appendix VI to ASC at least once per year.				
Footnote	[9] Percent saturation: Percent saturation is the amount of oxygen dissolved in the water sample compared to the maximum amount that could be present at the same temperature and salinity.					
Footnote	[10] Averaged weekly from two daily measurements (proposed at 6 am and 3 pm).					
Footnote	[11] An exception to this standard shall be made for farms that can demonstrate consistency with a reference site in the same water body.					
2.2.2	**Indicator**: Maximum percentage of weekly samples from 2.2.1 that fall under 2 mg/L DO **Requirement:** 5% **Applicability:** All	a. Calculate the percentage of on-farm samples taken for 2.2.1a that fall under 2 mg/L DO.	Oxygen levels have not dropped below 2mg/l. MHC have a procedure to manage oxygen levels which details actions to be taken in case of low oxygen levels. Records have been submitted to ASC annually.	Compliant		
		b. Submit results from 2.2.2a as per Appendix VI to ASC at least once per year.				
2.2.3	**Indicator**: For jurisdictions that have national or regional coastal water quality targets [12], demonstration through third-party analysis that the farm is in an area recently [13] classified as having “good” or “very good” water quality [14] **Requirement:** Yes [15]	a. Inform the CAB whether relevant targets and classification systems are applicable in the jurisdiction. If applicable, proceed to "2.2.3.b". If not applicable, take action as required under 2.2.4	The Canadian Government Ministry of Environment (CCME) and the provincial BC government have set water quality guidelines for the protection of aquatic life (Canadian Environmental Quality Guidelines, BC WQG). British Columbia has established guideline limits for Nitrate at 3.7mg/l and Ammonia, limit depends on salinity and temperature (Water Quality Guidelines for Nitrogen, Nordin et al, 2009). An independent third party (S. Cross - Global Aquafood Development Corp) has analysed nitrate samples and classified the result (0.23mg/l) within the guidelines. Therefore this classification is considered adequate for the protection of aquatic life. The farm takes regular water quality samples	Compliant		
		b. Compile a summary of relevant national or regional water quality targets and classifications, identifying the third-party responsible for the analysis and classification.				

	Applicability: All farms except as noted in [15]	c. Identify the most recent classification of water quality for the area in which the farm operates.	adequate for the protection of aquatic life. The farm takes regular water quality samples to ensure conformance with this criteria.			<3.7
Footnote	[12] Related to nutrients (e.g., N, P, chlorophyll A).					
Footnote	[13] Within the two years prior to the audit.					
Footnote	[14] Classifications of “good” and “very good” are used in the EU Water Framework Directive. Equivalent classification from other water quality monitoring systems in other jurisdictions are acceptable.					
Footnote	[15] Closed production systems that can demonstrate the collection and responsible disposal of > 75% of solid nutrients as well as > 50% of dissolved nutrients (through biofiltration, settling and/or other technologies) are exempt from standards 2.2.3 and 2.2.4.					
2.2.4	**Indicator**: For jurisdictions without national or regional coastal water quality targets, evidence of monitoring of nitrogen and phosphorous [16] levels on farm and at a reference site, following methodology in Appendix I-5 **Requirement:** Consistency with reference site **Applicability:** All farms except as noted in [16]	a. Develop, implement, and document a weekly monitoring plan for N, NH4, NO3, total P, and ortho-P in compliance with Appendix I-5. For first audits, farm records must cover ≥ 6 months. b. Calibrate all equipment according to the manufacturer's recommendations. c. Submit data on N and P to ASC as per Appendix VI at least once per year.	Canada / BC has a water quality classification system. Therefore this criteria is not applicable.	N/A		
Footnote	[16] Farms shall monitor total N, NH4, NO3, total P and Ortho-P in the water column. Results shall be submitted to the ASC database. Methods such as a Hach kit are acceptable.					
2.2.5	**Indicator**: Demonstration of calculation of biochemical oxygen demand (BOD [17]) of the farm on a production cycle basis **Requirement:** Yes **Applicability:** All	**Instruction to Clients for Indicator 2.2.5 - Calculating Biochemical Oxygen Demand** Biochemical Oxygen Demand (BOD) can be calculated based on cumulative inputs of N and C to the environment over the course of the production cycle. BOD = ((total N in feed – total N in fish)*4.57) + ((total C in feed – total C in fish)*2.67). • A farm may deduct N or C that is captured, filtered or absorbed through approaches such as IMTA or through direct collection of nutrient wasted. In this equation, “fish” refers to harvested fish. In this case, farm must submit breakdown of N & C captured/filtered/absorbed to ASC along with method used to estimate nutrient reduction. • Reference for calculation methodology: Boyd C. 2009. Estimating mechanical aeration requirement in shrimp ponds from the oxygen demand of feed. In: Proceedings of the World Aquaculture Society Meeting; Sept 25-29, 2009; VeraCruz, Mexico. And: Global Aquaculture Performance Index BOD calculation methodology available at http://web.uvic.ca/~gapi/explore-gapi/bod.html. Note 1: Calculation requires a full production cycle of data and is required beginning with the production cycle first undergoing certification. If it is the first audit for the farm, the client is required to demonstrate to the CAB that data is being collected and an understanding of the calculations. Note 2: Farms may seek an exemption to Indicator 2.2.5 if: the farm collects BOD samples at least once every two weeks, samples are independently analysed by an accredited laboratory, and the farm can show that BOD monitoring results do not deviate significantly from calculated annual BOD load.				
		a. Collect data throughout the course of the production cycle and calculate BOD according to formula in the instruction box. b. Submit calculated BOD as per Appendix VI to ASC for each production cycle.	BOD values were collected and calculated for previous generation (2015YC). Result was 4,347,771. Calculation was made according to formula in ASC standard. Data was submitted to ASC.	Compliant		4,347,771
Footnote	[17] BOD calculated as: ((total N in feed – total N in fish)*4.57) + ((total C in feed – total C in fish)*2.67). A farm may deduct N or C that is captured, filtered or absorbed through approaches such as IMTA or through direct collection of nutrient wasted. In this equation, “fish” refers to harvested fish. Reference for calculation methodology: Boyd C. 2009. Estimating mechanical aeration requirement in shrimp ponds from the oxygen demand of feed. In: Proceedings of the World Aquaculture Society Meeting; Sept 25-29, 2009; VeraCruz, Mexico. And: Global Aquaculture Performance Index BOD calculation methodology available at http://web.uvic.ca/~gapi/explore-gapi/bod.html.					
2.2.6	**Indicator**: Appropriate controls are in place that maintain good culture and hygienic conditions on the farm which extends to all chemicals, including veterinary drugs, thereby ensuring that adverse impacts on environmental quality are minimised. **Requirement:** Yes **Applicability:** All	a. Document control systems in good culture and hygiene that includes all appropriate elements. b. Apply the systems ensuring that staff are aware, qualified and trained to properly implement them. -	Farm site is well managed, feeding system is controlled and well maintained. Fuel storage is, in most cases secure (NC issued 6.5.1 for corroded fuel container). Operations and accommodation, on nearby island, is in general clean and tidy although 2 NCs were issued (see 6.5.1). Chemicals at the farm site are stored securely. There are procedures for the safe storage and usage of all chemicals. Staff have received training in chemical use and spill response. Spill response kits are located at farm site. Veterinary chemicals and treatments are stored securely and prescriptions accompany each chemical (e.g. DM 18-005 Feb 22 / 2018 Slice treatment). Farm wide treatments (EG H2O2) are covered by SOPs.	Compliant		
Criterion 2.3 Nutrient release from production						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			

2.3.1	**Indicator**: Percentage of fines [18] in the feed at point of entry to the farm [20] (calculated following methodology in Appendix I-2) **Requirement:** < 1% by weight of the feed **Applicability:** All farms except as noted in [19]	Note: The methodology given in Appendix I-2 is used to determine the fines (dust and small fragments) in finished product of fish feed which has a diameter of 3 mm or more.				
		a. Determine and document a schedule and location for quarterly testing of feed. If testing prior to delivery to farm site, document rationale behind not testing on site.	Feed is sampled and fines tested by Skretting the feed manufacturer. VR 246 allows for this variation to the standard. Skretting provide results back to MHC, quarterly tests for 2018 results range from 0.1 - 0.2 %.	Compliant		0.1-0.2%
		b. If using a sieving machine, calibrate equipment according to manufacturer's recommendations.				
		c. Conduct test according to detailed methodology in Appendix I-2 and record results for the pooled sample for each quarter. For first audits, farms must have test results from the last 3 months.				
Footnote	[18] Fines: Dust and fragments in the feed. Particles that separate from feed with a diameter of 5 mm or less when sieved through a 1 mm sieve, or particles that separate from feed with a diameter greater than 5 mm when sieved through a 2.36 mm sieve. To be measured at farm gate (e.g., from feed bags after they are delivered to farm).					
Footnote	[19] To be measured every quarter or every three months. Samples that are measured shall be chosen randomly. Feed may be sampled immediately prior to delivery to farm for sites with no feed storage where it is not possible to sample on farm. Closed production systems that can demonstrate the collection and responsible disposal of > 75% of solid nutrients and > 50% of dissolved nutrients (through biofiltration, settling and/or other technologies) are exempt.					
Criterion 2.4 Interaction with critical or sensitive habitats and species						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
2.4.1	**Indicator**: Evidence of an assessment of the farm's potential impacts on biodiversity and nearby ecosystems that contains at a minimum the components outlined in Appendix I-3 **Requirement:** Yes **Applicability:** All	Note: If a farm has previously undertaken an independent assessment of biodiversity impact (e.g. as part of the regulatory permitting process), the farm may use such documents as evidence to demonstrate compliance with Indicator 2.4.1 as long as all components in Appendix I-3 are explicitly covered.				
		a. Perform (or contract to have performed) a documented assessment of the farm's potential impact on biodiversity and nearby ecosystems. The assessment must address all components outlined in Appendix I-3.	During the original license application and assessment process for this farm (16/01/2003) an environmental assessment (CEA) was completed. This was a comprehensive risk assessment of both marine and terrestrial potential impacts. None were found to be significant. It covered all components outlined in Appendix 1-3 (e.g. risk of feeding and related input of nutrients was considered to be low risk). Since then a national protected area was established adjacent to the farm site (Broughton Archipelago Marine Provincial Park). Ongoing research on a regional basis continues to investigate the potential impacts of aquaculture on the environment in the region (e.g. mappocean.org North Vancouver Island Marine Plan) aims for long-term ecosystem based marine management.	Compliant		
		b. If the assessment (2.4.1a) identifies potential impact(s) of the farm on biodiversity or nearby critical, sensitive or protected habitats or species, prepare plan to address those potential impacts.				
		c. Keep records to show how the farm implements plan(s) from 2.4.1b to minimize potential impacts to critical or sensitive habitats and species.				
2.4.2	**Indicator**: Allowance for the farm to be sited in a protected area [20] or High Conservation Value Areas [21] (HCVAs) **Requirement:** None [22] **Applicability:** All farms except as noted in [22]	**Instruction to Clients for Indicator 2.4.2 - Exceptions to Requirements that Farms are not sited within Protected Areas or HCVAs** The following exceptions shall be made for Indicator 2.4.2: Exception #1: For protected areas classified by the International Union for the Conservation of Nature (IUCN) as Category V or VI (these are areas preserved primarily for their landscapes or for sustainable resource management). Exception #2: For HCVAs if the farm can demonstrate that its environmental impacts are compatible with the conservation objectives of the HCVA designation. The burden of proof would be placed on the farm to demonstrate that it is not negatively impacting the core reason an area has been identified as a HCVA. Exception #3: For farms located in a protected area if it was designated as such after the farm was already in operation and provided the farm can demonstrate that its environmental impacts are compatible with the conservation objectives of the protected area and it is in compliance with any relevant conditions or regulations placed on the farm as a result of the formation/designation of the protected area. The burden of proof would be placed on the farm to demonstrate that it is not negatively impacting the core reason an area has been protected. **Definitions** Protected area: "A clearly defined geographical space, recognized, dedicated and managed through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values." High Conservation Value Areas (HCVA): Natural habitats where conservation values are considered to be of outstanding significance or critical importance. HCVA are designated through a multi-stakeholder approach that provides a systematic basis for identifying critical conservation values—both social and environmental—and for planning ecosystem management in order to ensure that these high conservation values are maintained or enhanced				
		a. Provide a map showing the location of the farm relative to nearby protected areas or High Conservation Value Areas (HCVAs) as defined above (see also 1.1.1a).				

		b. If the farm is not sited in a protected area or High Conservation Value Area as defined above, prepare a declaration attesting to this fact. In this case, the requirements of 2.4.2c-d do not apply.	The British Columbia mapping system for protected areas (seasketch.org) details the Broughton Archipelago Marine Provincial Park as the only protected park in the area. The Midsummer Island farm site is not in the park but is adjacent to it. No other area of High Conservation Value has been identified nearby.	Compliant		
		c. If the farm is sited in a protected area or HCVA, review the scope of applicability of Indicator 2.4.2 (see Instructions above) to determine if your farm is allowed an exception to the requirements. If yes, inform the CAB which exception (#1, #2, or #3) is allowed and provide supporting evidence.				
		d. If the farm is sited in a protected area or HCVA and the exceptions provided for Indicator 2.4.2 do not apply, then the farm does not comply with the requirement and is ineligible for ASC certification.				
Footnote	[20] Protected area: “A clearly defined geographical space, recognized, dedicated and managed through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.” Source: Dudley, N. (Editor) (2008), Guidelines for Applying Protected Area Management Categories, Gland, Switzerland: IUCN. x + 86pp.					
Footnote	[21] High Conservation Value Areas (HCVA): Natural habitats where conservation values are considered to be of outstanding significance or critical importance. HCVA are designated through a multi-stakeholder approach that provides a systematic basis for identifying critical conservation values—both social and environmental—and for planning ecosystem management in order to ensure that these high conservation values are maintained or enhanced (http://www.hcvnetwork.org/).					
Footnote	[22] The following exceptions shall be made for Standard 2.4.2: • For protected areas classified by the International Union for the Conservation of Nature (IUCN) as Category V or VI (these are areas preserved primarily for their landscapes or for sustainable resource management). • For HCVAs if the farm can demonstrate that its environmental impacts are compatible with the conservation objectives of the HCVA designation. The burden of proof would be placed on the farm to demonstrate that it is not negatively impacting the core reason an area has been identified as a HCVA. • For farms located in a protected area if it was designated as such after the farm was already in operation and provided the farm can demonstrate that its environmental impacts are compatible with the conservation objectives of the protected area and it is in compliance with any relevant conditions or regulations placed on the farm as a result of the formation/designation of the protected area. The burden of proof would be placed on the farm to demonstrate that it is not negatively impacting the core reason an area has been protected.					
Criterion 2.5 Interaction with wildlife, including predators [23]						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
Footnote	[23] See Appendix VI for transparency requirements for 2.5.2, 2.5.5 and 2.5.6.					
2.5.1	**Indicator**: Number of days in the production cycle when acoustic deterrent devices (ADDs) or acoustic harassment devices (AHDs) were used **Requirement:** 0 **Applicability:** All	a. Compile documentary evidence to show that no ADDs or AHDs have been used by the farm.	ADDS are not permitted in British Columbia, are banned under the Pacific Aquaculture Regulations and it is the policy of Marine Harvest Canada not to use any ADDs. No evidence of their use was seen during the on site audit.	Compliant		0
		-				
2.5.2	**Indicator**: Number of mortalities [25] of endangered or red-listed [26] marine mammals or birds on the farm **Requirement:** 0 (zero) **Applicability:** All	a. Prepare a list of all predator control devices and their locations.	No mortalities of endangered or red-listed marine mammals or birds have been recorded on the site. All records would be communicated to DFO and there have been no reports made. There is a system for tracking and reporting such events. 1 record were entered for Midsummer Island in 2017 (1 crow - Dec 25th 2017) and none in 2018. Mortality records are made public on the Marine Harvest Canada website.	Compliant		0
		b. Maintain a record of all predator incidents.				
		c. Maintain a record of all mortalities of marine mammals and birds on the farm identifying the species, date, and apparent cause of death.				
		d. Maintain an up-to-date list of endangered or red-listed marine mammals and birds in the area (see 2.4.1)				
		-				
Footnote	[25] Mortalities: Includes animals intentionally killed through lethal action as well as accidental deaths through entanglement or other means.					
Footnote	[26] Species listed as endangered or critically endangered by the IUCN or on a national endangered species list.					

2.5.3	**Indicator**: Evidence that the following steps were taken prior to lethal action [27] against a predator: 1. All other avenues were pursued prior to using lethal action 2. Approval was given from a senior manager above the farm manager 3. Explicit permission was granted to take lethal action against the specific animal from the relevant regulatory authority **Requirement:** Yes [28] **Applicability:** All except cases where human safety is endangered as noted in [28]	a. Provide a list of all lethal actions that the farm took against predators during the previous 12-month period. Note: "lethal action" is an action taken to deliberately kill an animal, including marine mammals and birds. b. For each lethal action identified in 2.5.4a, keep record of the following: 1) a rationale showing how the farm pursued all other reasonable avenues prior to using lethal action; 2) approval from a senior manager above the farm manager of the lethal action; 3) where applicable, explicit permission was granted by the relevant regulatory authority to take lethal action against the animal. c. Provide documentary evidence that steps 1-3 above (in 2.5.4b) were taken prior to killing the animal. If human safety was endangered and urgent action necessary, provide documentary evidence as outlined in [28].	There have been no lethal actions against predators at this site. The site has predator nets fitted which fully enclose the net pens. A surface debris and side net is installed on site and also a small electric fence to deter predators from jumping onto the walkways at the farm site.	Compliant		
Footnote	[27] Lethal action: Action taken to deliberately kill an animal, including marine mammals and birds.					
Footnote	[28] Exception to these conditions may be made for a rare situation where human safety is endangered. Should this be required, post-incident approval from a senior manager should be made and relevant authorities must be informed.					
Instruction to Clients and CABs on Indicators 2.5.4, 2.5.5, and 2.5.6 - Clarification about the ASC Definition of "Lethal Incident" The ASC Salmon Standard has defined "Lethal incident" to include all lethal actions as well as entanglements or other accidental mortalities of non-salmonids [footnote 29]. For the purpose of assisting farms and auditors with understanding how to evaluate compliance with Indicators 2.5.4, 2.5.5, and 2.5.6, ASC has clarified this definition further: Total number of lethal Incidents = sum of all non-salmonid deaths arising from all lethal actions taken by the farm during a given time period There should be a 1:1 relationship between the number of animal deaths and the number of lethal incidents reported by the farm. For example, if a farm has taken one (1) lethal action in past last two years and that single lethal action resulted in killing three (3) birds, it is considered three (3) lethal incidents within a two year period. The term "non-salmonid" was intended to cover any predatory animals which are likely to try to feed upon farmed salmon. In practice these animals will usually be seals or birds.						
2.5.4	**Indicator**: Evidence that information about any lethal incidents [30] on the farm has been made easily publicly available [29] **Requirement:** Yes **Applicability:** All	a. For all lethal actions (see 2.5.3), keep records showing that the farm made the information available within 30 days of occurrence. a. For all lethal actions (see 2.5.3), keep records showing that the farm made the information available within 30 days of occurrence. b. Ensure that information about all lethal actions listed in 2.5.4a are made easily publicly available (e.g. on a website).	There has only been one accidental lethal action since the site came under assessment in 2017. A single crow was accidentally drowned (25th Dec 17) and this was made public on the Marine Harvest Website, (27th Dec 17, within 30 days).	Compliant		
Footnote	[29] Posting results on a public website is an example of “easily publicly available.” Shall be made available within 30 days of the incident and see Appendix VI for transparency requirements.					
2.5.5	**Indicator**: Maximum number of lethal incidents [30] on the farm over the prior two years **Requirement:** < 9 lethal incidents [31], with no more than two of the incidents being marine mammals **Applicability:** All	a. Maintain log of lethal incidents (see 2.5.3a) for a minimum of two years. For first audit, > 6 months of data are required. b. Calculate the total number of lethal incidents and the number of incidents involving marine mammals during the previous two year period. c. Send ASC the farm's data for all lethal incidents [30] of any species other than the salmon being farmed (e.g. lethal incidents involving predators such as birds or marine mammals). Data must be sent to ASC on an ongoing basis (i.e. at least once per year and for each production cycle).	There has been only 1 lethal action (accidental drowning of a crow (25th Dec 17) at the site since the assessment began. Records will continue to be kept to measure the number of lethal actions occurring over the coming years. Information was submitted to the ASC.	Compliant		
Footnote	[30] Lethal incident: Includes all lethal actions as well as entanglements or other accidental mortalities of non-salmonids.					
Footnote	[31] Standard 2.5.6 applicable to incidents related to non-endangered and non-red-listed species. This standard complements, and does not contradict, 2.5.3.					
2.5.6	**Indicator**: 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. Keep records showing that the farm undertakes an assessment of risk following each lethal incident and how those risk assessments are used to identify concrete steps the farm takes to reduce the risk of future incidents.	The report for the single accidental drowning of the crow was inspected and the risk was assessed. Corrective actions included improved tensioning of the jump net in the vicinity of the feed pipes. No lethal incidents have occurred on the site since this has been	Compliant		

	Requirement: Yes **Applicability:** All	b. Provide documentary evidence that the farm implements those steps identified in 2.5.6a to reduce the risk of future lethal incidents.	of the feed pipes. No lethal incidents have occurred on the site since this has been implemented.			
PRINCIPLE 3: PROTECT THE HEALTH AND GENETIC INTEGRITY OF WILD POPULATIONS						
Criterion 3.1 Introduced or amplified parasites and pathogens [34, 35]						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
Footnote	[32] Farm sites for which there is no release of water that may contain pathogens into the natural (freshwater or marine) environment are exempt from the standards under Criterion 3.1.					
Footnote	[33] See Appendix VI for transparency requirements for 3.1.1, 3.1.3, 3.1.4, 3.1.6 and 3.1.7.					
Instruction to Clients and CABs on Exemptions to Criterion 3.1 According to footnote [32], farm sites for which there is no release of water that may contain pathogens into the natural (freshwater or marine) environment are exempt from the requirements under Criterion 3.1. More specifically, farms are only eligible for exemption from Criterion 3.1 if it can be shown that either of the following holds: 1) the farm does not release any water to the natural environment; or 2) any effluent released by the farm to the natural environment has been effectively treated to kill pathogens (e.g. UV and/or chemical treatment of water with testing demonstrating efficacy). Auditors shall fully document the rationale for any such exemptions in the audit report.						
3.1.1	**Indicator**: Participation in an Area-Based Management (ABM) scheme for managing disease and resistance to treatments that includes coordination of stocking, fallowing, therapeutic treatments and information-sharing. Detailed requirements are in Appendix II-1. **Requirement:** Yes **Applicability:** All except farms that release no water as noted in [32]	a. Keep record of farm's participation in an ABM scheme.	Marine Harvest Canada is the only farming company with sites in this particular area of Broughton. They operate their sites under best management practices. There is disease control which is managed through the regional Fish Health Management plan and interaction with DFO. DFO also issue transport licenses for transporting fish between fish health zones. VR 146 (approved) allows companies in similar situations to forego this criteria once there are robust health management procedures in place, as is the case with the MHC sites in this part of Broughton. Fallowing period submitted to ASC (May-Sept 17, Dec 18-Apr 19).	Compliant		
		b. Submit to the CAB a description of how the ABM (3.1.1a) coordinates management of disease and resistance to treatments, including: - coordination of stocking; - fallowing; - therapeutic treatments; and - information sharing.				
		c. Provide the CAB access to documentation which is sufficient for the auditor to evaluate the ABM's compliance with all requirements in Appendix II-1, including definition of area, minimum % participation in the scheme, components, and coordination requirements.				
		d. Submit dates of fallowing period(s) as per Appendix VI to ASC at least once per year.				
3.1.2	**Indicator**: A demonstrated commitment [34] to collaborate with NGOs, academics and governments on areas of mutually agreed research to measure possible impacts on wild stocks **Requirement:** Yes **Applicability:** All except farms that release no water as noted in [32]	Note: Indicator 3.1.2 requires that farms demonstrate a commitment to collaborate with NGOs, academics and governments on areas of mutually agreed research to measure possible impacts on wild stocks. If the farm does not receive any requests to collaborate on such research projects, the farm may demonstrate compliance by showing evidence of commitment through other proactive means such as published policy statements or directed outreach to relevant organizations.				
		a. Retain records to show how the farm and/or its operating company has communicated with external groups (NGOs, academics, governments) to agree on and collaborate towards areas of research to measure impacts on wild stocks, including records of requests for research support and collaboration and responses to those requests.	MHC are a member of the British Columbia Salmon Farmers Association (BCSFA) which is a representative body for salmon farming in BC. One of the roles of this association is to coordinate research. The BCSFA has committed $1.5 million CAD into research between 2015 and 2020 (www.bcsalmonfarmers.ca). This research fund is to be utilised in partnership with government, academic and independent research institutions. One of the projects being funded, the Salish Sea Marine Survival Project, is being run by the charitable organisation Pacific Salmon Foundation and involves tracking the sea survival of out migrating smolt from the rivers of BC.	Compliant		
		b. Provide non-financial support to research activities in 3.1.2a by either: - providing researchers with access to farm-level data; - granting researchers direct access to farm sites; or - facilitating research activities in some equivalent way.				
		c. When the farm and/or its operating company denies a request to collaborate on a research project, ensure that there is a written justification for rejecting the proposal.				
		d. Maintain records from research collaborations (e.g. communications with researchers) to show that the farm has supported the research activities identified in 3.1.2a.				
Footnote	[34] Commitment: At a minimum, a farm and/or its operating company must demonstrate this commitment through providing farm-level data to researchers, granting researchers access to sites, or other similar non-financial support for research activities.					

3.1.3	**Indicator**: Establishment and annual review of a maximum sea lice load for the entire ABM and for the individual farm as outlined in Appendix II-2 **Requirement:** Yes **Applicability:** All except farms that release no water as noted in [32]	a. Keep records to show that a maximum sea lice load has been set for: - the entire ABM; and - the individual farm.	The maximum sealice load for the area is calculated from the total number of fish on each site in the area and multiplying this by 3, which is the DFO lice threshold for motile *Lepeophtheirus salmonis* (set by the Pacific Aquaculture Regulations). There are 5 sites in the area (Doctor Islets, Port Elizabeth, Larsen Island, Swanson Island and Midsummer Island). The total smolt stocked in all 5 sites is 3,077,725 which results in an overall load in the area of 11,261,174 motile *Lepeophtheirus salmonis.* DFO conduct an annual assessment of wild salmon populations and outlook for the coming season. Annual lice load was submitted to ASC.	Compliant		11,261,174
		b. Maintain evidence that the established maximum sea lice load (3.1.3a) is reviewed annually as outlined in Appendix II-2, incorporating feedback from the monitoring of wild salmon where applicable (See 3.1.6).				
		c. Provide the CAB access to documentation which is sufficient for the auditor to evaluate whether the ABM has set (3.1.3a) and annually reviewed (3.1.3.b) maximum sea lice load in compliance with requirements in Appendix II-2.				
		d. Submit the maximum sea lice load for the ABM to ASC as per Appendix VI at least once per year.				
3.1.4	**Indicator**: Frequent [35] on-farm testing for sea lice, with test results made easily publicly available [36] within seven days of testing **Requirement:** Yes **Applicability:** All except farms that release no water as noted in [32]	a. Prepare an annual schedule for testing sea lice that identifies timeframes of routine testing frequency (at a minimum, monthly) and for high-frequency testing (weekly) due to sensitive periods for wild salmonids (e.g. during and immediately prior to outmigration of juveniles).	Farm sites count sea lice weekly during the sensitive period and at least monthly at other times. Sensitive period is set in the PAR and is contained within the conditions of all salmon farms licensed by DFO. Sensitive period is 1st march to 30th June. Farm counting methodology conforms to ASC requirements. Farm staff are trained and tested in lice counting methodology. Continuous training and intercalibration occurs during vet visits to site. Farm counts are input to Aquafarmer the farm management system. DFO is informed of the lice counts and they are also made public on the MHC website (e.g. 19 July 2018, motile *Lepeophtheirus salmonis* = 0.03). Results were submitted to ASC.	Compliant		
		b. Maintain records of results of on-farm testing for sea lice. If farm deviates from schedule due to weather [35] maintain documentation of event and rationale.				
		c. Document the methodology used for testing sea lice ('testing' includes both counting and identifying sea lice). The method must follow national or international norms, follows accepted minimum sample size, use random sampling, and record the species and life-stage of the sea lice. If farm uses a closed production system and would like to use an alternate method (i.e. video), farm shall provide the CAB with details on the method and efficacy of the method.				
		d. Make the testing results from 3.1.4b easily publicly available (e.g. posted to the company's website) within seven days of testing. If requested, provide stakeholders access to hardcopies of test results.				
		e. Keep records of when and where test results were made public.				
		f. Submit test results to ASC (Appendix VI) at least once per year.				
Footnote	[35] Testing must be weekly during and immediately prior to sensitive periods for wild salmonids, such as outmigration of wild juvenile salmon. Testing must be at least monthly during the rest of the year, unless water temperature is so cold that it would jeopardize farmed fish health to test for lice (below 4 degrees C). Within closed production systems, alternative methods for monitoring sea lice, such as video monitoring, may be used.					
Footnote	[36] Posting results on a public website is an example of “easily publicly available.”					
3.1.5	**Indicator**: In areas with wild salmonids [37], evidence of data [38] and the farm’s understanding of that data, around salmonid migration routes, migration timing and stock productivity in major waterways within 50 kilometres of the farm **Requirement:** Yes	**Instruction to Clients for Indicator 3.1.5 - Evidence for Wild Salmonid Health and Migration** In writing this indicator, the SAD Steering Committee concluded that relevant data sets on wild salmonid health and migration are publicly available in the vast majority of, if not all, jurisdictions with wild salmonids. The information is likely to come from government sources or from research institutions. Therefore farms are not responsible for conducting this research themselves. However farms must demonstrate that they are aware of this basic information in their region, as such information is needed to make management decisions related to minimizing potential impact on those wild stocks. This Indicator requires collection and understanding of general data for the major watersheds within approximately 50 km of the farm. A farm does not need to demonstrate that there is data for every small river or tributary or subpopulation. Information should relate to the wild fish stock level, which implies that the population is more or less isolated from other stocks of the same species and hence self-sustaining. A "conservation unit" under the Canadian Wild Salmon Policy is an example of an appropriate fish stock-level definition. However, it must be recognized that each jurisdiction may have slight differences in how a wild salmonid stock is defined in the region. For purposes of these standards, “areas with wild salmonids” are defined as areas within 75 kilometres of a wild salmonid migration route or habitat. This definition is expected to encompass all, or nearly all, of salmon-growing areas in the northern hemisphere [39]. Potentially affected species in these areas are salmonids (i.e. including all trout species). Where a species is not natural to a region (e.g. Atlantic or Pacific Salmon in Chile) the areas are not considered as "areas with wild salmonids" even if salmon have escaped from farms and established themselves as a reproducing species in “the wild”. Farms do not need to conduct research on migration routes, timing and the health of wild stocks under this standard if general information is already available. Farms must demonstrate an understanding of this information at the general level for salmonid populations in their region, as such information is needed to make management decisions related to minimizing potential impact on those stocks. Such “evidence” would consist of, for example, peer review studies; publicly available government monitoring and reporting.				

	Applicability: All farms operating in areas with wild salmonids except farms that release no water as noted in [32]	a. Identify all salmonid species that naturally occur within 75 km of the farm through literature search or by consulting with a reputable authority. If the farm is not in an area with wild salmonids, then 3.1.5b and c do not apply.	There are 5 species of salmon in the wild in BC - Chinook, Coho, Sockeye, Pink and Chum. MHC staff and site management are aware of the wild salmon population dynamics and migration routes. MHC have been involved in a project tracking the out migration of smolt using telemetry tags (Kintama.org). DFO produce an annual assessment of population estimates of each of the salmon species in the area and also a forecast for the year. There are 77 areas assessed and area 12 includes Broughton. The assessment of Pink salmon returns for areas 11-13, for 2018, is classed as 2/3, variable returns - below or near targets. Sensitive periods are set by DFO and found in conditions of aquaculture licenses.	Compliant		
		b. For species listed in 3.1.5a, compile best available information on migration routes, migration timing (range of months for juvenile outmigration and returning salmon), life history timing for coastal resident salmonids, and stock productivity over time in major waterways within 50 km of the farm.				
		c. From data in 3.1.5b, identify any sensitive periods for wild salmonids (e.g. periods of outmigration of juveniles) within 50 km of the farm.				
		-				
Footnote	[37] For purposes of these standards, “areas with wild salmonids” are defined as areas within 75 kilometres of a wild salmonid migration route or habitat. This definition is expected to encompass all, or nearly all, of salmon-growing areas in the northern hemisphere.					
Footnote	[38] Farms do not need to conduct research on migration routes, timing and the health of wild stocks under this standard if general information is already available. Farms must demonstrate an understanding of this information at the general level for salmonid populations in their region, as such information is needed to make management decisions related to minimizing potential impact on those stocks.					
3.1.6	**Indicator**: In areas of wild salmonids, monitoring of sea lice levels on wild out-migrating salmon juveniles or on coastal sea trout or Arctic char, with results made publicly available. See requirements in Appendix III-1. **Requirement:** Yes **Applicability:** All farms operating in areas with wild salmonids except farms that release no water as noted in [32]	a. Inform the CAB if the farm operates in an area of wild salmonids. If not, then Indicator 3.1.6 does not apply.	There are 5 species of salmon in the wild in BC - Chinook, Coho, Sockeye, Pink and Chum. DFO produce an annual assessment of population estimates of each of the salmon species in the area and also a forecast for the year. Lice levels on wild fish are counted and these counts are made public on the MHC website (e.g. Wild Juvenile Salmonid Monitoring Program Broughton Archipelago 2018). Counting project is a collaboration between 3 main salmon farming companies in BC and is conducted by Mainstream Biological Consulting. Main species captured were chum and pink. Infestation rates (all lice species) ranged from 15-20% and abundance averaged 0.25 lice per fish (all lice species and stages). Sea lice levels on wild fish data was submitted to ASC.	Compliant		
		b. Keep records to show the farm participates in monitoring of sea lice on wild salmonids.				
		c. Provide the CAB access to documentation which is sufficient for the auditor to evaluate whether the methodology used for monitoring of sea lice on wild salmonids is in compliance with the requirements in Appendix III-1.				
		d. Make the results from 3.1.6b easily publicly available (e.g. posted to the company's website) within eight weeks of completion of monitoring.				
		e. Submit to ASC the results from monitoring of sea lice levels on wild salmonids as per Appendix VI.				
3.1.7	**Indicator**: In areas of wild salmonids, maximum on-farm lice levels during sensitive periods for wild fish [39]. See detailed requirements in Appendix II, subsection 2. **Requirement:** 0.1 mature female lice per farmed fish **Applicability:** All farms operating in areas with wild salmonids except farms that release no water as noted in [32]	a. Inform the CAB if the farm operates in an area of wild salmonids. If not, then Indicator 3.1.7 does not apply.	MHC have requested a VR (141) in relation to sea lice thresholds and maximum farm lice levels during the sensitive period. This has been approved. The DFO threshold of 3 motile *Lepeophtheirus salmonis* is adhered to on this farm. Lice levels reached 3.58 in early February 2018 and the fish were treated with Slice. Levels fell to 1.67 in late February and remain low for the entire sensitive period (e.g. 21st June 2018 lice count 0.33 motile Lepeophtheirus salmonis lice per adult). Results were submitted to ASC. Wild counts are taken annually and made publically available. DFO is working on setting area based thresholds for lice depending on risk and wild infestation rates.	Compliant		
		b. Establish the sensitive periods [39] of wild salmonids in the area where the farm operates. Sensitive periods for migrating salmonids is during juvenile outmigration and approximately one month before.				
		c. Maintain detailed records of monitoring on-farm lice levels (see 3.1.4) during sensitive periods as per Appendix II-2.				
		d. Provide the CAB with evidence there is a 'feedback loop' between the targets for on-farm lice levels and the results of monitoring of lice levels on wild salmonids (Appendix II-2).				
Footnote	[39] Sensitive periods for migrating salmonids is during juvenile outmigration and approximately one month before.					
Criterion 3.2 Introduction of non-native species						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
		Note: For the purposes of Indicator 3.2.1, "area" is defined as a contiguous body of water with the bio-chemical and temperature profile required to support the farmed species' life and reproduction (e.g. the Northern Atlantic Coast of the U.S. and Canada). Appendix II-1A elaborates further on this definition: "The boundaries of an area should be defined, taking into account the zone in which key cumulative impacts on wild populations may occur, water movement and other relevant aspects of ecosystem structure and function." The intent is that the area relates to the spatial extent that is likely to be put at risk from the non-native salmon. Areas will only rarely coincide with the boundaries of countries.				

3.2.1	**Indicator**: If a non-native species is being produced, demonstration that the species was widely commercially produced in the area by the date of publication of the ASC Salmon standard **Requirement:** Yes [40] **Applicability:** All farms except as noted in [40]	a. Inform the CAB if the farm produces a non-native species. If not, then Indicator 3.2.1 does not apply.	Atlantic salmon is not native to BC however attempts to introduce it to west coast Canadian rivers were made in the early 1900's. Reproducing populations did not take hold in the region. Atlantic salmon have been farmed in BC since the 1980s and it was widely commercially produced in the area before June 13th 2012. This farm has been in operation since it was licensed in 2003.	Compliant		
		b. Provide documentary evidence that the non-native species was widely commercially produced in the area before June 13, 2012.				
		c. If the farm cannot provide evidence for 3.2.1b, provide documentary evidence that the farm uses only 100% sterile fish that includes details on accuracy of sterility effectiveness.				
		d. If the farm cannot provide evidence for 3.2.1b or 3.2.1c, provide documented evidence that the production system is closed to the natural environment and for each of the following: 1) non-native species are separated from wild fish by effective physical barriers that are in place and well maintained; 2) barriers ensure there are no escapes of reared fish specimens that might survive and subsequently reproduce [40]; and 3) barriers ensure there are no escapes of biological material [40] that might survive and subsequently reproduce (e.g. UV or other effective treatment of any effluent water exiting the system to the natural environment).				
		-				
Footnote	[40] Exceptions shall be made for production systems that use 100 percent sterile fish or systems that demonstrate separation from the wild by effective physical barriers that are in place and well-maintained to ensure no escapes of reared specimens or biological material that might survive and subsequently reproduce.					
3.2.2	**Indicator**: If a non-native species is being produced, evidence of scientific research [41] completed within the past five years that investigates the risk of establishment of the species within the farm's jurisdiction and these results submitted to ASC for review [42] **Requirement:** Yes **Applicability:** All [43]	**Instruction to Clients for Indicator 3.2.2 - Exceptions to Allow Production of Non-Native Species** Farms have had five years to demonstrate compliance with this standard from the time of publication of the ASC Salmon Standard (i.e. full compliance by June 13, 2017). Farms are exempt from this standard if they are in a jurisdiction where the non-native species became established prior to farming activities in the area and the following three conditions are met: eradication would be impossible or have detrimental environmental effects; the introduction took place prior to 1993 (when the Convention on Biological Diversity (CBD) was ratified); the species is fully self-sustaining. Note: For the purposes of Indicator 3.2.2, "jurisdiction" is defined the same as "area" in 3.2.1.				
		a. Inform the ASC of the species in production (Appendix VI).	Atlantic salmon has been farmed in BC since 1985, prior to 1993, when the convention on Biological Diversity was ratified and prior to June 13th 2012 when the ASC standard V1.0 came into force. Atlantic salmon has been farmed in BC since 1985, and is has been studied extensively since that introduction. Reviewed evidence during the audit confirmed that wild salmonid monitoring reports include incidences of Atlantic salmon capture in surveys in all production areas. The results of the surveys showed no evidence of risk of establishment of the species as no Atlantic salmon (Salmo salar) were captured during the samplings Other peer reviewed papers available to the auditors include: Bisson, Peter A. "Assessment of the Risk of Invasion of National Forest Streams in the Pacific Northwest by Farmed Atlantic Salmon." Published by US Department of Agriculture Forest Service, November 2006. Piccolo, John J. Orlikowska, Ewa H. "A biological risk assessment for an Atlantic Salmon (Salmo salar) invasion in Alaskan waters." Aquatic Invasions, Published online October 6, 2011. Ginetz, R.M.J. "On the risk of colonization by Atlantic salmon in B.C. waters." Prepared for B.C. Salmon Farmers Association, May 2002.	Compliant		
		b. Inform the CAB if the farm produces a non-native species. If not, then Indicator 3.2.2 does not apply.				
		c. If yes to 3.2.2b, provide evidence of scientific research completed within the past five years that investigates the risk of establishment of the species within the farm's jurisdiction. Alternatively, the farm may request an exemption to 3.2.2c (see below).				
		d. If applicable, submit to the CAB a request for exemption that shows how the farm meets all three conditions specified in instruction box above.				
		e. Submit evidence from 3.2.2c to ASC for review.				
Footnote	[41] The research must at a minimum include multi-year monitoring for non-native farmed species, use credible methodologies and analysis, and undergo peer review.					
Footnote	[42] If the review demonstrates there is increased risk, the ASC will consider prohibiting the certification of farming of non-native salmon in that jurisdiction under this standard. In the event that the risk tools demonstrate "high" risks, the SAD expects that the ASC will prohibit the certification of farming of non-native salmon in that jurisdiction. The ASC intends to bring this evidence into future revision of the standard and those results taken forward into the revision process.					

Footnote	[43] Farms are exempt from this standard if they are in a jurisdiction where the non-native species became established prior to farming activities in the area and the following three conditions are met: eradication would be impossible or have detrimental environmental effects; the introduction took place prior to 1993 (when the Convention on Biological Diversity (CBD) was ratified); the species is fully self-sustaining.					
3.2.3	**Indicator**: Use of non-native species for sea lice control for on-farm management purposes **Requirement:** None **Applicability:** All	a. Inform the CAB if the farm uses fish (e.g. cleaner fish or wrasse) for the control of sea lice. b. Maintain records (e.g. invoices) to show the species name and origin of all fish used by the farm for purposes of sea lice control. c. Collect documentary evidence or first hand accounts as evidence that the species used is not non-native to the region.	No cleaner fish, native or non-native, are used on the site and no evidence of their presence was seen during the audit. MHC, through the BCSFA, are involved in a research project to evaluate the use of Kelp and Pile perch as native cleaner fish. The research is ongoing and is having some success (www.bcsalmonfarmers.ca).	Compliant		
Criterion 3.3 Introduction of transgenic species						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
3.3.1	**Indicator**: Use of transgenic [44] salmon by the farm **Requirement:** None **Applicability:** All	a. Prepare a declaration stating that the farm does not use transgenic salmon. b. Maintain records for the origin of all cultured stocks including the supplier name, address and contact person(s) for stock purchases. c. Ensure purchase documents confirm that the culture stock is not transgenic.	No transgenic salmon are produced by MHC on any site. This has been policy for many years. The continued commitment to no transgenic fish is on the Marine Harvest Website (Marineharvest.ca). All MHC stock are sourced from MHC hatcheries (Darymple and Ocean Falls) and broodstock programme (Glacial Creek, Big Tree Creek and Tsulton).	Compliant		
Footnote	[44] Transgenic: Containing genes altered by insertion of DNA from an unrelated organism. Taking genes from one species and inserting them into another species to get					
Criterion 3.4 Escapes [47]						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
Footnote	[45] See Appendix VI for transparency requirements for 3.4.1, 3.4.2 and 3.4.3.					
3.4.1	**Indicator**: Maximum number of escapees [46] in the most recent production cycle **Requirement:** 300 [47] **Applicability:** All farms except as noted in [47]	a. Maintain monitoring records of all incidences of confirmed or suspected escapes, specifying date, cause, and estimated number of escapees. b. Aggregate cumulative escapes in the most recent production cycle. c. Maintain the monitoring records described in 3.4.1a for at least 10 years beginning with the production cycle for which farm is first applying for certification (necessary for farms to be eligible to apply for the exception noted in [47]). d. If an escape episode occurs (i.e. an incident where > 300 fish escaped), the farm may request a rare exception to the Standard [47]. Requests must provide a full account of the episode and must document how the farm could not have predicted the events that caused the escape episode. e. Submit escape monitoring dataset to ASC as per Appendix VI on an ongoing basis (i.e. at least once per year and for each production cycle).	There have been no escapes from the Midsummer Island farm site for the current and previous generations. There is a system for reporting escapes to the public and to DFO. There was an escape of 2 fish from a nearby site of Glacier falls on 30th March 2016. This was reported to DFO. Suspected escapes are treated as escapes by site management. Containment kits are deployed to seal any hole. Predator nets also act to deter the loss of the escaped fish to the wider environment. Divers are called to assess the damage to the net and make any repairs. This is usually done within 24 hours. Escapes are reported to DFO and follow up reporting is required to assess the reasons and corrective actions. Escapes data is submitted to ASC annually.	Compliant		0
Footnote	[46] Farms shall report all escapes; the total aggregate number of escapees per production cycle must be less than 300 fish. Data on date of escape episode(s), number of fish escaped and cause of escape episode shall be reported as outlined in Appendix VI.					
Footnote	[47] A rare exception to this standard may be made for an escape event that is clearly documented as being outside the farm's control. Only one such exceptional episode is allowed in a 10-year period for the purposes of this standard. The 10-year period starts at the beginning of the production cycle for which the farm is applying for certification. The farmer must demonstrate that there was no reasonable way to predict the events that caused the episode. See auditing guidance for additional details.					

3.4.2	**Indicator**: Accuracy [48] of the counting technology or counting method used for calculating stocking and harvest numbers **Requirement:** ≥ 98% **Applicability:** All	a. Maintain records of accuracy of the counting technology used by the farm at times of stocking and harvest. Records include copies of spec sheets for counting machines and common estimates of error for hand-counts. b. If counting takes place off site (e.g. pre-smolt vaccination count), obtain and maintain documents from the supplier showing the accuracy of the counting method used (as above). c. During audits, arrange for the auditor to witness calibration of counting machines (if used by the farm). - e. Submit counting technology accuracy to ASC as per Appendix VI on an ongoing basis (i.e. at least once per year and for each production cycle).	The count used for stock tracking and growth modelling on site is the hatchery count usually made at vaccination. VAKI counting machines are used in the factory which all have a counting accuracy of 99%, verified on the VAKI website, product specifications. Counts are made on transfer and during grading and treatments but the vaccination and harvest count are considered to be the most accurate. Harvest counts are made in the processing factory with processing machines, which also have an accuracy of 99%.	Compliant		>98%
Footnote	[48] Accuracy shall be determined by the spec sheet for counting machines and through common estimates of error for any hand-counts.					
3.4.3	**Indicator**: Estimated unexplained loss [49] of farmed salmon is made publicly available **Requirement:** Yes **Applicability:** All	**Instruction to Clients for Indicator 3.4.3 - Calculation of Estimated Unexplained Loss** The Estimated Unexplained Loss (EUL) of fish is calculated at the end of each production cycle as follows: EUL = (stocking count) - (harvest count) - (mortalities) - (recorded escapes) Units for input variables are number of fish (i.e. counts) per production cycle. Where possible, farms should use the pre-smolt vaccination count as the stocking count. This formula is adapted from footnote 59 of the ASC Salmon Standard.				
		a. Maintain detailed records for mortalities, stocking count, harvest count, and escapes (as per 3.4.1).				
		b. Calculate the estimated unexplained loss as described in the instructions (above) for the most recent full production cycle. For first audit, farm must demonstrate understanding of calculation and the requirement to disclose EUL after harvest of the current cycle.				
		c. Make the results from 3.4.3b available publicly. Keep records of when and where results were made public (e.g. date posted to a company website) for all production cycles.	Records are kept of stocking and harvest counts, all mortalities, escapes and losses. The total unexplained loss is calculated and submitted to the ASC. Information on unexplained loss is made publically available on the Marine Harvest Canada website.	Compliant		
		d. Submit estimated unexplained loss to ASC as per Appendix VI for each production cycle.				
		-				
Footnote	[49] Calculated at the end of the production cycle as: Unexplained loss = Stocking count – harvest count – mortalities – other known escapes. Where possible, use of the pre-smolt vaccination count as the stocking count is preferred.					
		a. Prepare an Escape Prevention Plan and submit it to the CAB before the first audit. This plan may be part of a more comprehensive farm planning document as long as it addresses all required elements of Indicator 3.4.4.				

3.4.4	**Indicator**: Evidence of escape prevention planning and related employee training, including: net strength testing; appropriate net mesh size; net traceability; system robustness; predator management; record keeping and reporting of risk events (e.g., holes, infrastructure issues, handling errors, reporting and follow up of escape events); and worker training on escape prevention and counting technologies **Requirement:** Yes **Applicability:** All	b. If the farm operates an open (net pen) system, ensure the plan (3.4.4a) covers the following areas: - net strength testing; - appropriate net mesh size; - net traceability; - system robustness; - predator management; - record keeping; - reporting risk events (e.g. holes, infrastructure issues, handling errors); - planning of staff training to cover all of the above areas; and - planning of staff training on escape prevention and counting technologies. c. If the farm operates a closed system, ensure the plan (3.4.4a) covers the following areas: - system robustness; - predator management; - record keeping; - reporting risk events (e.g. holes, infrastructure issues, handling errors); - planning of staff training to cover all of the above areas; and - planning of staff training on escape prevention and counting technologies. d. Maintain records as specified in the plan. e. Train staff on escape prevention planning as per the farm's plan. -	Farm containment kits were inspected on the farm site. The site staff had been trained in their use and conduct drills at least annually (confirmed on DATs system). Containment kits include laminated procedures to follow in the event of a suspected escape. Nets are checked ashore, in the loft, tested, they are dived once installed and dived at a minimum every 60 days (the site manager requests 30 day intervals). Divers are on standby at all times and are usually onsite within a few hours should they be requested to do so. There is a fully traceable system for nets e.g. G30-1717 inspected on site and net details were available in site office, manufactured may 2011, installed augh 19 2017, pre-stocking inspection Sept 1st 2017, during audit Aug 1st small hole (2 mesh x 2 mesh) found and repaired by divers.	Compliant		

PRINCIPLE 4: USE RESOURCES IN AN ENVIRONMENTALLY EFFICIENT AND RESPONSIBLE MANNER					
Criterion 4.1 Traceability of raw materials in feed					
	Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
Instruction to Clients for Indicators 4.1.1 through 4.4.2 - Sourcing of Responsibly Produced Salmon Feeds **Farms must show that all feeds used by the farm are produced in compliance with the requirements of Indicators 4.1.1 through 4.4.4. To do so, farms must obtain documentary evidence that the feed producers (see note 1) are audited at regular intervals by an independent auditing firm or a conformity assessment body against a recognized standard which substantially incorporate requirements for traceability. Acceptable certification schemes include GlobalGAP or other schemes that have been acknowledged by the ASC (see 4.1.1c below). Results from these audits shall demonstrate that feed producers have robust information systems and information handling processes to allow the feed producers to be able to bring forward accurate information about their production and supply chains. Declarations from the feed producer that are provided to the farm to demonstrate compliance with these indicators must be supported by the audits. Farms must also show that all of their feed producers are duly informed of the requirements of the ASC Salmon Standard relating to sourcing of responsibly produced salmon feed (see 4.1.1b below).** **In addition to the above, farms must also show that their feed suppliers comply with the more detailed requirements for traceability and ingredient sourcing that are specified under indicators 4.1.1 through 4.4.2. The ASC Salmon Standard allows farms to use one of two different methods to demonstrate compliance of feed producers:** **Method #1: Farms may choose to source feed from feed producers who used only those ingredients allowed under the ASC Salmon Standards during the production of a given batch of feed. For example, the farm may request its feed supplier to produce a batch of feed according to farm specifications. Audits of the feed producer will independently verify that manufacturing processes are in compliance with ASC requirements.** **Method #2: Farms may choose to source feed from feed producers who demonstrate compliance using a "mass-balance" method. In this method, feed producers show that the balance of all ingredients (both amount and type) used during a given feed production period meets ASC requirements. However, mixing of ingredients into the general silos and production lines is allowed during manufacturing. Audits of the feed producer will independently verify that manufacturing processes are in compliance with ASC requirements. The mass balance method can be applied, for example, to integrated feed production companies that handle all steps of feed manufacturing (purchasing of raw materials, processing to finished feed, and sales) under the management of a single legal entity.** **Note 1: The term "feed producer" is used here to identify the organization that produces the fish feed (i.e. it is the "feed manufacturer"). In most cases, the organization supplying feed to a farm (i.e. the feed supplier) will be the same organization that produced the feed, but there may be instances where feed suppliers are not directly responsible for feed production. Regardless of whether the farm sources feeds directly from a feed producer or indirectly through an intermediary organization, it remains the farm's obligation to show evidence that all feeds used are in compliance with requirements.**				
	Indicator: Evidence of traceability, demonstrated by the feed producer, of feed ingredients that make up more than 1% of the feed [50].	a. Maintain detailed records of all feed suppliers and purchases including contact information and purchase and delivery records. b. Inform each feed supplier in writing of ASC requirements pertaining to production of salmon feeds and send them a copy of the ASC Salmon Standard. c. For each feed producer used by the farm, confirm that an audit of the producer was recently done by an audit firm or CAB against an ASC-acknowledged certification scheme. Obtain a copy of the most recent audit report for each feed producer.	Skretting (parent company Nutreco) supply all the feed for MHCs BC farms. Skretting have been made aware of ASC requirements for their feed supplied to MHC and have provided information and declarations to address the relevant criteria. Skretting Vancouver, which supplies feed to Midsummer Island, is BAP and GGAP certified (BAP M10017 / GGAP GGN/GLN 4052852980685). MHC record details of all feed purchases and delivery records.			

4.1.1	**Requirement:** Yes **Applicability:** All	d. For each feed producer, determine whether the farm will use method #1 or method #2 (see Instructions above) to show compliance of feed producers. Inform the CAB in writing.	Feed delivery to the site is automatically recorded into and out of the feed barge using PTT tags. Skretting has confirmed that it will use method #2, the mass balance method, for determining compliance. Skretting have provided a declaration, signed by the commercial manager, Skretting North America, on April 25th 2018, which states that they assure traceability of all feed ingredients that make up more than 1% of the feed. This is verified via certification to ISO 9001, BAP, GGAP and Skretting own Nutrace standard.	Compliant		
		e. Obtain declaration from feed supplier(s) stating that the company can assure traceability of all feed ingredients that make up more than 1% of the feed to a level of detail required by the ASC Salmon Standard [50].				
		-				
Footnote	[50] Traceability shall be at a level of detail that permits the feed producer to demonstrate compliance with the standards in this document (i.e., marine raw ingredients must be traced back to the fishery, soy to the region grown, etc.). Feed manufacturers will need to supply the farm with third-party documentation of the ingredients covered under this standard.					
Criterion 4.2 Use of wild fish for feed [51]						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
Footnote	[51] See Appendix VI for transparency requirements for 4.2.1 and 4.2.2.					
4.2.1	Indicator: Fishmeal Forage Fish Dependency Ratio (FFDRm) for grow-out (calculated using formulas in Appendix IV- 1) Requirement: < 1.2 Applicability: All	Instruction to Clients for Indicator 4.2.1 - Calculation of FFDRm Farms must calculate the Fishmeal Forage Fish Dependency Ration (FFDRm) according to formula presented in Appendix IV-1 using data from the most recent complete production cycle. Farms must also show that they have maintained sufficient information in order to make an accurate calculation of FFDRm as outlined below. For first audits, farms may be exempted from compliance with Indicator 4.2.1 for the most recent complete production cycle (i.e. if the FFDRm of the most recent crop was > 1.2) if the farm can satisfactorily demonstrate to the auditor that: - the client understands how to accurately calculate FFDRm; - the client maintains all information needed to accurately calculate FFDRm (i.e. all feed specs for > 6 months) for the current production cycle; and - the client can show how feed used for the current production cycle will ensure that the farm will meet requirements at harvest (i.e. FFDRm < 1.2).				
		a. Maintain a detailed inventory of the feed used including: - Quantities used of each formulation (kg); - Percentage of fishmeal in each formulation used; - Source (fishery) of fishmeal in each formulation used; - Percentage of fishmeal in each formulation derived from trimmings; and - Supporting documentation and signed declaration from feed supplier.	Records of quantities, percentages and sources of all fishmeal are kept. Value (10.02%) declared in statement from supplier, signed by commercial manager, North America, April 25th 2018. eFCR calculated correctly. FFDRm calculated correctly. Calculation does not include fishmeal from trimmings. Result for previous generation (2015YC) is 0.44 which is below the limit of 1.2 set for this criteria. Result was submitted to ASC.	Compliant		0.44
		b. For FFDRm calculation, exclude fishmeal derived from rendering of seafood by-products (e.g. the "trimmings" from a human consumption fishery.				
		c. Calculate eFCR using formula in Appendix IV-1 (use this calculation also in 4.2.2 option #1).				
		d. Calculate FFDRm using formulas in Appendix IV-1.				
		e. Submit FFDRm to ASC as per Appendix VI for each production cycle.				
4.2.2	**Indicator**: Fish Oil Forage Fish Dependency Ratio (FFDRo) for grow-out (calculated using formulas in Appendix IV- 1), or, Maximum amount of EPA and DHA from direct marine sources [52] (calculated according to Appendix IV-2) **Requirement:** FFDRo < 2.52 or (EPA + DHA) < 30 g/kg feed **Applicability:** All	Note: Under Indicator 4.2.2, farms can choose to calculate FFDRo (Option #1) or EPA & DHA (Option #2). Farms do not have to demonstrate that they meet both threshold values. Client shall inform the CAB which option they will use.				
		a. Maintain a detailed inventory of the feed used as specified in 4.2.1a.	Records of all feed purchased are kept. Option #1 was chosen. Fish oil derived from by-products was not included in the calculation. eFCR was calculated correctly (see 4.2.1) and FFDRo was calculated correctly. Result for previous production cycle (2015YC) was 2.2 which is below the limit of 2.52 set for this criteria. Result was submitted to ASC.	Compliant		
		b. For FFDRo and EPA+DHA calculations (either option #1 or option #2), exclude fish oil derived from rendering of seafood by-products (e.g. the "trimmings" from a human consumption fishery.				
		c. Inform the CAB whether the farm chose option #1 or option #2 to demonstrate compliance with the requirements of the Standard.				
		d. For option #1, calculate FFDRo using formulas in Appendix IV-1 and using the eFCR calculated under 4.2.1c.				
		e. For option #2, calculate amount of EPA + DHA using formulas in Appendix IV-2.				

		f. Submit FFDRo or EPA & DHA to ASC as per Appendix VI for each production cycle.				2.2
Footnote	[52] Calculation excludes DHA and EPA derived from fisheries by-products and trimmings. Trimmings are defined as by-products when fish are processed for human consumption or if whole fish is rejected for use of human consumption because the quality at the time of landing does not meet official regulations with regard to fish suitable for human consumption. Fishmeal and fish oil that are produced from trimmings can be excluded from the calculation as long as the origin of the trimmings is not any species that are classified as critically endangered, endangered or vulnerable in the IUCN Red List of Threatened Species (http://www.iucnredlist.org).					
Criterion 4.3 Source of marine raw materials						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
4.3.1	**Indicator**: Timeframe for all fishmeal and fish oil used in feed to come from fisheries [53] certified under a scheme that is an ISEAL member [54] and has guidelines that specifically promote responsible environmental management of small pelagic fisheries **Requirement:** Not required **Applicability:** N/A	-		N/A		
Footnote	[53] This standard and standard 4.3.2 applies to fishmeal and oil from forage fisheries, pelagic fisheries, or fisheries where the catch is directly reduced (including krill) and not to by-products or trimmings used in feed.					
Footnote	[54] Meets ISEAL guidelines as demonstrated through full membership in the ISEAL Alliance, or equivalent as determined by the Technical Advisory Group of the ASC.					
4.3.2	**Indicator**: Prior to achieving 4.3.1, the FishSource score [55] for the fishery(ies) from which all marine raw material in feed is derived **Requirement:** All individual scores ≥ 6, and biomass score ≥ 6 **Applicability:** All	**Instruction to Clients for Indicator 4.3.2 - FishSource Score of Fish Used in Feed** To determine FishSource scores of the fish species used as feed ingredients, do the following: -go to http://www.fishsource.org/ - type the species into the search function box and choose the accurate fishery -confirm that the search identifies the correct fishery then scroll down or click on the link from the menu on the left reads "Scores" For first audits, farms must have scoring records that cover all feeds purchased during the previous 6-month period. Note: Indicator 4.3.2 applies to fishmeal and oil from forage fisheries, pelagic fisheries, or fisheries where the catch is directly reduced (including krill) and not to by-products or trimmings used in feed.				
		a. Record FishSource score for each species from which fishmeal or fish oil was derived and used as a feed ingredient (all species listed in 4.2.1a).	Client and feed producer provided a score for each species reportedly used in feed. A sample of these sources indicated that all fishery sources sampled were compliant with the score of ≥6 for each individual score and ≥6 for biomass. No independent assessment was conducted. All species sampled had a fish source score.	Compliant		>=6
		b. Confirm that each individual score ≥ 6 and the biomass score is ≥ 6.				
		c. If the species is not on the website it means that a FishSource assessment is not available. Client can then take one or both of the following actions: 1. Contact FishSource via Sustainable Fisheries Partnerships to identify the species as a priority for assessment. 2. Contract a qualified independent third party to conduct the assessment using the FishSource methodology and provide the assessment and details on the third party qualifications to the CAB for review.				
		-				
Footnote	>					
4.3.3	**Indicator**: Prior to achieving 4.3.1, demonstration of third-party verified chain of custody and traceability for the batches of fishmeal and fish oil which are in compliance with 4.3.2.	**Instruction to Clients for Indicator 4.3.3 - Third-Party Verification of Traceability** Indicator 4.3.3 requires that farms show that their feed producers can demonstrate chain of custody and traceability as verified through third-party audits. Farms may submit reports from audits of feed producers (see 4.1.1c) as evidence that traceability systems are in compliance. Alternatively, farms may show that their feed producers comply with traceability requirements of Indicator 4.3.3 by submitting evidence that suppliers, and the batches of fishmeal and oil, are certified to the International Fishmeal and Fish Oil Organization's Global Standard for Responsible Supply or to the Marine Stewardship Council Chain of Custody Standard. For the first audit, a minimum of 6 months of data on feed is required and evidence shall relate to species used in said dataset.				

	Requirement: Yes **Applicability:** All	a. Obtain from the feed supplier documentary evidence that the origin of all fishmeal and fish oil used in the feed is traceable via a third-party verified chain of custody or traceability program.	Skretting North America supplied all feed used on the farm site. Skretting North America, which supplies feed to Midsummer Island, is BAP and GGAP certified (BAP M10017 / GGAP GGN/GLN 4052852980685) which ensures that there is a robust traceability programme in place. This covers all fish species and fisheries reported by feed producer as being used in feed.	Compliant		
		b. Ensure evidence covers all the species used (as consistent with 4.3.2a, 4.2.1a, and 4.2.2a).				
4.3.4	**Indicator**: Feed containing fishmeal and/or fish oil originating from by-products [56] or trimmings from IUU [57] catch or from fish species that are categorized as vulnerable, endangered or critically endangered, according to the IUCN Red List of Threatened Species [58], whole fish and fish meal from the same species and family as the species being farmed **Requirement:** None [59] **Applicability:** All except as noted in [59]	a. Compile and maintain, consistent with 4.2.1a and 4.2.2a, a list of the fishery of origin for all fishmeal and fish oil originating from by-products and trimmings.	Skretting North America supplies all feed to MHC BC sites. Skretting have provided a declaration that no fish meal or fish oil is derived from threatened species or IUU fishing. This includes trimmings from these fisheries. This has been verified (Skretting Vancouver, which supplies feed to Midsummer Island, is BAP and GGAP certified (BAP M10017 / GGAP GGN/GLN 4052852980685). Certain species (e.g. NE Atlantic Blue Whiting) are not evaluated by the IUCN and Skretting have declared for these species that they have carried out a judgement, based on general knowledge of the species, which determined that none of these species would be listed by the IUCN.	Compliant		
		b. Obtain a declaration from the feed supplier stating that no fishmeal or fish oil originating from IUU catch was used to produce the feed.				
		c. Obtain from the feed supplier declaration that the meal or oil did not originate from a species categorized as vulnerable, endangered or critically endangered, according to the IUCN Red List of Threatened Species [58] and explaining how they are able to demonstrate this (i.e. through other certification scheme or through their independent audit).				
		d. If meal or oil originated from a species listed as “vulnerable” by IUCN, obtain documentary evidence to support the exception as outlined in [59].				
4.3.5	**Indicator:** Presence and evidence of a responsible sourcing policy for the feed manufacturer for marine ingredients that includes a commitment to continuous improvement of source fisheries **Requirement:** Yes **Applicability:** All	a. Request a link to a public policy from the feed manufacturer stating the company's support of efforts to shift feed manufacturers purchases of fishmeal and fish oil to fisheries certified under a scheme that is an ISEAL member and has guidelines that specifically promote responsible environmental management of small pelagic fisheries and committing to continuous improvement of source fisheries.	Nutreco (Parent company of Skretting) have a supplier code of conduct for Marine Products (Jan 2018) which states that fisheries should be managed according to the FAO Code of Conduct for Responsible Fisheries and supports Fishery Improvement Plans for small fisheries. Skretting have supplied a list of fishery sources for its fish meal and fish oil.	Compliant		
		b. Prepare a letter stating the farm's intent to source feed containing fishmeal and fish oil originating from fisheries certified under the type of certification scheme noted in indicator 4.3.1.				
		c. Compile a list of the origin of all fish products used as feed ingredients in all feed.				
Footnote	[56] Trimmings are defined as by-products when fish are processed for human consumption or if whole fish is rejected for use of human consumption because the quality at the time of landing does not meet official regulations with regard to fish suitable for human consumption.					
Footnote	[57] IUU: Illegal, Unregulated and Unreported.					
Footnote	[58] The International Union for the Conservation of Nature reference can be found at http://www.iucnredlist.org/.					
Footnote	[59] For species listed as “vulnerable” by IUCN, an exception is made if a regional population of the species has been assessed to be not vulnerable in a National Red List process that is managed explicitly in the same science-based way as IUCN. In cases where a National Red List doesn’t exist or isn’t managed in accordance with IUCN guidelines, an exception is allowed when an assessment is conducted using IUCN’s methodology and demonstrates that the population is not vulnerable.					
Criterion 4.4 Source of non-marine raw materials in feed						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
4.4.1	**Indicator**: Presence and evidence of a responsible sourcing policy for the feed manufacturer for feed ingredients that comply with recognized crop moratoriums [60] and local laws [61] **Requirement:** Yes **Applicability:** All	a. Compile and maintain a list of all feed suppliers with contact information. (See also 4.1.1a)	Skretting North America supply all feed to MHC BC sites. Skretting and its parent company Nutreco have a responsible sourcing policy (Jan 2018) which states that all agricultural products supplied should conform with national laws, crop moratoriums, be farmed responsibly and should not involve deforestation. This is verified via 3rd party certification such BAP and GGAP.	Compliant		
		b. Obtain from each feed manufacturer a copy of the manufacturer's responsible sourcing policy for feed ingredients showing how the company complies with recognized crop moratoriums and local laws.				
		c. Confirm that third party audits of feed suppliers (4.1.1c) show evidence that supplier's responsible sourcing policies are implemented.				

Footnote	[60] Moratorium: A period of time in which there is a suspension of a specific activity until future events warrant a removal of the suspension or issues regarding the activity have been resolved. In this context, moratoriums may refer to suspension of the growth of defined agricultural crops in defined geographical regions.					
Footnote	[61] Specifically, the policy shall include that vegetable ingredients, or products derived from vegetable ingredients, must not come from areas of the Amazon Biome that were deforested after July 24, 2006, as geographically defined by the Brazilian Soy Moratorium. Should the Brazilian Soy Moratorium be lifted, this specific requirement shall be reconsidered.					
4.4.2	**Indicator**: Percentage of soya or soya-derived ingredients in the feed that are certified by the Roundtable for Responsible Soy (RTRS) or equivalent [62] **Requirement:** 100% **Applicability:** All	a. Prepare a policy stating the company's support of efforts to shift feed manufacturers' purchases of soya to soya certified under the Roundtable for Responsible Soy (RTRS) or equivalent.	Skretting is the sole supplier of feed to MHC and they source 100% of their soy bean meal from a supplier (ADM) which is certified to the RTRS (RTRS 00066).	Compliant		
		b. Prepare a letter stating the farm's intent to source feed containing soya certified under the RTRS (or equivalent)				
		c. Notify feed suppliers of the farm's intent (4.4.2b).				
		d. Obtain and maintain declaration from feed supplier(s) detailing the origin of soya in the feed.				
		e. Provide evidence that soya used in feed is certified by the Roundtable for Responsible Soy (RTRS) or equivalent [62]				
Footnote	[62] Any alternate certification scheme would have to be approved as equivalent by the Technical Advisory Group of the ASC.					
4.4.3	**Indicator**: Evidence of disclosure to the buyer [63] of the salmon of inclusion of transgenic [64] plant raw material, or raw materials derived from transgenic plants, in the feed **Requirement:** Yes, for each individual raw material containing > 1% transgenic content [65] **Applicability:** All	a. Obtain from feed supplier(s) a declaration detailing the content of soya and other plant raw materials in feed and whether it is transgenic.	Skretting have supplied information on the inclusion of all plant material (wheat, wheat gluten, canola oil, corn gluten). Of these Canola Oil and Corn gluten are considered GMO plant material (e.g. Canola Oil weighted average inclusion 16% for 2017). MHC provide to all its clients a letter, annually, which states the sources of feed and the ingredients which the feed may contain. The letter from Jan 8th 2018 was reviewed and found to include details of transgenic plant raw material. Presence of GMO material in feed was submitted to ASC.	Compliant		
		b. Disclose to the buyer(s) a list of any transgenic plant raw material in the feed and maintain documentary evidence of this disclosure. For first audits, farm records of disclosures must cover > 6 months.				
		c. Inform ASC whether feed contains transgenic ingredients (yes or no) as per Appendix VI for each production cycle.				
Footnote	[63] The company or entity to which the farm or the producing company is directly selling its product. This standard requires disclosure by the feed company to the farm and by the farm to the buyer of their salmon.					
Footnote	[64] Transgenic: Containing genes altered by insertion of DNA from an unrelated organism. Taking genes from one species and inserting them into another species to get that trait expressed in the offspring.					
Footnote	[65] See Appendix VI for transparency requirement for 4.4.3.					
Criterion 4.5 Non-biological waste from production						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
4.5.1	**Indicator**: Presence and evidence of a functioning policy for proper and responsible [66] treatment of non-biological waste from production (e.g., disposal and recycling) **Requirement:** Yes **Applicability:** All	a. Prepare a policy stating the farm's commitment to proper and responsible treatment of non-biological waste from production. It must explain how the farm's policy is consistent with best practice in the area of operation.	MHC Materials storage, handling and waste disposal plan (MSHWDP), SOP # S/FW963, Oct 3rd 2017 details the companies commitment to the proper and responsible disposal of non-biological waste from hatchery, operations and marine farm sites and its adherence to best practice. It includes a statement that non-biological waste should not be dumped into marine or freshwater environments. Levels of waste and recycling are tracked. Farm site and onshore operations sites had good facilities for the disposal of all waste. Most common waste type was feed bags and plastic packaging and pallets from feed. These were stacked in feed barge and removed by feed delivery vessel after each delivery. Waste oil was stored properly onsite and recycled ashore.	Compliant		
		b. Prepare a declaration that the farm does not dump non-biological waste into the ocean.				
		c. Provide a description of the most common production waste materials and how the farm ensures these waste materials are properly disposed of.				
		d. Provide a description of the types of waste materials that are recycled by the farm.				
Footnote	[66] Proper and responsible disposal will vary based on facilities available in the region and remoteness of farm sites. Disposal of non-biological waste shall be done in a manner consistent with best practice in the area. Dumping of non-biological waste into the ocean does not represent “proper and responsible” disposal.					
4.5.2	**Indicator**: Evidence that non-biological waste (including net pens) from grow-out site is either disposed of properly or recycled	a. Provide a description of the most common production waste materials and how the farm ensures these waste materials are properly disposed of. (see also 4.5.1c)	Most common farm waste type are packaging (bags, plastic wrap and pallets) from feed deliveries. These are neatly stacked in the feed barge and provided back to the feed delivery vessel (Skretting) where they are returned to shore for reuse or proper recycling. All other waste types, that can be recycled, are segregated on site. E.g. paper, plastic, tin cans, oil, printer cartridges etc.). There have been no fines or infractions reported.	Compliant		
		b. Provide a description of the types of waste materials that are recycled by the farm. (See also 4.5.1d)				

	Requirement: Yes **Applicability:** All	c. Inform the CAB of any infractions or fines for improper waste disposal received during the previous 12 months and corrective actions taken..	Records are kept of all materials, volumes and types recycled. There is a system for requesting the removal of larger items from the farm site such as feed barges and walkways. These are removed to shore for reuse or recycling where possible and responsible disposal where not.			
		d. Maintain records of disposal of waste materials including old nets and cage equipment.				
Criterion 4.6 Energy consumption and greenhouse gas emissions on farms [67]						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
Footnote	[67] See Appendix VI for transparency requirements for 4.6.1, 4.6.2 and 4.6.3.					
4.6.1	**Indicator**: Presence of an energy use assessment verifying the energy consumption on the farm and representing the whole life cycle at sea, as outlined in Appendix V- 1 **Requirement:** Yes, measured in kilojoule/t fish produced/production cycle **Applicability:** All	**Instruction to Clients for Indicator 4.6.1 - Energy Use Assessment** Indicator 4.6.1 requires that farms must have an assessment to verify energy consumption. The scope of this requirement is restricted to operational energy use for the farm site(s) that is applying for certification. Boundaries for operational energy use should correspond to the sources of Scope 1 and Scope 2 emissions (see Appendix V-1). Energy use corresponding to Scope 3 emissions (i.e. the energy used to fabricate materials that are purchased by the farm) is not required. However the SAD Steering Committee encourages companies to integrate energy use assessments across the board in the company. For the purposes of calculating energy consumption, the duration of the production cycle is the entire life cycle "at sea" - it does not include freshwater smolt production stages. Farms that have integrated smolt rearing should break out the grow-out stage portion of energy consumption if possible. Quantities of energy (fuel and electricity) are converted to kilojoules. Verification is done by internal or external assessment following either the GHG Protocol Corporate Standard or ISO 14064-1 (see Appendix V-1 for more details).				
		a. Maintain records for energy consumption by source (fuel, electricity) on the farm throughout each production cycle.	The company records all energy inputs to the farm (fuel, electricity etc.). The harvest count volume was consistent with numbers of fish onsite. The calculation of the energy use for the previous production cycle was checked and found to have been calculated correctly. The result, 3,645,136 kj/mt fish produced, was submitted to the ASC. This energy use assessment is in compliance with requirements of Appendix v-1.	Compliant		
		b. Calculate the farm's total energy consumption in kilojoules (kj) during the last production cycle.				
		c. Calculate the total weight of fish in metric tons (t) produced during the last production cycle.				
		d. Using results from 4.6.1b and 4.6.1c, calculate energy consumption on the farm as required, reported as kilojoule/mt fish/production cycle.				
		e. Submit results of energy use calculations (4.6.1d) to ASC as per Appendix VI for each production cycle.				
		f. Ensure that the farm has undergone an energy use assessment that was done in compliance with requirements of Appendix V-1.				3,645,136
4.6.2	**Indicator**: Records of greenhouse gas (GHG [68]) emissions [69] on farm and evidence of an annual GHG assessment, as outlined in Appendix V-1 **Requirement:** Yes **Applicability:** All	**Instruction to Clients for Indicator 4.6.2 - Annual GHG Assessment** Indicator 4.6.2 requires that farms must have an annual Greenhouse Gas (GHG) assessment. Detailed instructions are presented in Appendix V-1 and references therein. The scope of this requirement is restricted to operational boundaries for the farm site(s) that is applying for certification. However the SAD Steering Committee encourages companies to integrate GHG accounting practices across the board in the company. Verification may be done by internal or external assessment following either the GHG Protocol Corporate Standard or ISO 14064-1 (see Appendix V-1 for more details). Note: For the purposes of this standard, GHGs are defined as the six gases listed in the Kyoto Protocol: carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF_6).				
		a. Maintain records of greenhouse gas emissions on the farm.	Records of GHG emissions are kept by the company for all inputs to the farm and farm production. Emissions factors and GHG emissions equivalents are provided from BC guidelines (B.C. Best Practices Methodology for Quantifying Greenhouse Gas Emissions, BC Ministry of Environment, 2016). Result 664,187 kg/CO2 equivalent was submitted to ASC.	Compliant		
		b. At least annually, calculate all scope 1 and scope 2 GHG emissions in compliance with Appendix V-1.				
		c. For GHG calculations, select the emission factors which are best suited to the farm's operation. Document the source of those emissions factors.				
		d. For GHG calculations involving conversion of non-CO_2 gases to CO_2 equivalents, specify the Global Warming Potential (GWP) used and its source.				
		e. Submit results of GHG calculations (4.6.2d) to ASC as per Appendix VI at least once per year.				

		f. Ensure that the farm undergoes a GHG assessment as outlined in Appendix V-1 at least annually.				664,187
Footnote	[68] For the purposes of this standard, GHGs are defined as the six gases listed in the Kyoto Protocol: carbon dioxide (CO_2); methane (CH4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF_6).					
Footnote	[69] GHG emissions must be recorded using recognized methods, standards and records as outlined in Appendix V.					
4.6.3	**Indicator**: Documentation of GHG emissions of the feed [70] used during the previous production cycle, as outlined in Appendix V, subsection 2 **Requirement:** Yes **Applicability:** All	**Instruction to Clients for Indicator 4.6.3 - GHG Emissions of Feed** Indicator 4.6.3 requires that farms document the greenhouse gas emissions (GHG) associated with any feeds used during salmon production. Farms will need to obtain this information from their feed supplier(s) and thereafter maintain a continuous record of Feed GHG emissions throughout all production cycles. This requirement applies across the entire previous production cycle. Therefore farms should inform their feed supplier(s) and: - the farm provides its feed suppliers with detailed information about the requirements including a copy of the methodology outlined in Appendix V, subsection 2; - the farm explain what analyses must be done by feed suppliers; and - the farm explains to feed suppliers what documentary evidence will be required by the farm to demonstrate compliance. Note1: Farms may calculate GHG emissions of feed using the average raw material composition used to produce the salmon (by weight) rather than using feed composition on a lot-by-lot basis. Note2: Feed supplier's calculations must include Scope 1, Scope 2, and Scope 3 GHG emissions as specified in Appendix V, subsection 2.				
		a. Obtain from feed supplier(s) a declaration detailing the GHG emissions of the feed (per kg feed).	Skretting provide the GHG emissions of their supplied feed annually. MHC then calculate the total GHG emissions from feed for the production cycle. GHG emissions from previous production cycle, 12,411 CO2e was submitted to ASC.	Compliant		12,411
		b. Multiply the GHG emissions per unit feed by the total amount of feed from each supplier used in the most recent completed production cycle.				
		c. If client has more than one feed supplier, calculate the total sum of emissions from feed by summing the GHG emissions of feed from each supplier.				
		d. Submit GHG emissions of feed to ASC as per Appendix VI for each production cycle.				
Footnote	[70] GHG emissions from feed can be given based on the average raw material composition used to produce the salmon (by weight) and not as documentation linked to each single product used during the production cycle. Feed manufacturer is responsible for calculating GHG emissions per unit feed. Farm site then shall use that information to calculate GHG emissions for the volume of feed they used in the prior production cycle.					
Criterion 4.7 Non-therapeutic chemical inputs [71,72]						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
Footnote	[71] Closed production systems that do not use nets and do not use antifoulants shall be considered exempt from standards under Criterion 4.7.					
Footnote	[72] See Appendix VI for transparency requirements for 4.7.1, 4.7.3 and 4.7.4.					
4.7.1	**Indicator**: For farms that use copper-treated nets [73], evidence that nets are not cleaned [74] or treated in situ in the marine environment **Requirement:** Yes **Applicability:** All farms except as noted in [71]	a. Prepare a farm procedure for net cleaning and treatment that describes techniques, technologies, use of off-site facilities, and record keeping.	MHC does not use copper treated nets. Submitted to ASC.	N/A		
		b. Maintain records of antifoulants and other chemical treatments used on nets.				
		c. Declare to the CAB whether copper-based treatments are used on nets.				
		d. If copper-based treatments are used, maintain documentary evidence (see 4.7.1b) that farm policy and practice does not allow for heavy cleaning of copper-treated nets in situ.				
		e. Inform ASC whether copper antifoulants are used on farm (yes or no) as per Appendix VI for each production cycle.				
Footnote	[73] Under the SAD, “copper-treated net” is defined as a net that has been treated with any copper-containing substance (such as a copper-based antifoulant) during the previous 18 months, or has not undergone thorough cleaning at a land-based facility since the last treatment. Farms that use nets that have, at some point prior in their lifespan, been treated with copper may still consider nets as untreated so long as sufficient time and cleaning has elapsed as in this definition. This will allow farms to move away from use of copper without immediately having to purchase all new nets.					
Footnote	[74] Light cleaning of nets is allowed. Intent of the standard is that, for example, the high-pressure underwater washers could not be used on copper treated nets under this standard because of the risk of copper flaking off during this type of heavy or more thorough cleaning.					

4.7.2	**Indicator**: For any farm that cleans nets at on-land sites, evidence that net-cleaning sites have effluent treatment [75] **Requirement:** Yes **Applicability:** All farms except as noted in [71]	a. Declare to the CAB whether nets are cleaned on-land. b. If nets are cleaned on-land, obtain documentary evidence from each net-cleaning facility that effluent treatment is in place. c. If yes to 4.7.2b, obtain evidence that effluent treatment used at the cleaning site is an appropriate technology to capture of copper in effluents.	Nets are cleaned, serviced, maintained and tested by Baddinotti, a net loft based on Vancouver Island. Baddinotti have declared (25/5/2016) that all their effluent enters a treatment facility prior to being discharged.	Compliant		
Footnote	[75] Treatment must have appropriate technologies in place to capture copper if the farm uses copper-treated nets.					
4.7.3	**Indicator**: For farms that use copper nets or copper-treated nets, evidence of testing for copper level in the sediment outside of the AZE, following methodology in Appendix I-1 **Requirement:** Yes **Applicability:** All farms except as noted in [71]	Note: If the benthos throughout and immediately outside the full AZE is hard bottom, provide evidence to the CAB and request an exemption from Indicator 4.7.3 (see 2.1.1c).				
		a. Declare to the CAB whether the farm uses copper nets or copper-treated nets. (See also 4.7.1c). If "no", Indicator 4.7.3 does not apply. b. If "yes" in 4.7.3a, measure and record copper in sediment samples from the reference stations specified in 2.1.1d and 2.1.2c which lie outside the AZE. c. If "yes" in 4.7.3a, maintain records of testing methods, equipment, and laboratories used to test copper level in sediments from 4.7.3b.	MHC does not use copper treated nets.	N/A		
4.7.4	**Indicator**: Evidence that copper levels [76] are < 34 mg Cu/kg dry sediment weight, or, in instances where the Cu in the sediment exceeds 34 mg Cu/kg dry sediment weight, demonstration that the Cu concentration falls within the range of background concentrations as measured at three reference sites in the water body **Requirement:** Yes **Applicability:** All farms except as noted in [71] and excluding those farms shown to be exempt from Indicator 4.7.3	a. Inform the CAB whether: 1) farm is exempt from Indicator 4.7.4 (as per 4.7.3a), or 2) Farm has conducted testing of copper levels in sediment. b. Provide evidence from measurements taken in 4.7.3b that copper levels are < 34 mg Cu/kg dry sediment weight. c. If copper levels in 4.7.4b are ≥ 34 mg Cu/kg dry sediment weight, provide evidence the farm tested copper levels in sediments from reference sites as described in Appendix I-1 (also see Indicators 2.1.1 and 2.1.2). d. Analyse results from 4.7.4c to show the background copper concentrations as measured at three reference sites in the water body. e. Submit data on copper levels in sediments to ASC as per Appendix VI for each production cycle.	MHC does not use copper treated nets. Farm is exempt from testing for Cu in the sediment.	N/A		
Footnote	[76] According to testing required under 4.7.3. The standards related to testing of copper are only applicable to farms that use copper-based nets or copper-treated nets.					
4.7.5	**Indicator**: Evidence that the type of biocides used in net antifouling are approved according to legislation in the European Union, or the United States, or Australia **Requirement:** Yes **Applicability:** All farms except as noted in [71]	a. Identify all biocides used by the farm in net antifouling. b. Compile documentary evidence to show that each chemical used in 4.7.5a is approved according to legislation in one or more of the following jurisdictions: the European Union, the United States, or Australia.	MHC does not use copper or any other biocide treated nets.	N/A		
PRINCIPLE 5: MANAGE DISEASE AND PARASITES IN AN ENVIRONMENTALLY RESPONSIBLE MANNER						
Criterion 5.1 Survival and health of farmed fish [77]						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
Footnote	[77] See Appendix VI for transparency requirements for 5.1.4, 5.1.5 and 5.1.6.					
	Indicator: Evidence of a fish health management plan for the identification and monitoring of fish diseases, parasites and environmental conditions relevant for good fish health, including implementing corrective	a. Prepare a fish health management plan that incorporates components related to identification and monitoring of fish disease and parasites. This plan may be part of a more comprehensive farm planning document.	MHC provided a copy of the Salmonid Health Management Plan (HMP), updated October 2017. This document is produced by the fish health team, including 2 designated			

5.1.1	action when required **Requirement:** Yes **Applicability:** All	b. Ensure that the farm's current fish health management plan was reviewed and approved by the farm's designated veterinarian [78].	veterinarians, and DFO Aquaculture Management Division of BC, Canada. The farm covers all requirements for the identification and monitoring of diseases, parasites and environmental conditions for good fish health.	Compliant		
5.1.2	**Indicator**: Site visits by a designated veterinarian [78] at least four times a year, and by a fish health manager [79] at least once a month **Requirement:** Yes **Applicability:** All	a. Maintain records of visits by the designated veterinarian [78] and fish health managers [82]. If schedule cannot be met, a risk assessment must be provided. b. Maintain a current list of personnel who are employed as the farm's designated veterinarian(s) [78] and fish health manager(s) [79]. c. Maintain records of the qualifications of persons identified in 5.1.2b.	Company fish health technicians visit the site monthly. The vet visits at least quarterly. Site was last visited by MK, 11 July 2018, samples sent to Animal Health Centre, Case 18-3885, no significant issues related to fish health reported from lab. 2 qualified vets are part of the fish health team (DM and Mk, both qualifications checked online (CVBA.ca) and found to be valid and active).	Compliant		
Footnote	[78] A designated veterinarian is the professional responsible for health management on the farm who has the legal authority to diagnose disease and prescribe medication. In some countries such as Norway, a fish health biologist or other professional has equivalent professional qualifications and is equivalent to a veterinarian for purposes of these standards. This definition applies to all references to a veterinarian throughout the standards document.					
Footnote	[79] A fish health manager is someone with professional expertise in managing fish health, who may work for a farming company or for a veterinarian, but who does not necessarily have the authority to prescribe medicine.					
5.1.3	**Indicator**: Percentage of dead fish removed and disposed of in a responsible manner **Requirement:** 100% [80] **Applicability:** All	a. Maintain records of mortality removals to show that dead fish are removed regularly and disposed of in a responsible manner. b. Collect documentation to show that disposal methods are in line with practices recommended by fish health managers and/or relevant legal authorities. c. For any exceptional mortality event where dead fish were not collected for post-mortem analysis, keep a written justification.	Mortalities are removed every day, using compressed air retrieval system. All morts are examined and cause of death is recorded. All fish have cause of death recorded or are classified as unknown. Mortality retrieval was witnessed onsite and was considered satisfactory. Staff have been trained in the classification of mortalities and intercalibration is carried during out each vet site visit. Records are transferred from paper to aquafarmer system. Fish health team have access to records from shore. Morts are stored on separate mort float in covered bins. Peat moss and lime is added, mostly to limit the odour. Mort bin volumes are recorded to shared drive and mortalities are removed from all farms in the area once sufficient volume is stored.	Compliant		
Footnote	[80] The SAD recognizes that not all mortality events will result in dead fish present for collection and removal. However, such situations are considered the exception rather than the norm.					
5.1.4	**Indicator**: Percentage of mortalities that are recorded, classified and receive a post-mortem analysis **Requirement:** 100% [81] **Applicability:** All	Note: 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. It is recommended that farms maintain a compiled set of records to demonstrate compliance with 5.1.3 - 5.1.6.				
		a. Maintain detailed records for all mortalities and post-mortem analyses including: - date of mortality and date of post-mortem analysis; - total number of mortalities and number receiving post-mortem analysis; - name of the person or lab conducting the post-mortem analyses; - qualifications of the individual (e.g. veterinarian [78], fish health manager [79]); - cause of mortality (specify disease or pathogen) where known; and - classification as 'unexplained' when cause of mortality is unknown (see 5.1.6).	100% of mortalities are removed from the net pens and examined. All mortalities receive an examination and cause of death classification. Vets and fish health technicians take samples monthly for post mortem analysis. No mortality events have taken place on site. Mortality data is interrogated from shore base and an increase in mortality would be noted and investigated. Increased mortality events must be communicated to the DFO. No reports of increased mortality have been recorded for this site during the current or previous production cycles. Mortality data was submitted to the ASC.	Compliant		100%
		b. For each mortality event, ensure that post-mortem analyses are done on a statistically relevant number of fish and keep a record of the results.				
		c. If on-site diagnosis is inconclusive and disease is suspected or results are inconclusive over a 1-2 week period, ensure that fish are sent to an off-site laboratory for diagnosis and keep a record of the results (5.1.4a).				
		d. Using results from 5.1.3a-c, classify each mortality event and keep a record of those classifications.				
		e. Provide additional evidence to show how farm records in 5.1.4a-d cover all mortalities from the current and previous two production cycles (as needed).				
		f. Submit data on numbers and causes of mortalities to ASC as per Appendix VI on an ongoing basis (i.e. at least once per year and for each production cycle).				

Footnote	[81] If on-site diagnosis is inconclusive, this standard requires off-site laboratory diagnosis. A qualified professional must conduct all diagnosis. One hundred percent of mortality events shall receive a post-mortem analysis, not necessarily every fish. A statistically relevant number of fish from the mortality event shall be analysed.					
5.1.5	**Indicator**: Maximum viral disease-related mortality [82] on farm during the most recent production cycle **Requirement:** ≤ 10% **Applicability:** All	a. Calculate the total number of mortalities that were diagnosed (see 5.1.4) as being related to viral disease. b. Combine the results from 5.1.5a with the total number of unspecified and unexplained mortalities from the most recent complete production cycle. Divide this by the total number of fish produced in the production cycle (x100) to calculate percent maximum viral disease-related mortality. c. Submit data on total mortality and viral disease-related mortality to ASC as per Appendix VI on an ongoing basis (i.e. at least once per year and for each production cycle).		Compliant		<10%
Footnote	[82] Viral disease-related mortality count shall include unspecified and unexplained mortality as it could be related to viral disease.					
5.1.6	**Indicator**: Maximum unexplained mortality rate from each of the previous two production cycles, for farms with total mortality > 6% **Requirement:** ≤ 40% of total mortalities **Applicability:** All farms with > 6% total mortality in the most recent complete production cycle.	a. Use records in 5.1.4a to calculate the unexplained mortality rate (%) for the most recent full production cycle. If rate was ≤ 6%, then the requirement of 5.1.6 does not apply. If total mortality rate was > 6%, proceed to 5.1.6b. b. Calculate the unexplained mortality rate (%) for each of the two production cycles immediately prior to the current cycle. For first audit, calculation must cover one full production cycle immediately prior to the current cycle. c. Submit data on maximum unexplained mortality to ASC as per Appendix VI for each production cycle.	Total mortality rate for the previous production cycle was 8.64%. Maximum total unexplained mortality for the previous generation, as a percentage of the total mortality was 37%, less than the 40% threshold, therefore the criteria is compliant. Data was submitted to ASC.	Compliant		37%
5.1.7	**Indicator**: A farm-specific mortalities reduction program that includes defined annual targets for reductions in mortalities and reductions in unexplained mortalities **Requirement:** Yes **Applicability:** All	Note: Farms have the option to integrate their farm-specific mortality reduction program into the farm's fish health management plan (5.1.1). a. Use records in 5.1.4a to assemble a time-series dataset on farm-specific mortalities rates and unexplained mortality rates. b. Use the data in 5.1.7a and advice from the veterinarian and/or fish health manager to develop a mortalities-reduction program that defines annual targets for reductions in total mortality and unexplained mortality. c. Ensure that farm management communicates with the veterinarian, fish health manager, and staff about annual targets and planned actions to meet targets.	Mortality records are recorded to shared network. Farm manager meets with fish health team, prior to stocking the site, to establish a site specific mortality reduction plan. MHC overall minimum survival target is 90% and the farm was above the threshold at 91.35% for the previous production cycle.	Compliant		
Criterion 5.2 Therapeutic treatments [83]						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
Footnote	[83] See Appendix VI for transparency requirements for 5.2.1, 5.2.5, 5.2.6 and 5.2.10.					
Instruction to Clients and CABs for Criterion 5.2 - Records Related to Therapeutic Treatments Indicator 5.2.1 requires that farms maintain detailed record of all chemical and therapeutant use. Those records maintained for compliance with 5.2.1, if all consolidated into a single place, can be used to demonstrate performance against subsequent Indicators (5.2.1 through 5.2.10) under Criterion 5.2.						
5.2.1	**Indicator**: On-farm documentation that includes, at a minimum, detailed information on all chemicals [84] and therapeutants used during the most recent production cycle, the amounts used (including grams per ton of fish produced), the dates used, which group of fish were treated and against which diseases, proof of proper dosing, and all disease and pathogens detected on the	a. Maintain a detailed record of all chemical and therapeutant use that includes: - name of the veterinarian prescribing treatment; - product name and chemical name; - reason for use (specific disease) - date(s) of treatment; - amount (g) of product used; - dosage; - t of fish treated; - the WHO classification of antibiotics (also see note under 5.2.8); and - the supplier of the chemical or therapeutant.	Fish health records include the details of all treatments over previous production site, on this site, hatchery and intermediate site. (e.g. pens 5 and 8 were treated with MS-222 (anaesthetic for lice counting) on 18th Oct 2017, prescription 16-022-e, prescribed by vet DM). Veterinary prescriptions are on file for each treatment ordered. Chemicals are	Compliant		

	site **Requirement:** Yes **Applicability:** All	b. 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.	DM). Veterinary prescriptions are on file for each treatment ordered. Chemicals are stored in secure locker. Data on chemical use was submitted to ASC.			
		c. Submit information on therapeutant use (data from 5.2.1a) to ASC as per Appendix VI on an ongoing basis (i.e. at least once per year and for each production cycle).				
Footnote	[84] Chemicals used for the treatment of fish.					
5.2.2	**Indicator**: Allowance for use of therapeutic treatments that include antibiotics or chemicals that are banned [85] in any of the primary salmon producing or importing countries [86] **Requirement:** None **Applicability:** All	a. Prepare a list of therapeutants, including antibiotics and chemicals, that are proactively banned for use in food fish for the primary salmon producing and importing countries listed in [86].	No use of antibiotics at this site during current production site. No banned antibiotics have been used.	Compliant		
		b. Maintain records of voluntary and/or mandatory chemical residue testing conducted or commissioned by the farm from the prior and current production cycles.				
		-				
Footnote	[85] "Banned" means proactively prohibited by a government entity because of concerns around the substance. A substance banned in any of the primary salmon-producing or importing countries, as defined here, cannot be used in any salmon farm certified under the SAD, regardless of country of production or destination of the product. The SAD recommends that ASC maintain a list of a banned therapeutants.					
Footnote	[86] For purposes of this standard, those countries are Norway, the UK, Canada, Chile, the United States, Japan and France.					
5.2.3	**Indicator**: Percentage of medication events that are prescribed by a veterinarian **Requirement:** 100% **Applicability:** All	a. Obtain prescription for all therapeutant use in advance of application from the farm veterinarian (or equivalent, see [78] for definition of veterinarian).	100% of medication is prescribed by the companies vets. Treatment records checked on paper, site record and in the Aquafarmer system. All records match. Treatments include MS-222 (anaesthetic) prescribed for counting lice procedure and Slice (e.g. prescription DM 18-005 (DM) 22nd Feb 2018, 0.7% biomass, all pens, biomass = 1,248, 000kg). Records are kept within Aquafarmer for minimum 2 production cycles.	Compliant		
		b. Maintain copies of all prescriptions and records of veterinarian responsible for all medication events. Records can be kept in conjunction with those for 5.2.1 and should be kept for the current and two prior production cycles.				
5.2.4	**Indicator**: Compliance with all withholding periods after treatments **Requirement:** Yes **Applicability:** All	a. Incorporate withholding periods into the farm's fish health management plan (see 5.1.1a).	Aquafarmer stock management system is locked once treatment is recorded, preventing the harvesting of fish from treated, locked pens until withdrawal period has elapsed. Withdrawal periods are recorded on prescriptions. Site manager was aware of withholding periods and treatments were input to system on day of audit.	Compliant		
		b. Compile and maintain documentation on legally-required withholding periods for all treatments used on-farm. Withholding period is the time interval after the withdrawal of a drug from the treatment of the salmon before the salmon can be harvested for use as food.				
		c. Show compliance with all withholding periods by providing treatment records (see 5.2.1a) and harvest dates for the most recent production cycle.				
5.2.5	**Indicator**: Maximum farm level cumulative parasiticide treatment index (PTI) score as calculated according to the formula in Appendix VII **Requirement:** PTI score ≤ 13 **Applicability:** All	a. Using farm data for therapeutants usage (5..2.1a) and the formula presented in Appendix VII, calculate the cumulative parasiticide treatment index (PTI) score for the most recent production cycle. Calculation should be made and updated on an ongoing basis throughout the cycle by farm manager, fish health manager, and/or veterinarian.	Farm calculations made on spreadsheet and found to be correct. Previous generation (2015YC) were treated once with Slice, resulted in PTI of 7.04, in compliance. Current generation has PTI of 3.2, in compliance. PTI score was submitted to ASC.	Compliant		3.2
		b. Provide the auditor with access to records showing how the farm calculated the PTI score.				
		c. Submit data on farm level cumulative PTI score to ASC as per Appendix VI for each production cycle.				
		a. Review PTI scores from 5.2.5a to determine if cumulative PTI ≥ 6 in the most recent production cycle. If yes, proceed to 5.2.6b; if no, Indicator 5.2.6 does not apply.				

5.2.6	**Indicator**: For farms with a cumulative PTI ≥ 6 in the most recent production cycle, demonstration that parasiticide load [87] is at least 15% less that of the average of the two previous production cycles **Requirement:** Yes **Applicability:** All farms with a cumulative PTI ≥ 6 in the most recent production cycle	b. Using results from 5.2.5 and the weight of fish treated (kg), calculate parasiticide load in the most recent production cycle [90]. c. Calculate parasiticide load in the two previous production cycles as above (5.2.6b) and compute the average. Calculate the percent difference in parasiticide load between current cycle and average of two previous cycles. For first audit, calculation must cover one full production cycle immediately prior to the current cycle. d. As applicable, submit data to ASC on parasiticide load for the most recent production cycle and the two previous production cycles (Appendix VI).	PTI score for current production cycle is <6, therefore criteria is NA.	N/A		
Footnote	[87] Parasiticide load = Sum (kg of fish treated x PTI). Reduction in load required regardless of whether production increases on the site. Farms that consolidate production across multiple sites within an ABM can calculate reduction based on the combined parasiticide load of the consolidated sites.					
5.2.7	**Indicator**: Allowance for prophylactic use of antimicrobial treatments [88] **Requirement:** None **Applicability:** All	a. Maintain records for all purchases of antibiotics (invoices, prescriptions) for the current and prior production cycles. b. Maintain a detailed log of all medication-related events (see also 5.2.1a and 5.2.3) c. Calculate the total amount (g) and treatments (#) of antibiotics used during the current and prior production cycles (see also 5.2.9).	No antibiotic treatments were administered on this production site. The vet would prescribe antibiotics if a bacterial disease was diagnosed. Tests results would remain on fish health system to indicate the lab result which resulted in the diagnosis.	Compliant		
Footnote	[88] The designated veterinarian must certify that a pathogen or disease is present before prescribing medication.					
5.2.8	**Indicator**: Allowance for use of antibiotics listed as critically important for human medicine by the World Health Organization (WHO [89]) **Requirement:** None [90] **Applicability:** All	Note 1: Farms have the option to certify only a portion of the fish or farm site when WHO-listed [89] antibiotics have been used at the production facility (see 5.2.8d). To pursue this option, farms must request an exemption from the CAB in advance of the audit and provide sufficient records giving details on which pens were treated and traceability of those treated fish. Note 2: It is recommended that the farm veterinarian review the WHO list [see 89] in detail and be aware that the list is meant to show examples of members of each class of drugs, and is not inclusive of all drugs.				
		a. Maintain a current version of the WHO list of antimicrobials critically and highly important for human health [89]. b. If the farm has <u>not</u> used any antibiotics listed as critically important (5.2.8a) in the current production cycle, inform the CAB and proceed to schedule the audit. c. If the farm <u>has</u> used antibiotics listed as critically important (5.2.8a) to treat any fish during the current production cycle, inform the CAB prior to scheduling audit. d. If yes to 5.2.8c, request an exemption from the CAB to certify only a portion of the farm. Prior to the audit, provide the CAB with records sufficient to establish details of treatment, which pens were treated, and how the farm will ensure full traceability and separation of treated fish through and post- harvest.	Fish health team have a copy of the WHO list of antibiotics listed as critical for human health. No antibiotic treatments have been prescribed for this production site. Fish health team and farm management are aware of the implications of using an antibiotic on the list.	Compliant		
Footnote	[89] The fifth edition of the WHO list of critically and highly important antimicrobials was released in 2009 and is available at: http://www.who.int/foodsafety/publications/antimicrobials-fifth/en/.					
Footnote	[90] If the antibiotic treatment is applied to only a portion of the pens on a farm site, fish from pens that did not receive treatment are still eligible for certification.					
5.2.9	**Indicator**: Number of treatments [91] of antibiotics over the most recent production cycle **Requirement:** ≤ 3 **Applicability:** All	Note: for the purposes of Indicator 5.2.9, "treatment" means a single course of medication given to address a specific disease issue and that may last a number of days and be applied in one or more pens (or cages).				
		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. b. Calculate the total number of treatments of antibiotics over the most recent production cycle and supply a verifiable statement of this calculation.	There have been no antibiotic treatments on this production site in the current production cycle. Fish were transferred from another site (Glacier Falls) which is ASC certified. Treatments on intermediate site are not within the scope of this audit. Site is in compliance.	Compliant		
Footnote	[91] A treatment is a single course medication given to address a specific disease issue and that may last a number of days.					

5.2.10	**Indicator**: If more than one antibiotic treatment is used in the most recent production cycle, demonstration that the antibiotic load [92] is at least 15% less that of the average of the two previous production cycles **Requirement:** Yes [93] **Applicability:** All	Note: Indicator 5.2.10 requires that farms must demonstrate a reduction in load required, regardless of whether production increases on the site. Farms that consolidate production across multiple sites within an ABM can calculate reduction based on the combined antibiotic load of the consolidated sites.				
		a. Use results from 5.2.9b to show whether more than one antibiotic treatment was used in the most recent production cycle. If not, then the requirement of 5.2.10 does not apply. If yes, then proceed to 5.2.10b.	No antibiotic treatments were administered to fish on this site. Therefore this criteria is NA.	N/A		
		b. Calculate antibiotic load (antibiotic load = the sum of the total amount of active ingredient of antibiotic used in kg) for most recent production cycle and for the two previous production cycles. For first audit, calculation must cover one full production cycle immediately prior to the current cycle.				
		c. Provide the auditor with calculations showing that the antibiotic load of the most recent production cycle is at least 15% less than that of the average of the two previous production cycles.				
		d. Submit data on antibiotic load to ASC as per Appendix VI (if applicable) for each production cycle.				
Footnote	[92] Antibiotic load = the sum of the total amount of active ingredient of antibiotics used (kg).					
Footnote	[93] Reduction in load required, regardless of whether production increases on the site. Farms that consolidate production across multiple sites within an ABM can calculate reduction based on the combined antibiotic load of the consolidated sites.					
5.2.11	**Indicator**: Presence of documents demonstrating that the farm has provided buyers [94] of its salmon a list of all therapeutants used in production **Requirement:** Yes **Applicability:** All	a. Prepare a procedure which outlines how the farm provides buyers [94] of its salmon with a list of all therapeutants used in production (see 4.4.3b).	MHC provide to all its clients a letter, annually, which states the therepeutants which may be used in production. The letter from Jan 8th 2018 was reviewed and found to cover all potential therepeutants.	Compliant		
		b. Maintain records showing the farm has informed all buyers of its salmon about all therapeutants used in production.				
Footnote	[94] Buyer: The company or entity to which the farm or the producing company is directly selling its product.					
Criterion 5.3 Resistance of parasites, viruses and bacteria to medicinal treatments						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
5.3.1	**Indicator**: Bio-assay analysis to determine resistance when two applications of a treatment have not produced the expected effect **Requirement:** Yes **Applicability:** All	**Instruction to Clients for Indicator 5.3.1 - Identifying the 'Expected Effect' of Medicinal Treatment** Indicator 5.3.1 requires that farms identify treatments that have not produced the expected effect. The SAD Steering Committee recognizes that the “expected effect” will vary with health condition and type of medicinal treatment. Therefore farms and auditors will need to review the pre- and post-treatment condition of fish in order to understand and evaluate the impact of treatment. <u>Example: sea lice treatment with emamectin benzoate</u> 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. Note: If field-based bio-assays for determining resistance are ineffective or unavailable, the farm shall have samples analysed by an independent laboratory to determine resistance formation. The auditor shall record in the audit report why field-based bio-assays were deemed ineffective and shall include results from the laboratory analyses of resistance formation.				
		a. In addition to recording all therapeutic treatments (5.2.1a), keep a record of all cases where the farm uses two successive medicinal treatments.	There has been one treatment of Slice on this farm site over the current and one over the previous production cycles. Both treatments were successful and the lice levels remained low on the farm site until harvest with no need to repeat the treatments.	Compliant		
		b. Whenever the farm uses two successive treatments, keep records showing how the farm evaluates the observed effect of treatment against the expected effect of treatment.				
		c. For any result of 5.3.1b that did not produce the expected effect, ensure that a bio-assay analysis of resistance is conducted.				
		d. Keep a record of all results arising from 5.3.1c.				

5.3.2	**Indicator**: When bio-assay tests determine resistance is forming, use of an alternative, permitted treatment, or an immediate harvest of all fish on the site **Requirement:** Yes **Applicability:** All	a. Review results of bio-assay tests (5.3.1d) for evidence that resistance has formed. If yes, proceed to 5.3.2b. If no, then Indicator 5.3.2 is not applicable.	Bioassays were not required as no resistance is apparent.	N/A		
		b. When bio-assay tests show evidence that resistance has formed, keep records showing that the farm took one of two actions: - used an alternative treatment (if permitted in the area of operation); or - immediately harvested all fish on site.				
Criterion 5.4 Biosecurity management [95]						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
Footnote	[95] See Appendix VI for transparency requirements for 5.4.2 and 5.4.4.					
5.4.1	**Indicator**: Evidence that all salmon on the site are a single-year class [96] **Requirement:** 100% [97] **Applicability:** All farms except as noted in [97]	a. Keep records of the start and end dates of periods when the site is fully fallow after harvest.	All fish onsite are from a single year class, currently 2017YC. They were stocked between Sept 2017 and Jan 2018. The size varied with transfer date but were within growth models. Transfer records were checked and verified for all movements of fish onsite. Site was fallow from May 2017-Sept 17.	Compliant		
		b. Provide evidence of stocking dates (purchase receipts, delivery records) to show that there were no gaps > 6 months for smolt inputs for the current production cycle.				
		-				
Footnote	[96] Gaps of up to six months between inputs of smolts derived from the same stripping are acceptable as long as there remains a period of time when the site is fully fallow after harvest.					
Footnote	[97] Exception is allowed for: 1) farm sites that have closed, contained production units where there is complete separation of water between units and no sharing of filtration systems or other systems that could spread disease, or, 2) farm sites that have ≥95% water recirculation, a pre-entry disease screening protocol, dedicated quarantine capability and biosecurity measures for waste to ensure there is no discharge of live biological material to the natural environment (e.g. UV or other effective treatment of effluent) .					
5.4.2	**Indicator**: Evidence that if the farm suspects an unidentifiable transmissible agent, or if the farm experiences unexplained increased mortality, [98] the farm has: 1. Reported the issue to the ABM and to the appropriate regulatory authority 2. Increased monitoring and surveillance [99] on the farm and within the ABM 3. Promptly [100] made findings publicly available **Requirement:** Yes **Applicability:** All	a. For mortality events logged in 5.1.4a, show evidence that the farm promptly evaluated each to determine whether it was a statistically significant increase over background mortality rate on a monthly basis [98]. The accepted level of significance (for example, $p < 0.05$) should be agreed between farm and CAB.	No unidentified transmissible agent was detected over the current production cycle. There have been no unexplained mortality events. Data was submitted to the ASC.	Compliant		
		b. For mortality events logged in 5.1.4a, record whether the farm did or did not suspect (yes or no) an unidentified transmissible agent.				
		c. Proceed to 5.4.2d if, during the most recent production cycle, either: - results from 5.4.2a showed a statistically significant increase in unexplained mortalities; or - the answer to 5.4.2b was 'yes'. Otherwise, Indicator 5.4.2 is not applicable.				
		d. If required, ensure that the farm takes and records the following steps: 1) Report the issue to the ABM and to the appropriate regulatory authority; 2) Increase monitoring and surveillance [99] on the farm and within the ABM; and 3) Promptly (within one month) make findings publicly available.				
		e. As applicable, submit data to ASC as per Appendix VI about unidentified transmissible agents or unexplained increases in mortality. If applicable, then data are to be sent to ASC on an ongoing basis (i.e. at least once per year and for each production cycle).				
Footnote	[98] Increased mortality: A statistically significant increase over background rate on a monthly basis.					
Footnote	[99] Primary aim of monitoring and surveillance is to investigate whether a new or adapted disease is present in the area.					
Footnote	[100] Within one month.					

5.4.3	**Indicator**: Evidence of compliance [101] with the OIE Aquatic Animal Health Code [102] **Requirement:** Yes **Applicability:** All	**Instruction to Clients for Indicator 5.4.3 - Compliance with the OIE Aquatic Animal Health Code** Indicator 5.4.3 requires that farms show evidence of compliance with the OIE Aquatic Animal Health Code (see http://www.oie.int/index.php?id=171). Compliance is defined as farm practices consistent with the intentions of the Code. For purposes of the ASC Salmon Standard, this means that the farm must have written procedures stating how the farm will initiate an aggressive response to detection of an exotic OIE-notifiable disease on the farm ['exotic' = not previously found in the area or had been fully eradicated (area declared free of the pathogen)]. An aggressive response will involve, at a minimum, the following actions: - depopulation of the infected site; - implementation of quarantine zones (see note below)in accordance with guidelines from OIE for the specific pathogen; and - additional actions as required under Indicator 5.4.4. To demonstrate compliance with Indicator 5.4.3, clients have the to option to describe how farm practices are consistent with the intentions of the OIE Aquatic Animal Health Code by developing relevant policies and procedures and integrating them into the farm's fish health management plan. Note: The Steering Committee recognizes that establishment of quarantine zones will likely incorporate mandatory depopulation of sites close to the infected site and affect some, though not necessarily all, of the ABM.				
		a. Maintain a current version of the OIE Aquatic Animal Health Code on site or ensure staff have access to the most current version.	Fish health management plan is drawn up with reference to OIE practices. Fish health team are aware of the OIE code and it implications for their work. Staff training is ongoing and Fish Health Management Plan is drawn up, with site specific issues discussed directly with site management.	Compliant		
		b. Develop policies and procedures as needed to ensure that farm practices remain consistent with the OIE Aquatic Animal Health Code (5.4.3a) and with actions required under indicator 5.4.4.				
		-				
Footnote	[101] Compliance is defined as farm practices consistent with the intentions of the Code, to be further outlined in auditing guidance. For purposes of this standard, this includes an aggressive response to detection of an exotic OIE-notifiable disease on the farm, which includes depopulating the infected site and implementation of quarantine zones in accordance with guidelines from OIE for the specific pathogen. Quarantine zones will likely incorporate mandatory depopulation of sites close to the infected site and affect some, though not necessarily all, of the ABM. Exotic signifies not previously found in the area or had been fully eradicated (area declared free of the pathogen).					
Footnote	[102] OIE 2011. Aquatic Animal Health Code. http://www.oie.int/index.php?id=171.					
5.4.4	**Indicator**: If an OIE-notifiable disease [103] is confirmed on the farm, evidence that: 1. the farm has, at a minimum, immediately culled the pen(s) in which the disease was detected 2. the farm immediately notified the other farms in the ABM [104] 3. the farm and the ABM enhanced monitoring and conducted rigorous testing for the disease 4. the farm promptly [105] made findings publicly available **Requirement:** Yes **Applicability:** All	a. Ensure that farm policies and procedures in 5.4.3a describe the four actions required under Indicator 5.4.4 in response to an OIE-notifiable disease on the farm.	There have been no identified instances of an OIE notifiable disease during the current production cycle. A total of 8 fish were diagnosed as having died of VHS over the previous production cycle. This virus is endemic to the region. The mortality was communicated to the ASC. No VHS has been identified onsite in the current cycle, verified by test results from fish sent for viral testing, all negative.	Compliant		
		b. Inform the CAB if an OIE-notifiable disease has been confirmed on the farm during the current production cycle or the two previous production cycles. If yes, proceed to 5.4.4c. If no, then 5.4.4c an 5.4.4d do not apply.				
		c. If an OIE-notifiable disease was confirmed on the farm (see 5.4.4b), then retain documentary evidence to show that the farm: 1) immediately culled the pen(s) in which the disease was detected; 2) immediately notified the other farms in the ABM [104] 3) enhanced monitoring and conducted rigorous testing for the disease; and 4) promptly (within one month) made findings publicly available.				
		d. As applicable, submit data to ASC as per Appendix VI about any OIE-notifiable disease that was confirmed on the farm. If applicable, then data are to be sent to ASC on an ongoing basis (i.e. at least once per year and for each production cycle).				
		-				
Footnote	[103] At the time of publication of the final draft standards, OIE-notifiable diseases relevant to salmon aquaculture were: Epizootic haematopoietic necrosis, Infectious haematopoietic necrosis (IHN), Infectious salmon anaemia (ISA), Viral haemorrhagic septicaemia (VHS) and Gyrodactylosis (Gyrodactylus salaris).					
Footnote	[104] This is in addition to any notifications to regulatory bodies required under law and the OIE Aquatic Animal Health Code.					
Footnote	[105] Within one month.					
Social requirements in the standards shall be audited by an individual who is a lead auditor in conformity with SAAS Procedure 200 section 3.1.						
PRINCIPLE 6: DEVELOP AND OPERATE FARMS IN A SOCIALLY RESPONSIBLE MANNER						

6.1 Freedom of association and collective bargaining [106]					
		Compliance Criteria			
Footnote	[106] Bargain collectively: A voluntary negotiation between employers and organizations of workers in order to establish the terms and conditions of employment by means of collective (written) agreements.				
6.1.1	**Indicator:** Evidence that workers have access to trade unions (if they exist) and union representative(s) chosen by themselves without managerial interference **Requirement:** Yes **Applicability:** All	There is a Code of Conduct which is provided to all employees who are subsequently tested to show they have understood the Code Code of conduct. Training is mandatory for all employees, through the MH academy. Evidence of this is recorded against each workers training record. The Code of Conduct can also be accessed via intranet, which also allows access to human resources Policy & Procedure Manual. Code of Conduct section 4.3. relates to this area and states "Marine Harvest recognises the right of all workers and employees freely to form and join groups for the promotion and defence of their occupational interests, including the right to engage in collective bargaining". Employees confirmed that they have signed the Contract of Employment and felt that their rights are not affected. They also confirmed that they receive a Contract of Employment and a copy of the Employee Handbook.	Compliant		
6.1.2	**Indicator:** Evidence that workers are free to form organizations, including unions, to advocate for and protect their rights **Requirement:** Yes **Applicability:** All	The worker's right to freedom of association is stated in the contract of employment and within section 4.3 of the code of conduct. Employees sign to state that they have been trained and tested on the Code of Conduct. The workers confirmed that the Code of Conduct was provided to them and that they had been trained and tested. The training records show that training happened, and the results are available on the training systems.	Compliant		
6.1.3	**Indicator:** Evidence that workers are free and able to bargain collectively for their rights **Requirement:** Yes **Applicability:** All	No outstanding cases were reported against the farm site management for violations of employees' freedom of association and collective bargaining rights. The employer has explicitly communicated a commitment to ensure the collective bargaining rights of all workers as stated in section 4.3 of the Code of Conduct. The documentary evidence shows that workers are free and able to bargain collectively. Detailed in the Code of Conduct and training records.	Compliant		
Criterion 6.2 Child labour					
		Compliance Criteria			
6.2.1	**Indicator:** Number of incidences of child [107] labour [108] **Requirement:** None **Applicability:** All except as noted in [107]	Ages of all workers are stored on Human Resources management system. There are no persons employed under the age of 15. Marine Harvest state in section 4.4 of the code of conduct " Marine Harvest is committed to the abolition of child labour, and all forms of forced or compulsory labour." "Marine Harvest considers the minimum age for employment as not lower than the age of completion of compulsory schooling as set by national law, and in any event not lower than 15 years of age." There is a formal procedure within the HR management system to ensure that identification is held on file. The identification is verified and age checks are made. Worker files and ID and age verification was made through interview and documentation review.	Compliant		
Footnote	[107] Child: Any person under 15 years of age. A higher age would apply if the minimum age law of an area stipulates a higher age for work or mandatory schooling. Minimum age may be 14 if the country allows it under the developing country exceptions in ILO convention 138.				
Footnote	[108] Child Labour: Any work by a child younger than the age specified in the definition of a child.				
6.2.2	**Indicator:** Percentage of young workers [109] that are protected [110] **Requirement:** 100% **Applicability:** All	There is a policy stating the rules on employing young workers. The Marine Harvest code of conduct section 4.4 sets out the main rules. Young workers risk assessments are carried out and displayed in the working areas. All young workers assessed before employment commences. All workers including young workers have the working hours recorded on a time management system. No young workers employed at the time of the audit.	Compliant		
Footnote	[109] Young Worker: Any worker between the age of a child, as defined above, and under the age of 18.				

Footnote	[110] Protected: Workers between 15 and 18 years of age will not be exposed to hazardous health and safety conditions; working hours shall not interfere with their education and the combined daily transportation time and school time, and work time shall not exceed 10 hours.				
Footnote	[111] Hazard: The inherent potential to cause injury or damage to a person's health (e.g., unequipped to handle heavy machinery safely, and unprotected exposure to harmful chemicals).				
Footnote	[112] Hazardous work: Work that, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of workers (e.g., heavy lifting disproportionate to a person's body size, operating heavy machinery, exposure to toxic chemicals).				
Criterion 6.3 Forced, bonded or compulsory labour					
		Compliance Criteria			
6.3.1	**Indicator:** Number of incidences of forced, [113] bonded [114] or compulsory labour **Requirement:** None **Applicability:** All	All employees are provided with contracts of employment. Workers have signed all contracts of employment. The employer does not withhold employee's original identity documents. Through documentation checks, it was confirmed that all working hours are conducted on a voluntary basis. The employer does not withhold employee's original identity documents. The employer does not withhold any part of workers' salaries, benefits, property or documents to oblige them to continue working for the employer. No employees are repaying debt. All of the above was confirmed by the employees within the interviews.	Compliant		
Footnote	[113] Forced (Compulsory) labour: All work or service that is extracted from any person under the menace of any penalty for which a person has not offered himself/herself voluntarily or for which such work or service is demanded as a repayment of debt. "Penalty" can imply monetary sanctions, physical punishment, or the loss of rights and privileges or restriction of movement (e.g., withholding of identity documents).				
Footnote	[114] Bonded labour: When a person is forced by the employer or creditor to work to repay a financial debt to the crediting agency.				
Criterion 6.4 Discrimination [118]					
		Compliance Criteria			
Footnote	[115] Discrimination: Any distinction, exclusion or preference that has the effect of nullifying or impairing equality of opportunity or treatment. Not every distinction, exclusion or preference constitutes discrimination. For instance, a merit- or performance-based pay increase or bonus is not by itself discriminatory. Positive discrimination in favour of people from certain underrepresented groups may be legal in some countries.				
6.4.1	**Indicator:** Evidence of comprehensive [116] and proactive anti-discrimination policies, procedures and practices **Requirement:** Yes **Applicability:** All	Stated in Marine Harvest Code of conduct sections 4.2 & 6.1. The anti-discrimination policy that is in place, states "All Marine Harvest's activities shall be conducted without discrimination on the basis of race, ethnicity, national or other origin, disability, age, gender, sexual orientation, language, religion, or any other characteristic where a person is not treated as an individual. That the company does not engage in or support discrimination in hiring, remuneration, access to training, promotion, termination or retirement based on race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation, age or any other condition that may give rise to discrimination". Discrimination complaints are dealt with through the grievance procedures. Grievance procedures are communicated to all workers. All employees are respected with regards equal treatment. All managers have been trained in equality and diversity and evidence of the training was inspected.	Compliant		
Footnote	[116] Employers shall have written anti-discrimination policies stating that the company does not engage in or support discrimination in hiring, remuneration, access to training, promotion, termination or retirement based on race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation, age or any other condition that may give rise to discrimination.				
6.4.2	**Indicator:** Number of incidences of discrimination **Requirement:** None **Applicability:** All	The facility has a procedure in place to document all discrimination complaints. To date, there have not been any complaints. There is no evidence of discrimination. Workers interviewed stated that the company did not discriminate against them. Workers interviewed had not experienced or heard of any issues with regards to discrimination.	Compliant		
Criterion 6.5 Work environment health and safety					
		Compliance Criteria			
		The facility has established procedures and policies to protect employees. These are communicated within the Human Resources policy and the Marine Harvest Code of Conduct section 3.1. Employees are trained in emergency response procedures. The training has been recorded and displayed on the employee notice boards. Health and safety training is carried by an external company every year.		On the farm pen area: 1. Corroded chain links between the main adjoining pontoons. 2. High pressure hoses were	

6.5.1	**Indicator:** Percentage of workers trained in health and safety practices, procedures [117] and policies on a yearly basis **Requirement:** 100% **Applicability:** All	The Marine Harvest Canada Code of Conduct section 3.1 sets out the Health & Safety rules All sites shall establish annual safety targets with action plans (what, who, when) • All sites shall have high standards of housekeeping • All managers shall carry out safety walks (Walk – Observe – Communicate) • All employees shall participate in safety meetings on a regular basis • The use of personal protective equipment and life jackets shall be specified for employees, contractors and visitors • A risk assessment with respect to safety shall be made for all jobs, equipment, and potentially hazardous materials, with an annual review made of those considered most critical • A work permit system shall be in place, to include lock-out tag-out procedures and to safeguard work in confined spaces • An approval system for contractors shall be in place • All accidents and near-misses shall be reported and investigated, to include root-cause analysis, and with the subsequent implementation of corrective actions within the planned time • An emergency response plan shall be in place and tested at least once every year • All Business Units shall have a safety committee, to include site managers and other members, to reflect a safety focus throughout the organization • A programme for systematic and regular safety training shall be in place On the farm pen area: 1. Corroded chain links between the main adjoining pontoons. 2. High pressure hoses were connected with corroded mild steel pipe connections and held upright by string. 3. The Perry Buoys (Ring Buoys) securing lines are not attached to the barge. 4. There were various tripping hazards observed on the catwalks such as metal bars. 5. Fuel residue was observed on the deck at at each feed shed exterior fuel storage tanks and no drip trays located under the fuel container on the feed barge. 6. The secondary mort floats are in a poor state of repair. 7. Heavy salmon mort bins are being carried over the feed pipes which could lead to a worker injury. 8. MSDS system is not accessible to the workers on the farm site. 9. The metal catwalk decking is in a poor state of repair and some of the temporary repair plates were not securely fastened. Accommodation and Island based Operations area: 10. The Fuel shed had 2 tanks that were severely corroded. 11. Out of date eye wash and the first aid box in the Operations room had a use by date of Oct 2006. 12. Generator's fuel tank gauge for the double skin was reading 0. Well below the permissible 42. 13. The water reservoir shed adjacent to the tsunami route was untidy, leaking and held containers of bleach. The wiring was also lying on the ground where it was damp. 14. The lean to building toward the rear of the 2nd accommodation building was littered with random items. 15. At both the farm pen area and at the accommodation area, fire extinguishers were not properly mounted.	Minor	connected with corroded mild steel pipe connections and held upright by string. 3. The Perry Buoys (Ring Buoys) securing lines are not attached to the barge. 4. There were various tripping hazards observed on the catwalks such as metal bars. 5. Fuel residue was observed on the deck at at each feed shed exterior fuel storage tanks and no drip trays located under the fuel container on the feed barge. 6. The secondary mort floats are in a poor state of repair. 7. Heavy salmon mort bins are being carried over the feed pipes which could lead to a worker injury. 8. MSDS system is not accessible to the workers on the farm site. 9. The metal catwalk decking is in a poor state of repair and some of the temporary repair plates were not securely fastened. Accommodation and Island based Operations area: 10. The Fuel shed had 2 tanks that were severely corroded. 11. Out of date eye wash and the first aid box in the Operations room had a use by date of Oct 2006. 12. Generator's fuel tank gauge for the double skin was reading 0. Well below the permissible 42. 13. The water reservoir shed adjacent to the tsunami route was untidy, leaking and held containers of bleach. The wiring was also lying on the ground where it was damp. 14. The lean to building toward the rear of the 2nd accommodation building was littered with random items. 15. At both the farm pen area and at the accommodation area, fire extinguishers were not properly mounted.	
Footnote	[117] Health and safety training shall include emergency response procedures and practices.				
6.5.2	**Indicator:** Evidence that workers use Personal Protective Equipment (PPE) effectively **Requirement:** Yes **Applicability:** All	A full list of MSDS is available within the health and safety standards documentation and stored on all site computers however given that chemicals are stored on different pontoons and a vessel journey is required to reach the site from the main office this was thought to be inadequate. The site has carried out risk assessments for all operations and has identified the PPE required for each task. The site uses the risk assessment to understand the risks and eliminate the risks were possible. The site understands that Personal Protective Equipment should only be used where it is not possible to reduce the risk without the use of Personal Protective Equipment. Employees all receive induction training which includes the correct and proper use of Personal Protective Equipment. Workers confirmed within interview process that Personal Protective Equipment was provided and training was provided if required.	Minor	MSDS are not held at the point of use and in the main office ashore. The chemicals are stored on pontoons and requires a boat transfer to reach the MSDS if an accident was to occur.	
6.5.3	**Indicator:** Presence of a health and safety risk assessment and evidence of preventive actions taken **Requirement:** Yes **Applicability:** All	Risk assessments are used to identify the risk and employees are trained against the risk assessments. The site has employees who are trained to carry out risk assessments. Health and safety procedures are adapted based on results from risk assessments. Risk assessments are reviewed when changes are made to the processes to avoid potential accidents. However the lone worker risk assessment does not fully take into account the severity, frequency and risks around the current lone working practice. The feed barge is manned by a single worker and during the period of early morning and late evening operations they are the sole worker on the farm site. The current practice is to radio in on an hourly basis. This was considered inadequate to protect the safety of the lone worker.	Major	Risk assessment was considered to inadequately assess the risk to the lone worker on site.	
6.5.4	**Indicator:** Evidence that all health- and safety-related accidents and violations are recorded and corrective actions are taken when necessary **Requirement:** Yes **Applicability:** All	Evidence of review and corrective actions were observed. Information is sent to Work Safe BC. As a result of an incident a review of risk assessments is carried out and if appropriate new procedures are written. On receipt of an incident report a review timeline is issued by the H&S Manager. Facility records all health & safety related accidents. Accidents are investigated by the Health & Safety Manager. The Health & Safety Manager investigation looks and the Root Cause and implements a corrective action plan and review of the working procedures. Employees stated during the interview process that accidents were investigated and steps were taken and improvements made if required.	Compliant		
6.5.5	**Indicator:** Evidence of employer responsibility and/or proof of insurance (accident or injury) for 100% of worker costs in a job-related accident or injury when not covered under national law **Requirement:** Yes **Applicability:** All	The site operates under the Worker's compensation act which covers all worker injuries. The site pays Work safe BC an annual fee along with accidents and incidents that are recorded on site. Clearance letter provided as proof that payments were made and that workers at the site were covered. Reference No. C130389651 and the site has had continuous coverage since 01st Jan 2008. Fees for system are worked out by the Federal scheme managers and reflect the issues, quantity and robustness of the mitigations put in place by the sites.	Compliant		

6.5.6	**Indicator:** Evidence that all diving operations are conducted by divers who are certified **Requirement:** Yes **Applicability:** All	Note: If the farm outsources its diving operations to an independent company, the farm shall ensure that auditors have access to specified information sufficient to demonstrate compliance with Indicator 6.5.6. It is the farm's responsibility to obtain copies of relevant documentation (e.g. certificates) from the dive company. Divers are contracted out to a company called Allpen. Dive operations were being conducted during the audit and good practice was observed. The site holds a record of divers, operating period and certificate to dive records. The local form is the Dive inspection 60 Day Checklist. Information held, Medical certification, Occupational Dive Cert. A full plan is held along with checks such as a check of the divers log. During the Dive Inspection 60 Day checklist review of a dive conducted on 01st Aug 2018 1 diver from Allpen had a medical record certificate that appeared to expire in 2017.	Minor	A diver's fitness to dive certificate appeared to be out of date on 18th August 2017 and they had dived at the site on the 01st Aug 2018.	
Criterion 6.6 Wages					
		Compliance Criteria			
6.6.1	**Indicator:** The percentage of workers whose basic wage [118] (before overtime and bonuses) is below the minimum wage [119] **Requirement:** 0 (None) **Applicability:** All	Wages are recorded in an electronic accounting system and verified. All pay is above the minimum wage requirements. All workers confirmed that wages are paid correctly. The months reviewed for hours and pay were; January 2018 April 2018 July 2018	Compliant		
Footnote	[118] Basic wage: The wages paid for a standard working week (no more than 48 hours).				
Footnote	[119] If there is no legal minimum wage in a country, basic wages must meet the industry-standard minimum wage.				
6.6.2	**Indicator:** Evidence that the employer is working toward the payment of basic needs wage [120] **Requirement:** Yes **Applicability:** All	MHC use Hays group to assist with setting pay levels and MHC carry out their own reviews to ensure that levels are correct. No issues were found during interview or the review of wages as described in 6.6.1.	Compliant		
Footnote	[120] Basic needs wage: A wage that covers the basic needs of an individual or family, including housing, food and transport. This concept differs from a minimum wage, which is set by law and may or may not cover the basic needs of workers.				
6.6.3	**Indicator:** Evidence of transparency in wage-setting and rendering [121] **Requirement:** Yes **Applicability:** All	Wages and benefits are documented before the point of employment and written into the contract of employment. Employees are paid bi-monthly by electronic bank transfer and this is clearly understood by the workers. Employees confirmed within interview process that information was available and electronic transfer payments are made directly to their bank accounts.	Compliant		
Footnote	[121] Payments shall be rendered to workers in a convenient manner.				
Criterion 6.7 Contracts (labour) including subcontracting					
		Compliance Criteria			
6.7.1	**Indicator:** Percentage of workers who have contracts [122] **Requirement:** 100% **Applicability:** All	All 5 of the 5 sampled personnel files did contain contracts of employment. There was no evidence of labour only contracts or false apprenticeships. Employees confirmed that there are no labour only contracts or false apprenticeships.	Compliant		
Footnote	[122] Labour-only contracting relationships or false apprenticeship schemes are not acceptable. This includes revolving/consecutive labour contracts to deny benefit accrual or equitable remuneration. False Apprenticeship Scheme: The practice of hiring workers under apprenticeship terms without stipulating terms of the apprenticeship or wages under contract. It is a “false” apprenticeship if its purpose is to underpay people, avoid legal obligations or employ underage workers. Labour-only contracting arrangement: The practice of hiring workers without establishing a formal employment relationship for the purpose of avoiding payment of regular wages or the provision of legally required benefits, such as health and safety protections.				

6.7.2	**Indicator:** Evidence of a policy to ensure social compliance of its suppliers and contractors **Requirement:** Yes **Applicability:** All	Marine Harvests Code of Conduct clause 2.5 states the following "Suppliers and supply management activities shall comply with the Marine Harvest Code of Conduct". Where Marine Harvest uses subcontractors, they check that the companies have socially responsible practices and policies. Marine Harvest keeps a list of approved suppliers and contractors. Marine Harvest keeps records of communications with suppliers and subcontractors. Appropriate interviews were conducted with the onsite Dive team (Sub Contracted) during the audit process.	Compliant		
Criterion 6.8 Conflict resolution					
		Compliance Criteria			
6.8.1	**Indicator:** Evidence of worker access to effective, fair and confidential grievance procedures **Requirement:** Yes **Applicability:** All	There is a complaint procedure detailed in the HR Policy which explains the reporting procedure including bullying and harassment and confidentiality policy. All employees have access to policies through the intranet. This was confirmed through employee interviews. All communication such as complaints, grievances and discipline are recorded, in writing, in the employee personnel file.	Compliant		
6.8.2	**Indicator:** Percentage of grievances handled that are addressed [123] within a 90-day timeframe **Requirement:** 100% **Applicability:** All	The established grievance policy and procedures are well documented. Any grievances that are raised are documented in the employee personnel files and have agreed on action plans if required. Through workers interviewed it was noted that grievances had been made and the grievances were handled in accordance with the MH grievance procedures. Also, see 6.8.1	Compliant		
Footnote	[123] Addressed: Acknowledged and received, moving through the company's process for grievances, corrective action taken when necessary.				
Criterion 6.9 Disciplinary practices					
		Compliance criteria			
6.9.1	**Indicator:** Incidences of excessive or abusive disciplinary actions **Requirement:** None **Applicability:** All	None of the policies or procedures used is threatening, humiliating or has any punishing disciplinary practices. The practice of the disciplinary policy does not impact the workers physical or mentally. The workers confirmed there are no excessive or abusive disciplinary actions.	Compliant		
Footnote	[124] Mental Abuse: Characterized by the intentional use of power, including verbal abuse, isolation, sexual or racial harassment, intimidation or threat of physical force.				
6.9.2	**Indicator:** Evidence of a functioning disciplinary action policy whose aim is to improve the worker [125] **Requirement:** Yes **Applicability:** All	The company has written policy disciplinary action that "explicitly" states to improve the worker. The company has a performance management policy, so this should be noted alongside the disciplinary policy. None of the workers had been involved in a disciplinary procedure this was confirmed by the workers. The worker confirmed that they are regularly evaluated and reviewed.	Compliant		
Footnote	[125] If disciplinary action is required, progressive verbal and written warnings shall be engaged. The aim shall always be to improve the worker; dismissal shall be the last resort. Policies for bonuses, incentives, access to training and promotions are clearly stated and understood, and not used arbitrarily. Fines or basic wage deductions shall not be acceptable disciplinary practices.				
Criterion 6.10 Working hours and overtime					
		Compliance criteria			
6.10.1	**Indicator:** Incidences, violations or abuse of working hours and overtime laws [126] **Requirement:** None **Applicability:** All	Note: Working hours, night work and rest periods for workers in agriculture should be in accordance with national laws and regulations or collective agreements (e.g. The Safety and Health in Agriculture Convention, 2001). Additional information can be found on the website of the International Labour Organization (www.ilo.org).			
		The company holds documents for employment standards in line with Canadian regulations and Employments Standard Act for BC. The working shift pattern is carried out over two weeks. The shift pattern consists of 8 days on and 6 days off. The averaged hours over the 2 weeks is 40 hours per week. Working hours are provided by site managers to the payroll and working hours' department. The workers confirmed that working hours are correct before this was also verified by reviewing the attendance system, Dayforce. Records on the attendance system show that workers are not exceeding the working hours that are allowed. The shift pattern is agreed before the commencement of employment. The contract of employment clearly states the contracted working hours. Workers confirmed that the facility did not abuse the working hour's regulations and laws.	Compliant		
Footnote	[126] In cases where local legislation on working hours and overtime exceed internationally accepted recommendations (48 regular hours, 12 hours overtime), the international standards will apply.				

6.10.2	**Indicator:** Overtime is limited, voluntary [127], paid at a premium rate [128] and restricted to exceptional circumstances **Requirement:** Yes **Applicability:** All except as noted in [130]	Workers and contracts state a premium rate is paid for overtime at a rate of 150% and 200%. The sites try to limit working hours to 10 hours per day and manages overtime to a minimum. Highest OT in sample for a 2 week period was found to be 10 hours. The months reviewed for hours and pay were; January 2018 April 2018 July 2018	Compliant		
Footnote	[127] Compulsory overtime is permitted if previously agreed to under a collective bargaining agreement.				
Footnote	[128] Premium rate: A rate of pay higher than the regular work week rate. Must comply with national laws/regulations and/or industry standards.				
Criterion 6.11 Education and training					
		Compliance criteria			
6.11.1	**Indicator:** Evidence that the company regularly performs training of staff in fish husbandry, general farm and fish escape management and health and safety procedures **Requirement:** Yes **Applicability:** All	The company encourages employees to increase knowledge and participate in training courses and supports the workers in doing so. All training records are maintained. The system is locally referred to as DATS and is a good online tool. Workers confirmed that they are encouraged to learn and be involved with training courses. Other than compulsory health and safety training workers dictate the speed of additional training.	Compliant		
Criterion 6.12 Corporate policies for social responsibility					
		Compliance criteria			
6.12.1	**Indicator:** Demonstration of company-level [129] policies in line with the standards under 6.1 to 6.11 above **Requirement:** Yes **Applicability:** All	The Code of Conduct Policy and the HR Policy are in line with all social and labour requirements. The Senior Management Team approves corporate policy. The scope of all corporate policies cover all company operations. All requested documentation was provided and reviewed.	Compliant		
Footnote	[129] Applies to the headquarters of the company in a region or country where the site applying for certification is located. The policy shall relate to all of the company's operations in the region or country, including grow-out, smolt production and processing facilities.				
Social requirements in the standards shall be audited by an individual who is a lead auditor in conformity with SAAS Procedure 200 section 3.1.					
PRINCIPLE 7: BE A GOOD NEIGHBOR AND CONSCIENTIOUS CITIZEN					
Criterion 7.1 Community engagement					
		Compliance Criteria			
7.1.1	**Indicator:** Evidence of regular and meaningful [130] consultation and engagement with community representatives and organizations **Requirement:** Yes **Applicability:** All	The company has a community relations manager and a First Nations engagement manager. MHC continues to reach out to local community members as well as FN leadership to create meaningful engagement. The site has conducted 12 tours of the site in 2017 for people within the local community. Certain FN groups have engaged in protests and discussions with these groups continue in the legal system.	Compliant		
Footnote					
	Indicator: Presence and evidence of an effective [131]				

7.1.2	policy and mechanism for the presentation, treatment and resolution of complaints by community stakeholders and organizations **Requirement:** Yes **Applicability:** All	MHC have a policy Doc#5/FW905 External Complaint resolution. MHC and therefore the farm site has a draft strategic engagement document and Marine Harvests Code of Conduct section 7.2 states " Marine Harvest aims for positive relationships in local communities where we operate, and to contribute to local development". A process is in place for handling complaints, the site has a community engagement manager and links are maintained but "difficult" with the community. Relations are also fractious in the area with the First Nations, refer to 7.1.1.	Compliant		
Footnote	[131] Effective: In order to demonstrate that the mechanism is effective, evidence of resolutions of complaints can be given.				
7.1.3	**Indicator:** Evidence that the farm has posted visible notice [132] at the farm during times of therapeutic treatments and has, as part of consultation with communities under 7.1.1, communicated about potential health risks from treatments **Requirement:** Yes **Applicability:** All	The site has not posted notifications, visible to all, informing communities during times of therapeutic treatments.	Minor	The site has not posted notifications visible to all informing communities during times of therapeutic treatments.	
Footnote	[132] Signage shall be visible to mariners and, for example, to fishermen passing by the farm.				
	Criterion 7.2 Respect for indigenous and aboriginal cultures and traditional territories				
		Compliance Criteria			
	Instruction to Clients and CABs on Criterion 7.2 - Traditional Territories of Indigenous Groups The ASC Salmon Standard requires that farms must be respectful of the traditional territories of indigenous groups. The Indicators listed under Criterion 7.2 were designed to fulfil this purpose in a manner consistent with the United Nations Declaration on the Rights of Indigenous Peoples. In many locales, the territorial boundaries of indigenous groups have a defined legal status according to local or national law. In such cases, it is straightforward to know whether a farm is operating in close proximity to indigenous people. However, when boundaries of indigenous territories are undefined or unknown, there is no simple way to establish whether the farm is operating in close proximity to indigenous groups. Here ASC provides the following guidance. The intent behind the ASC Salmon Standard is that the farm will identify all neighbouring groups who are potentially negatively impacted by the farm's activities. The actual physical distance between the farm and an indigenous group is less important than understanding whether the farm is having a detrimental impact upon its neighbours. Effective community consultations are one of the best ways to identify such impacts to neighbour groups. Through a transparent process of consultation, indigenous groups who are put under “stress” by the farm will identify themselves and voice their concerns about the nature of the farm's impacts. Continued consultations between farm and neighbours should create a forum where any key issue can be discussed and resolved.				
7.2.1	**Indicator:** Evidence that indigenous groups were consulted as required by relevant local and/or national laws and regulations **Requirement:** Yes **Applicability:** All farms that operate in indigenous territories or in proximity to indigenous or aboriginal people [133]	The farm does operate in an Indigenous territory. There are 2 licences issued by the federal government. 1st is the Aquaculture License and 2nd is the Provincial tenure. The last tenure is expired but the site is covered by the 1st licence and farming at the site is agreed on a monthly basis. The site operates under federal license until 2022 when tenures may not be renewed without regional First Nation support. Various letters and invitations to the local First Nation Chiefs have been sent to engage and are currently being declined. Local activists are in operation in the area and court judgements have been issued to stop activists boarding the farm sites. No stakeholders or indigenous communities responded to comment. The situation is evolving and requires regular monitoring.	Compliant		
7.2.2	**Indicator:** Evidence that the farm has undertaken proactive consultation with indigenous communities **Requirement:** Yes [133] **Applicability:** All farms that operate in indigenous territories or in proximity to indigenous or aboriginal people [133]	The Farm has conducted site tours and continues to attempt to consult with the indigenous communities. As stated, recent friction has halted this engagement, however the site provided legal documents and letters as evidence to demonstrate that they were trying to encourage engagement and consultation. The situation is evolving and requires regular monitoring in order to confirm compliance.	Compliant		
Footnote	[133] All standards related to indigenous rights only apply where relevant, based on proximity of indigenous territories.				
7.2.3	**Indicator:** Evidence of a protocol agreement, or an active process [134] to establish a protocol agreement, with indigenous communities **Requirement:** Yes **Applicability:** All farms that operate in indigenous territories or in proximity to indigenous or aboriginal people [133]	The site is engaged with the process but is meeting opposition and an unwillingness by the local First Nation population to respond in any other way than through legal routes. There is friction on social media and Marine Harvests community managers have faced stronger negative attitudes. The site is still continuing its engagement program and is trying to establish a protocol agreement, however legal license was to operate in the area issued by the Local Authorities was reviewed and given as evidence during the audit. The situation is evolving and requires regular monitoring in order to confirm compliance	Compliant		

Footnote	[134] To demonstrate an active process, a farm must show ongoing efforts to communicate with indigenous communities, an understanding of key community concerns and responsiveness to key community concerns through adaptive farm management and other actions.				
Criterion 7.3 Access to resources					
	Compliance Criteria				
7.3.1	**Indicator:** Changes undertaken restricting access to vital community resources [135] without community approval **Requirement:** None **Applicability:** All	No evidence to suggest that restrictions to vital community resources were observed or found. Legal proceedings have taken place to restrict activists boarding the farm. The licenses are leases of occupation without sole occupation.	Compliant		
Footnote	[135] Vital community resources can include freshwater, land or other natural resources that communities rely on for their livelihood. If a farm site were to block, for example, a community's sole access point to a needed freshwater resource, this would be unacceptable under the Dialogue standard.				
7.3.2	**Indicator:** Evidence of assessments of company's impact on access to resources **Requirement:** Yes **Applicability:** All	The company uses the federal resource data base which enable the issuing of the license. MHC has and continues to carry out sustainability assessments concentrating on fish and resources. The license requirement also requires benthic assessment. This information is shared with the federal government and letters to First Nations were written offering access and consultation in Jan 2017. It does also support the local inhabitants and businesses.	Compliant		
INDICATORS AND STANDARDS FOR SMOLT PRODUCTION A farm seeking certification must have documentation from all of its smolt suppliers to demonstrate compliance with the following standards. The requirements are, in general, a subset of the standards in Principles 1 through 7, focusing on the impacts that are most relevant for smolt facilities. In addition, specific standards are applied to open systems (net pens), and to closed and semi-closed systems (recirculation and flow-through). [136]					
Footnote	[136] The SAD SC proposes this approach to addressing environmental and social performance during the smolt phase of production. In the medium term, the SC anticipates a system to audit smolt production facilities on site. In the meantime, farms will need to work with their smolt suppliers to generate the necessary documentation to demonstrate compliance with the standards. The documentation will be reviewed as part of the audit at the grow-out facility.				
SECTION 8: STANDARDS FOR SUPPLIERS OF SMOLT					
Standards related to Principle 1					
	Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
8.1	**Indicator**: Compliance with local and national regulations on water use and discharge, specifically providing permits related to water quality **Requirement:** Yes **Applicability:** All Smolt Producers	a. Identify all of the farm's smolt suppliers. For each supplier, identify the type of smolt production system used (e.g. open, semi or closed systems) and submit this information to ASC (Appendix VI). b. Where legal authorisation related to water quality are required, obtain copies of smolt suppliers' permits. c. Obtain records from smolt suppliers showing monitoring and compliance with discharge laws, regulations, and permit requirements as required. -	Smolt are supplied from 2 hatcheries, both owned by MHC, Dalrymple and Ocean Falls. Both hatcheries are BAP certified. Dalrymple (recirc) has a DFO license to operate as an aquaculture facility, AQFW 112571 2015, expires June 18th 2024. Dalrymple extracts ground water and requires no extraction license. Discharge is to freshwater and is covered by a discharge license from BC Ministry of Environment, lands and Parks, May 3rd 1994 (PE07802). Ocean Falls (flow through) has a DFO aquaculture license AQFW 112568 2015, expires Jun 18 2024 and a license of occupation from BC, 5406670 expires 6/30/2027.Also required is an extraction license for Lake Water from Link River, conditional water license 116629.	Compliant	
8.2	**Indicator**: Compliance with labour laws and regulations **Requirement:** Yes **Applicability:** All Smolt Producers	a. Obtain declarations from smolt suppliers affirming compliance with labour laws and regulations. b. Keep records of supplier inspections for compliance with national labour laws and codes (only if such inspections are legally required in the country of operation; see 1.1.3a)	Both hatcheries are owned and operated by MHC and therefore adhere to the same legal laws and regulations as audited in Principle 6. No inspections are required by law.	Compliant	
Standards related to Principle 2					
	Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
	Indicator: Evidence of an assessment of the farm's	Note: If the smolt facility has previously undertaken an independent assessment of biodiversity impact (e.g. as part of the regulatory permitting process), the farm may obtain and use such documents as evidence to demonstrate compliance with Indicator 8.3 as long as all components are covered.			

8.3	potential impacts on biodiversity and nearby ecosystems that contains the same components as the assessment for grow-out facilities under 2.4.1 **Requirement:** Yes **Applicability:** All Smolt Producers	a. Obtain from the smolt supplier(s) a documented assessment of the smolt site's potential impact on biodiversity and nearby ecosystems. The assessment must address all components outlined in Appendix I-3. b. Obtain from the smolt supplier(s) a declaration confirming they have developed and are implementing a plan to address potential impacts identified in the assessment.	Dalrymple had a biodiversity impact assessment carried out in 2014 which found no significant risk of negative impact (Mainstream Biological Consulting, 2014). An updated report was commissioned when new build plans were initiated. The new build is substantially complete. Report will be available for next surveillance. A biodiversity impact assessment was carried out for Ocean Falls in 2014 and found no significant risk of impact. (Mainstream Biological Consulting, 2014).	Compliant		
8.4	**Indicator**: Maximum total amount of phosphorus released into the environment per metric ton (mt) of fish produced over a 12-month period (see Appendix VIII-1) **Requirement:** 4 kg/mt of fish produced over a 12-month period **Applicability:** All Smolt Producers	**Instruction to Clients for Indicator 8.4 - Calculating Total Phosphorus Released per Ton of Fish Produced** Farms must confirm that each of their smolt suppliers complies with the requirement of indicator 8.4. This specifies the maximum amount of phosphorus that a smolt production facility can release into the environment per metric ton (mt) of fish produced over a 12-month period. The requirement is set at 4 kg/mt. The calculation of total phosphorus released is made using a "mass balance" approach. Detailed instructions and formulas are given in Appendix VIII-1. If applicable, farms may take account of any physical removals of phosphorus in the form of sludge provided there is evidence to show: - the smolt supplier has records showing the total quantity of sludge removed from site over the relevant time period; - the supplier determined phosphorus concentration (% P) in removed sludge by sampling and analysing representative batches; and - the sludge was properly disposed off site and in accordance with the farm's bio solid management plan.				
		a. Obtain records from smolt suppliers showing amount and type of feeds used for smolt production during the past 12 months. b. For all feeds used by the smolt suppliers (result from 8.4a), keep records showing phosphorus content as determined by chemical analysis or based on feed supplier declaration (Appendix VIII-1). c. Using the equation from Appendix VIII-1 and results from 8.4a and b, calculate the total amount of phosphorus added as feed during the last 12 months of smolt production. d. Obtain from smolt suppliers records for stocking, harvest and mortality which are sufficient to calculate the amount of biomass produced (formula in Appendix VIII-1) during the past 12 months. e. Calculate the amount of phosphorus in fish biomass produced (result from 8.4d) using the formula in Appendix VIII-1. f. If applicable, obtain records from smolt suppliers showing the total amount of P removed as sludge (formula in Appendix VIII-1) during the past 12 months. g. Using the formula in Appendix VIII-1 and results from 8.4a-f (above), calculate total phosphorus released per ton of smolt produced and verify that the smolt supplier is in compliance with requirements.	A. Verify that farm has records for feeds used by smolt suppliers over the relevant time period. B. Verify that farm has records showing that smolt supplier determined phosphorus content in feeds. C. Confirm that calculations are done according to Appendix VIII-1. D. Verify that farm obtained from the smolt supplier all records needed to calculate the amount of biomass produced during the past 12 months. E. Confirm that calculations are done according to Appendix VIII-1. F. As applicable, verify farm has records showing that smolt supplier determined the amount of phosphorus removed from the system as sludge. G. Review calculations to confirm that the farm's smolt supplier(s) do not exceed requirements for release of phosphorus. Hatchery records are available on the shared network and calculations are made on a spreadsheet. Feed records are kept and phosphorous content is provided by feed supplier. MHC have requested a VR (231) which has been approved, allowing the calculation of P to be determined from analysis of effluent rather than sludge. All data required to make the calculation was recorded. Phosphorous for 2017 at Dalrymple was determined as 1.27 kgP/mt fish produced. Ocean Falls discharges to sea and therefore has requested a VR (92) which has been approved. Ocean Falls does not therefore have to comply with this criteria.	Compliant		1.27
Standards related to Principle 3						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
8.5	**Indicator**: If a non-native species is being produced, the species shall have been widely commercially produced in the area prior to the publication of the ASC Salmon Standard	a. Obtain written evidence showing whether the smolt supplier produces a non-native species or not. If not, then Indicator 8.5 does not apply. b. Provide the farm with documentary evidence that the non-native species was widely commercially produced in the area before publication of the ASC Salmon Standard. (See definition of area under 3.2.1). c. If the smolt supplier cannot provide the farm with evidence for 8.5b, provide documentary evidence that the farm uses only 100% sterile fish.	Atlantic salmon has been farmed in BC since 1985, prior to 1993, when the convention on Biological Diversity was ratified and prior to June 12th 2012 when the ASC standard V1.0	Compliant		

8.5	**Requirement:** Yes [137] **Applicability:** All Smolt Producers except as noted in [137]	d. If the smolt supplier cannot provide the farm with evidence for 8.5b or 8.5c, provide documented evidence for each of the following: 1) non-native species are separated from wild fish by effective physical barriers that are in place and well maintained; 2) barriers ensure there are no escapes of reared fish specimens that might survive and subsequently reproduce; and 3) barriers ensure there are no escapes of biological material that might survive and subsequently reproduce.	Biological Diversity was ratified and prior to June 13th 2012 when the ASC standard v1.0 came into force.	Compliant		
		e. Retain evidence as described in 8.5a-d necessary to show compliance of each facility supplying smolt to the farm.				
Footnote	[137] Exceptions shall be made for production systems that use 100 percent sterile fish or systems that demonstrate separation from the wild by effective physical barriers that are in place and well-maintained to ensure no escapes of reared specimens or biological material that might survive and subsequently reproduce.					
8.6	**Indicator**: Maximum number of escapees [138] in the most recent production cycle **Requirement:** 300 fish [139] **Applicability:** All Smolt Producers except as noted in [139]	a. Obtain documentary evidence to show that smolt suppliers maintained monitoring records of all incidences of confirmed or suspected escapes, specifying date, cause, and estimated number of escapees.	MHC have reported zero escapes from their freshwater hatcheries at Dalrymple and Ocean Falls over the past number of years. There is a reporting system which would be used in the event of an escape but it indicates no escapes.	Compliant		
		b. Using smolt supplier records from 8.6a, determine the total number of fish that escaped. Verify that there were fewer than 300 escapees from the smolt production facility in the most recent production cycle.				
		c. Inform smolt suppliers in writing that monitoring records described in 8.6a must be maintained for at least 10 years beginning with the production cycle for which the farm is first applying for certification (necessary for farms to be eligible to apply for the exception noted in [139]).				
		d. If an escape episode occurs at the smolt production facility (i.e. an incident where > 300 fish escaped), the farm may request a rare exception to the Standard [139]. Requests must provide a full account of the episode and must document how the smolt producer could not have predicted the events that caused the escape episode.				
Footnote	[138] Farms shall report all escapes; the total aggregated number of escapees per production cycle must be less than 300 fish.					
Footnote	[139] A rare exception to this standard may be made for an escape event that is clearly documented as being outside of the farm's control. Only one such exceptional episode is allowed in a 10-year period for the purposes of this standard. The 10-year period starts at the beginning of the production cycle for which the farm is applying for certification. The farmer must demonstrate that there was no reasonable way to predict the events that caused the episode. Extreme weather (e.g., 100-year storms) or accidents caused by farms located near high-traffic waterways are not intended to be covered under this exception.					
8.7	**Indicator**: Accuracy [140] of the counting technology or counting method used for calculating the number of fish **Requirement:** ≥98% **Applicability:** All Smolt Producers	a. Obtain records showing the accuracy of the counting technology used by smolt suppliers. Records must include copies of spec sheets for counting machines and common estimates of error for hand-counts.	Counting machines used in the hatchery are VAKI machines. These have been specified as having 99% accuracy. Verified from the technical specification from the manufacturer.	Compliant		99%
		B. Review records to verify that accuracy of the smolt supplier's counting technology or counting method is ≥ 98%.				
Footnote	[140] Accuracy shall be determined by the spec sheet for counting machines and through common estimates of error for any hand counts.					
Standards related to Principle 4						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
8.8	**Indicator**: Evidence of a functioning policy for proper and responsible treatment of non-biological waste from production (e.g., disposal and recycling) **Requirement:** Yes **Applicability:** All Smolt Producers	a. From each smolt supplier obtain a policy which states the supplier's commitment to proper and responsible treatment of non-biological waste from production. It must explain how the supplier's policy is consistent with best practice in the area of operation.	The MHC freshwater facilities are subject to the same waste management policy as the marine sites. (see 4.5.1) All non-biological waste is recycled where possible, as per the Materials Storage, Handling and Waste Disposal Plan, Oct 2017, Doc #S/FW963. The freshwater sites must make their own arrangements for recycling. Both sites utilise Shearwater Marine for their waste management, e.g. Dalrymple Invoice 0308389-0621-9, 4 cubic yards of waste and 6 cubic yards of recycling.	Compliant		
		Note: see instructions for Indicator 4.6.1.				
		a. Obtain records from the smolt supplier for energy consumption by source (fuel, electricity) at the supplier's facility throughout each year.				

8.9	**Indicator**: Presence of an energy-use assessment verifying the energy consumption at the smolt production facility (see Appendix V subsection 1 for guidance and required components of the records and assessment) **Requirement:** Yes, measured in kilojoule/mt fish/production cycle **Applicability:** All Smolt Producers	b. Confirm that the smolt supplier calculates total energy consumption in kilojoules (kj) during the last year. c. Obtain records to show the smolt supplier calculated the total weight of fish in metric tons (mt) produced during the last year. d. Confirm that the smolt supplier used results from 8.9b and 8.9c to calculate energy consumption on the supplier's facility as required and that the units are reported as kilojoule/mt fish/production cycle. e. Obtain evidence to show that smolt supplier has undergone an energy use assessment in compliance with requirements of Appendix V-1. Can take the form of a declaration detailing a-e.	Hatcheries energy use records are stored on the shared drive. All records were in place and the calculation was correctly completed. Results for Dalrymple for 2017 was 30,850,530 kj/mt fish/production cycle. Ocean Falls was 26,897,023 kj/mt fish/production cycle	Compliant		30,850,530 / 26,897,023
8.10	**Indicator**: Records of greenhouse gas (GHG [141]) emissions [142] at the smolt production facility and evidence of an annual GHG assessment (See Appendix V, subsection 1) **Requirement:** Yes **Applicability:** All Smolt Producers	Note: see instructions for Indicator 4.6.2. a. Obtain records of greenhouse gas emissions from the smolt supplier's facility. b. Confirm that, on at least an annual basis, the smolt supplier calculates all scope 1 and scope 2 GHG emissions in compliance with Appendix V-1. c. For GHG calculations, confirm that the smolt supplier selects the emission factors which are best suited to the supplier's operation. Confirm that the supplier documents the source of the emissions factors. d. For GHG calculations involving conversion of non-CO2 gases to CO2 equivalents, confirm that the smolt suppliers specify the Global Warming Potential (GWP) used and its source. e. Obtain evidence to show that the smolt supplier has undergone a GHG assessment in compliance with requirements Appendix V-1 at least annually.	GHG emissions are recorded on the shared drive. Records and calculation were verified as per appendix V-1. Results for Dalrymple was 2,799,349 kg CO2e and for Ocean Falls 987,574 kg CO2 e. The discrepancy between the 2 was primarily due to the higher energy costs related to recirculation.	Compliant		2,799,349 / 987,574
Footnote	[141] For the purposes of this standard, GHGs are defined as the six gases listed in the Kyoto Protocol: carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF_6).					
Footnote	[142] GHG emissions must be recorded using recognized methods, standards and records as outlined in Appendix V.					
Standards related to Principle 5						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
8.11	**Indicator**: Evidence of a fish health management plan, approved by the designated veterinarian, for the identification and monitoring of fish diseases and parasites **Requirement:** Yes **Applicability:** All Smolt Producers	a. Obtain a copy of the supplier's fish health management plan for the identification and monitoring of fish disease and parasites. b. Keep documentary evidence to show that the smolt supplier's health plans were approved by the supplier's designated veterinarian.	The MHC Fishhealth management plan is a regional plan which covers the freshwater facilities as well as the marine facilities. It has been approved by the company vets. It covers all issues in relation to the health of the stock and the identification and monitoring of fish diseases and parasites.	Compliant		
8.12	**Indicator**: Percentage of fish that are vaccinated for selected diseases that are known to present a significant risk in the region and for which an effective vaccine exists [143] **Requirement:** 100% **Applicability:** All Smolt Producers	a. Maintain a list of diseases that are known to present a significant risk in the region, developed by farm veterinarian and supported by scientific evidence. b. Maintain a list of diseases for which effective vaccines exist for the region, developed by the farm veterinarian and supported by scientific evidence. c. Obtain from the smolt supplier(s) a declaration detailing the vaccines the fish received. d. Demonstrate, using the lists from 8.12a-c above, that all salmon on the farm received vaccination against all selected diseases known to present a significant risk in the regions for which an effective vaccine exists.	100% of smolt supplied from both Dalrymple and Ocean Falls were vaccinated. Fish from Ocean Falls were vaccinated with Ermogen DIP, Renogen Forte Micro and Apex-IHN. Fish from Dalrymple were were vaccinated with Renogen Forte Micro and Apex-IHN. Details of vaccinations remain in the tracking system as part of the product CV of each batch of fish. The full details of the fish, including vaccinations and treatments can be provided to the final customer.	Compliant		

Footnote	[143] The farm's designated veterinarian is responsible for undertaking and providing written documentation of the analysis of the diseases that pose a risk in the region and the vaccines that are effective. The veterinarian shall determine which vaccinations to use and demonstrate to the auditor that this decision is consistent with the analysis.					
8.13	**Indicator**: Percentage of smolt groups [144] tested for select diseases of regional concern prior to entering the grow-out phase on farm **Requirement:** 100% **Applicability:** All Smolt Producers	**Instruction to Clients for Indicator 8.13-- Testing of Smolt for Select Diseases** The farm is responsible for developing and maintaining a list of diseases of regional concern for which each smolt group should be tested. The list of diseases shall include diseases that originate in freshwater and are proven or suspected to occur in seawater (and for which seawater fish-to-fish transmission is a concern). The designated veterinarian to the smolt supplier is required to evaluate, based on scientific criteria and publicly available information, which diseases should be tested for. This analysis shall include an evaluation of whether clinical disease or a pathogen carrier state in fresh water is deemed to have a negative impact on the grow-out phase, thereby disqualifying a smolt group from being transferred. The analysis must be available to the CAB upon request. Note: A "smolt group" is defined as a population that shares disease risk, including environment, husbandry, and host factors that might contribute to sharing disease agents for each group.				
		a. Obtain from the smolt supplier a list of diseases of regional concern for which smolt should be tested. List shall be supported by scientific analysis as described in the Instruction above.	All fish are tested for a suite of diseases prior to transfer to marine sites. A transfer license must be granted for each movement of fish. The level of license depends on whether the fish are being transferred within the same health zone or to a different zone. E.g. Fish health inspection report Ocean Falls, 10/8/17, all samples negative for all tested diseases.	Compliant		
		b. Obtain from the smolt supplier(s) a declaration and records confirming that each smolt group received by the farm has been tested for the diseases in the list (8.13a).				
Footnote	[144] A smolt group is any population that shares disease risk, including environment, husbandry and host factors that might contribute to sharing disease agents for each group. Only diseases that are proven, or suspected, as occurring in seawater (and for which seawater fish-to-fish transmission is a concern) but originating in freshwater should be on the list of diseases tested. The designated veterinarian to the smolt farm is required to evaluate, based on scientific criteria and publicly available information, which diseases should be tested for. This analysis shall include an evaluation of whether clinical disease or a pathogen carrier state in fresh water is deemed to have a negative impact on the grow-out phase, thereby disqualifying a smolt group from being transferred. A written analysis must be available to the certifier on demand.					
8.14	**Indicator**: Detailed information, provided by the designated veterinarian, of all chemicals and therapeutants used during the smolt production cycle, the amounts used (including grams per ton of fish produced), the dates used, which group of fish were treated and against which diseases, proof of proper dosing and all disease and pathogens detected on the site **Requirement:** Yes **Applicability:** All Smolt Producers	a. Obtain from the smolt supplier(s) a detailed record of all chemical and therapeutant use for the fish sold to the farm that is signed by their veterinarian and includes: - name of the veterinarian prescribing treatment; - product name and chemical name; - reason for use (specific disease) - date(s) of treatment; - amount (g) of product used; - dosage; - mt of fish treated; - the WHO classification of antibiotics (also see note under 5.2.8); and - the supplier of the chemical or therapeutant.	All treatments are prescribed by the company vets (DM, MK). Treatment records are stored in Aquafarmer where they can be recalled to inform the final customer. Only prescription on file for treatments is for MS-222 anaesthetic (e.g. 18-MK057 AQFW 1125682015 MS-222).	Compliant		
8.15	**Indicator**: Allowance for use of therapeutic treatments that include antibiotics or chemicals that are banned [145] in any of the primary salmon producing or importing countries [146] **Requirement:** Yes **Applicability:** All Smolt Producers	a. Provide to the smolt supplier the list (see 5.2.2a) of therapeutants, including antibiotics and chemicals, that are proactively banned for use in food fish for the primary salmon producing and importing countries listed in [146]. b. Inform smolt supplier that the treatments on the list cannot be used on fish sold to a farm with ASC certification. c. Compare therapeutant records from smolt supplier (8.14) to the list (8.15a) and confirm that no therapeutants appearing on the list (8.15a) were used on the smolt purchased by the farm.	No antibiotic treatments have been recorded at either Dalrymple or Ocean Falls.	Compliant		
Footnote	[145] "Banned" means proactively prohibited by a government entity because of concerns around the substance.					
Footnote	[146] For purposes of this standard, those countries are Norway, the UK, Canada, Chile, the United States, Japan and France.					
8.16	**Indicator**: Number of treatments of antibiotics over the most recent production cycle **Requirement:** ≤ 3 **Applicability:** All Smolt Producers	a. Obtain from the smolt supplier records of all treatments of antibiotics (see 8.14a). b. Calculate the total number of treatments of antibiotics from their most recent production cycle.	No antibiotic treatments have been recorded at either Dalrymple or Ocean Falls.	Compliant		
	Indicator: Allowance for use of antibiotics listed as	a. Provide to smolt supplier(s) a current version of the WHO list of antimicrobials critically and highly important for human health [147].				

8.17	critically important for human medicine by the WHO [147] **Requirement:** None [148] **Applicability:** All Smolt Producers	b. Inform smolt supplier that the antibiotics on the WHO list (8.17a) cannot be used on fish sold to a farm with ASC certification. c. Compare smolt supplier's records for antibiotic usage (8.14, 8.15a) with the WHO list (8.17a) to confirm that no antibiotics listed as critically important for human medicine by the WHO were used on fish purchased by the farm.	No antibiotic treatments have been recorded at either Dalrymple or Ocean Falls.	Compliant		
Footnote	[147] The 3rd edition of the WHO list of critically and highly important antimicrobials was released in 2009 and is available at: http://www.who.int/foodborne_disease/resistance/CIA_3.pdf.					
Footnote	[148] If the antibiotic treatment is applied to only a portion of the pens on a farm site, fish from pens that did not receive treatment are still eligible for certification.					
8.18	**Indicator**: Evidence of compliance [149] with the OIE Aquatic Animal Health Code [150] **Requirement:** Yes **Applicability:** All Smolt Producers	Note: see instructions for Indicator 5.4.3 regarding evidence of compliance with the OIE Aquatic Animal Health Code. a. Provide the smolt supplier with a current version of the OIE Aquatic Animal Health Code (or inform the supplier how to access it from the internet). b. Inform the supplier that an ASC certified farm can only source smolt from a facility with policies and procedures that ensure that its smolt production practices are compliant with the OIE Aquatic Animal Health Code. c. Obtain a declaration from the supplier stating their intent to comply with the OIE code and copies of the smolt suppliers policies and procedures that are relevant to demonstrate compliance with the OIE Aquatic Animal Health Code.	The MHC Fish Health Management plan is drawn up by the fish health team, including the company Vets and it complies with the OIE Aquatic Animal Health Code.	Compliant		
Footnote	[149] Compliance is defined as farm practices consistent with the intentions of the Code, to be further outlined in auditing guidance. For purposes of this standard, this includes an aggressive response to detection of an exotic OIE-notifiable disease on the farm, which includes depopulating the infected site and implementation of quarantine zones in accordance with guidelines from OIE for the specific pathogen. Exotic signifies not previously found in the area or had been fully eradicated (area declared free of the pathogen).					
Footnote	[150] OIE 2011. Aquatic Animal Health Code. http://www.oie.int/index.php?id=171.					
Standards related to Principle 6						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
8.19	**Indicator**: Evidence of company-level policies and procedures in line with the labour standards under 6.1 to 6.11 **Requirement:** Yes **Applicability:** All Smolt Producers	a. Obtain copies of smolt supplier's company-level policies and procedures and a declaration of compliance with the labour standards under 6.1 to 6.11. b. Review the documentation and declaration from 8.19a to verify that smolt supplier's policies and procedures are in compliance with the requirements of labour standards under 6.1 to 6.11.	Hatcheries are owned and run by MHC. Policies and procedures relevant to the production sites and audited as part of this audit are applicable to the freshwater hatchery sites.	Compliant		
Standards related to Principle 7						
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**			
8.20	**Indicator**: Evidence of regular consultation and engagement with community representatives and organizations **Requirement:** Yes **Applicability:** All Smolt Producers	**Instruction to Clients for Indicator 8.20 - Consultation and Engagement with Community Representatives** Farms must comply with Indicator 7.1.1 which requires that farms engage in regular consultation and engagement with community representatives and organizations. Under Indicator 8.20, farms must show how each of their smolt suppliers complies with an equivalent requirement. Farms are obligated to maintain evidence that is sufficient to show their suppliers remain in full compliance. Evidence shall be documentary (e.g. meeting agenda, minutes, report) and will substantiate the following: - the smolt supplier engaged in "regular" consultations with the local community at least twice every year (bi-annually); - the supplier's consultations were effective (e.g. using participatory Social Impact Assessment (pSIA) or similar methods); and - the supplier's consultations included participation by elected representatives from the local community who were asked to contribute to the agenda. a. From each smolt supplier obtain documentary evidence of consultations and engagement with the community. b. Review documentation from 8.20a to verify that the smolt supplier's consultations and community engagement complied with requirements.	Freshwater Hatcheries are owned and run my MHC and are located in the same area as the production site which is being audited. See Principle 7 for evidence of compliance.	Compliant		
8.21	**Indicator**: Evidence of a policy for the presentation, treatment and resolution of complaints by community stakeholders and organizations **Requirement:** Yes **Applicability:** All Smolt Producers	a. Obtain a copy of the smolt supplier's policy for presentation, treatment and resolution of complaints by community stakeholders and organizations.	Freshwater Hatcheries are owned and run my MHC and are located in the same area as the production site which is being audited. See Principle 7 for evidence of compliance.	Compliant		

8.22	**Indicator**: Where relevant, evidence that indigenous groups were consulted as required by relevant local and/or national laws and regulations **Requirement:** Yes **Applicability:** All Smolt Producers	a. Obtain documentary evidence showing that the smolt supplier does or does not operate in an indigenous territory (to include farms that operate in proximity to indigenous or aboriginal people (see Indicator 7.2.1). If not then the requirements of 8.22 do not apply. b. Obtain documentation to demonstrate that, as required by law in the jurisdiction: smolt supplier consulted with indigenous groups and retains documentary evidence (e.g. meeting minutes, summaries) to show how the process complies with 7.2.1b; OR smolt supplier confirms that government-to-government consultation occurred and obtains documentary evidence.	Freshwater Hatcheries are owned and run my MHC and are located in the same area as the production site which is being audited. See Principle 7 for evidence of compliance.	Compliant		
8.23	**Indicator**: Where relevant, evidence that the farm has undertaken proactive consultation with indigenous communities **Requirement:** Yes **Applicability:** All Smolt Producers	a. See results of 8.22a (above) to determine whether the requirements of 8.23 apply to the smolt supplier. b. Where relevant, obtain documentary evidence that smolt suppliers undertake proactive consultations with indigenous communities.	Freshwater Hatcheries are owned and run my MHC and are located in the same area as the production site which is being audited. See Principle 7 for evidence of compliance.	Compliant		
ADDITIONAL REQUIREMENTS FOR OPEN (NET-PEN) PRODUCTION OF SMOLT In addition to the requirements above, if the smolt is produced in an open system, evidence shall be provided that the following are met:						
Instruction to Clients for Indicators 8.24 through 8.31 - Requirements for Smolt Produced in Open Systems Client shall provide documentary evidence to the CAB about the production system(s) from which they source smolt. If smolt used by the farm are produced, for part or all of the growth phase from alevin to smolt, in open (net-pen) systems, indicators 8.24 - 8.31 are applicable.						
	Indicator: Allowance for producing or holding smolt in net pens in water bodies with native salmonids **Requirement:** None **Applicability:** All Smolt Producers Using Open Systems	a. Obtain a declaration from the farm's smolt supplier stating whether the supplier operates in water bodies with native salmonids. b. Request smolt suppliers to identify all water bodies in which they operate net pens for producing smolt and from which facilities they sell to the client. c. For any water body identified in 8.24b as a source of smolt for the farm, determine if native salmonids are present by doing a literature search or by consulting with a reputable authority. Retain evidence of search results.	A. Verify that the farm obtains relevant declarations from its smolt supplier(s). B. Confirm that the farm obtains information on the water bodies in which its suppliers are operating net pens for smolt production. C. Review search results and cross-check against the other lines of evidence for salmonid distribution in the region (e.g. results from 3.1.5a).	N/A		
8.25	**Indicator**: Allowance for producing or holding smolt in net pens in any water body **Requirement:** Yes **Applicability:** All Smolt Producers Using Open Systems	a. Take steps to ensure that the farm does not source smolt that was produced or held in net pens.	A. Confirm that the farm is in full compliance with the requirement.	N/A		
8.26	**Indicator**: Evidence that carrying capacity (assimilative capacity) of the freshwater body has been established by a reliable entity [151] within the past five years [152] and total biomass in the water body is within the limits established by that study (see Appendix VIII-5 for minimum requirements) **Requirement:** Yes **Applicability:** All Smolt Producers Using Open Systems	a. For the water body(s) where the supplier produces smolt for the client (see 8.24b), obtain a copy of the most recent assessment of assimilative capacity. b. Identify which entity was responsible for conducting the assessment (8.26a) and obtain evidence for their reliability. c. Review the assessment (8.26a) to confirm that it establishes a carrying capacity for the water body, it is less than five years old, and it meets the minimum requirements presented in Appendix VIII-5. d. Review information to confirm that the total biomass in the water body is within the limits established in the assessment (8.26a). e. If the study in 8.26a is more than two years old and there has been a significant increase in nutrient input to the water body since completion, request evidence that an updated assessment study has been done.	A. Verify that the farm obtains copies of assimilative capacity assessments as are relevant to the water bodies in which its smolt supplier(s) operate. B. Verify that the assessment was done by a reliable entity (e.g. government body or academic institution). C. Verify that the assessment report is in compliance with requirements. D. Verify that the farm confirms that total biomass in the water body does not exceed carrying capacity. E. Verify that the farm requests an updated assessment (< 2 years old) if there was a significant increase in nutrient inputs to the water body.	N/A		
Footnote	[151] E.g., Government body or academic institution.					

Footnote	[152] If the study is older than two years, and there has been a significant increase in nutrient input to the water body since the completion of the study, a more recent assessment is required.					
8.27	**Indicator**: Maximum baseline total phosphorus concentration of the water body (see Appendix VIII-6) **Requirement:** ≤ 20 µg/l [153] **Applicability:** All Smolt Producers Using Open Systems	**Instruction to Clients for Indicator 8.27 and 8.28 - Monitoring TP and DO in Receiving Water for Open Smolt Systems** Farms must confirm that any smolt supplier using an open (net-pen) system is also engaged in monitoring of water quality of receiving waters. Requirements for the supplier's water quality monitoring program are presented in detail in Appendix VIII-6 and only re-stated briefly here. Monitoring shall sample total phosphorus (TP) and dissolved oxygen (DO). TP is measured in water samples taken from a representative composite sample through the water column to a depth of the bottom of the cages. Samples are submitted to an accredited laboratory for analysis of TP to a method detection limit of < 0.002 mg/L. DO measurements will be taken at 50 centimetres from the bottom sediment. The required sampling regime is as follows: - all stations are identified with GPS coordinates on a map of the farm and/or available satellite imagery; - stations are at the limit of the farm management zone on each side of the farm, roughly 50 meters from the edge of enclosures; - the spatial arrangement of stations is shown in the table in Appendix VIII-6; - sampling is done at least quarterly (1X per 3 months) during periods without ice, including peak biomass; and - samples are also collected at two reference stations located ~ 1-2 km upcurrent and downcurrent from the farm. Note: Some flexibility on the exact location and method of sampling is allowed to avoid smolt suppliers needing to duplicate similar sampling for their local regulatory regime.				
		a. Obtain documentary evidence to show that smolt suppliers conducted water quality monitoring in compliance with the requirements of Appendix VIII-6.	A. Verify that the farm obtains copies of the smolt supplier's monitoring records (datasets, protocols, reports). B. Review and confirm that the spatial arrangement of sampling stations complies with requirements of Appendix VIII-6. C. Review TP monitoring results. D. Repeat comparison. E. Verify that TP ≤ 20 ug/l in the receiving water body.	N/A		
		b. Obtain from smolt suppliers a map with GPS coordinates showing the sampling locations.				
		c. Obtain from smolt suppliers the TP monitoring results for the past 12 months and calculate the average value at each sampling station.				
		d. Compare results to the baseline TP concentration established below (see 8.29) or determined by a regulatory body.				
		e. Confirm that the average value for TP over the last 12 months did not exceed 20 ug/l at any of the sampling stations nor at the reference station.				
Footnote	[153] This concentration is equivalent to the upper limit of the Mesotrophic Trophic Status classification as described in Appendix VIII-7.					
8.28	**Indicator**: Minimum percent oxygen saturation of water 50 centimetres above bottom sediment (at all oxygen monitoring locations described in Appendix VIII-6) **Requirement:** ≥ 50% **Applicability:** All Smolt Producers Using Open Systems	Note: see instructions for Indicator 8.27.				
		a. Obtain evidence that smolt supplier conducted water quality monitoring in compliance with the requirements (see 8.27a).	A. Verify as above (see 8.27A). B. Verify that farm has copies of supplier's DO monitoring results. C. Review the supplier's monitoring results to verify compliance with requirements.	N/A		
		b. Obtain from smolt suppliers the DO monitoring results from all monitoring stations for the past 12 months.				
		c. Review results (8.28b) to confirm that no values were below the minimum percent oxygen saturation.				
8.29	**Indicator**: Trophic status classification of water body remains unchanged from baseline (see Appendix VIII-7) **Requirement:** Yes **Applicability:** All Smolt Producers Using Open Systems	a. Obtain documentary evidence from the supplier stating the trophic status of water body if previously set by a regulator body (if applicable).	A. Verify that farm obtains evidence from suppliers (as applicable). B. Review how supplier determined trophic status (as applicable). C. Verify that the farm conducts a review of the supplier's results and conclusions regarding trophic status of the water body. D. Review the farm's conclusion to verify compliance with the requirement.	N/A		
		b. If the trophic status of the waterbody has not been classified (see 8.29a), obtain evidence from the supplier to show how the supplier determined trophic status based on the concentration of TP.				
		c. As applicable, review results from 8.29b to verify that the supplier accurately assigned a trophic status to the water body in accordance with the table in Appendix VIII-7 and the observed concentration of TP over the past 12 months.				
		d. Compare the above results (8.29c) to trophic status of the water body as reported for all previous time periods. Verify that there has been no change.				
	Indicator: Maximum allowed increase in total phosphorus concentration in lake from baseline (see	a. Determine the baseline value for TP concentration in the water body using results from either 8.29a or 8.29b as applicable.				

8.30	Appendix VIII-7) **Requirement:** 25% **Applicability:** All Smolt Producers Using Open Systems	b. Compare the baseline TP concentration (result from 8.30a) to the average observed TP concentration over the past 12 months (result from 8.27e). c. Verify that the average observed TP concentration did not increase by more than 25% from baseline TP concentration.	A. Verify that farm has supplier's records for baseline TP concentrations in the water body. B. Repeat comparison. C. Repeat calculation to verify compliance with the requirement.	N/A		
8.31	**Indicator**: Allowance for use of aeration systems or other technological means to increase oxygen levels in the water body **Requirement:** None **Applicability:** All Smolt Producers Using Open Systems	a. Obtain a declaration from the farm's smolt supplier stating that the supplier does not use aeration systems or other technological means to increase oxygen levels in the water bodies where the supplier operates.	A. Verify that the farm obtains relevant declarations from its smolt supplier(s).	N/A		
ADDITIONAL REQUIREMENTS FOR SEMI-CLOSED AND CLOSED PRODUCTION OF SMOLTS Additionally, if the smolt is produced in a closed or semi-closed system (flow through or recirculation) that discharges into freshwater, evidence shall be provided that the following are met [157]:						
Instructions to Client for Indicators 8.32-8.35 - Requirement for smolts produced in open systems Client shall provide documentary evidence to the CAB about the production system(s) from which they source smolt. -If smolt used by the farm are not produced, for part or all of the growth phase from alevin to smolt, in open (net-pen) systems, indicators 8.32 - 8.35 are applicable. -If the production system is closed or semi-closed and does not discharge into freshwater, Indicators 8.32 - 8.35 are not applicable to smolt producers as per [154]. For such an exemption, farms must provide documentary evidence to the CAB. Auditors shall fully document their rationale for awarding exemptions in the audit report.						
Footnote	[154] Production systems that don't discharge into fresh water are exempt from these standards.					
8.32	**Indicator**: Water quality monitoring matrix completed and submitted to ASC (see Appendix VIII-2) **Requirement:** Yes [155]	a. Obtain records from smolt suppliers showing that water quality monitoring was conducted at least quarterly (i.e. once every 3 months) over the last 12 months. b. Obtain water quality monitoring matrix from smolt suppliers and review for completeness. c. Submit the smolt supplier's water quality monitoring matrix to ASC as per Appendix VIII-2 and Appendix VI at least once per year.	Both hatcheries take regular effluent samples for analysis. Samples are tested for Nitrate, Nitrite, TSS, Soluble Phosphorous, Total Ammonia, BOD, Chloride, salinity, pH and DO. (E.g. Ocean Falls tested in Jan, Feb, Mar, April, June and July. Results from Jan 9th 2018, TSS 1.6, Nitrite 0.005mg/l, DO 103%. Water quality results were submitted to the ASC.	Compliant		
Footnote	[155] See Appendix VI for transparency requirements for 8.32.					
8.33	**Indicator**: Minimum oxygen saturation in the outflow (methodology in Appendix VIII-2) **Requirement:** 60% [156,157] **Applicability:** All Smolt Producers Using Semi-Closed or Closed Production Systems	a. Obtain the water quality monitoring matrix from each smolt supplier (see 8.32b). b. Review the results (8.33a) for percentage dissolved oxygen saturation in the effluent to confirm that no measurements fell below 60% saturation. c. If a single DO reading (as reported in 8.33a) fell below 60%, obtain evidence that the smolt supplier performed daily continuous monitoring with an electronic probe and recorder for a least a week demonstrating a minimum 60% saturation at all times (Appendix VIII-2).	DO readings were taken monthly from discharged effluent. A single reading out of 22 was reported as <60%. There are major redevelopment plans being completed, including the effluent treatment plant. New treatment plant will be effective within a short period. Data has been submitted to ASC.	Compliant		
Footnote	[156] A single oxygen reading below 60 percent would require daily continuous monitoring with an electronic probe and recorder for at least a week demonstrating a minimum 60 percent saturation at all times.					
Footnote	[157] See Appendix VI for transparency requirements for 8.33.					
8.34	**Indicator**: Macro-invertebrate surveys downstream from the farm's effluent discharge demonstrate benthic health that is similar or better than surveys upstream from the discharge (methodology in Appendix VIII-3) **Requirement:** Yes **Applicability:** All Smolt Producers Using Semi-Closed or Closed Production Systems	a. Obtain documentation from smolt supplier(s) showing the results of macro-invertebrate surveys. b. Review supplier documents (8.34a) to confirm that the surveys followed the prescribed methodology (Appendix VIII-3). c. Review supplier documents (8.34a) to confirm the survey results show that benthic health is similar to or better than upstream of the supplier's discharge.	The macro-invertebrate survey at Dalrymple in 2015 indicated that there was a noticeable difference between upstream and downstream communities. Additional surveys in 2016 and 2017 have indicated no repeat of this finding. Report (Biologica, March 18) reported no degradation in communities but noted some changes and improvements downstream compared to upstream. No survey required at Ocean Falls due to marine discharge.	Compliant		
	Indicator: Evidence of implementation of biosolids	a. Maintain a copy of smolt supplier's biosolids (sludge) management plan and confirm that the plan addresses all requirements in Appendix VIII-2.				

8.35	(sludge) Best Management Practices (BMPs) (Appendix VIII-4) **Requirement:** Yes **Applicability:** All Smolt Producers Using Semi-Closed or Closed Production Systems	b. Obtain from smolt suppliers a process flow diagram (detailed in Appendix VIII-2) showing how the farm is dealing with biosolids responsibly.	The biosolids BMP plan (21st Sept 2015) for Dalrymple, addresses all the requirements of Appendix VIII-2. The flow process diagram details the treatment process. Removal of the sludge is undertaken monthly with the sludge removed to a terrestrial farm. No biosolids were discharged from this site over previous 12 months. The plan will be updated once the new treatment plant becomes operational, 2018.	Compliant		
		c. Obtain a declaration from smolt supplier stating that no biosolids were discharged into natural water bodies in the past 12 months.				
		d. Obtain records from smolt suppliers showing monitoring of bio solid (sludge) cleaning maintenance, and disposal as described in Appendix VIII-2.				

11 Findings

11.1 DO NOT DELETE ANY COLUMN
11.2 Columns B/C/D/E (in black) are automatically populated from the species checklist/audit manual
11.3 Each NC is raised against a standard indicator or a CAR requirement
11.4 Use the "sort" function for presenting the list to your liking (e.g. grading, status, closure deadline, etc.)

11.5 Add new rows as needed
11.6 Adjust the column wide as needed - to show the whole text

NC reference	Indicator	Grade of NC	Description of NC	Evidence	Date of detection	Status	Related VR (#)	Root cause (by client)	Corrective/ preventive actions proposed by UoC and accepted by CAB	Deadline for NC close-out	Evaluation by CAB (including evidence)	Actual date of close-out	Date request for delay received	Justification for delay	Next deadline	Request evaluation by CAB	Date request approved
1	2.1.2	Minor	Benthic results not available at time of audit.	Benthic samples were taken at peak biomass 2nd August 2018. Faunal results were not available but were expected to be analysed and reported within 3 months. Estimated values for Shannon Weiner Index Scores, based on sulphide readings as per 2.1.1, using Hargrave et al 2008, ranged from 3.45 to 3.6, estimated to be in compliance. Also, estimated values for ITI ranged from 62 - 75, estimated to be in compliance, based on sulphide results from 2.1.1.	03/08/2018	Closed		Site not yet at peak biomass	Samples have been taken and transported to Columbia Science for analysis of ITI. Report was submitted to CAB on 2/11/18. ITI results for 3 sample sites outside the AZE were 55,45 and 52. All above the ceriteria of 25, therefore this site is in compliance and the NC is considered closed.	3/11/18	Report forwarded to auditor, 2/11/18. Benthic sample results have been analysed and found to meet the ASC criteria for the indicator.Accepted as sufficient to close the NC. FG 9-11-18	9/11/18	03/08/2018	Slight delay in receiving results.	9/11/18	Site requested extension for benthic results, estimates indicated the indicator would be met. Request for extension Granted.	3/8/18
2	2.1.3	Minor	Benthic results not available at time of audit.	Benthic samples were taken at peak biomass 2nd August 2018. Faunal results were not available but were expected to be analysed and reported within 3 months. It is estimated that the analysis will satisfy this criteria due to the low sulphide levels, long fallow period, relatively low biomass and good current regime at this site. Results will be forwarded once available.	03/08/2018	Closed		Site not yet at peak biomass	Samples have been taken and transported to Columbia Science for analysis of HAT. Report was submitted to CAB on 2/11/18. Number of highly abundant taxa which are not pollution indicator species, at sample sites within the AZE were 2,2 and 4, above the limit of 2, therefore this site is in compliance and the NC is considered closed.	3/11/18	Report forwarded to auditor, 2/11/18. Benthic sample results have been analysed and found to meet the ASC criteria for the indicator.Accepted as sufficient to close the NC. FG 9-11-18	9/11/18	03/08/2018	Slight delay in receiving results.	9/11/18	Site requested extension for benthic results, estimates indicated the indicator would be met. Request for extension Granted.	3/8/18
3	6.5.1	Minor	On the farm pen area: 1. Corroded chain links between the main adjoining pontoons. 2. High pressure hoses were connected with corroded mild steel pipe connections and held upright by string. 3. The Perry Buoys (Ring Buoys) securing lines are not attached to the barge. 4. There were various tripping hazards observed on the catwalks such as metal bars. 5. Fuel residue was observed on the deck at at each feed shed exterior fuel storage tanks and no drip trays located under the fuel container on the feed barge. 6. The secondary mort floats are in a poor state of repair. 7. Heavy salmon mort bins are being carried over the feed pipes which could lead to a worker injury. 8. MSDS system is not accessible to the workers on the farm site. 9. The metal catwalk decking is in a poor state of repair and some of the temporary repair plates were not securely fastened. Accommodation and Island based Operations area: 10. The Fuel shed had 2 tanks that were severely corroded. 11. Out of date eye wash and the first aid box in the Operations room had a use by date of Oct 2006. 12. Generator's fuel tank gauge for the double skin was reading 0. Well below the permissible 42. 13. The water reservoir shed adjacent to the tsunami route was untidy, leaking and held containers of bleach. The wiring was also lying on the ground where it was damp. 14. The lean to building toward the rear of the 2nd accommodation building was littered with random items. 15. At both the farm pen area and at the accommodation area, fire extinguishers were not properly mounted.	The facility has established procedures and policies to protect employees. These are communicated within the Human Resources policy and the Marine Harvest Code of Conduct section 3.1. Employees are trained in emergency response procedures. The training has been recorded and displayed on the employee notice boards. Health and safety training is carried by an external company every year. The Marine Harvest Canada Code of Conduct section 3.1 sets out the Health & Safety rules All sites shall establish annual safety targets with action plans (what, who, when) • All sites shall have high standards of housekeeping • All managers shall carry out safety walks (Walk – Observe – Communicate) • All employees shall participate in safety meetings on a regular basis • The use of personal protective equipment and life jackets shall be specified for employees, contractors and visitors • A risk assessment with respect to safety shall be made for all jobs, equipment, and potentially hazardous materials, with an annual review made of those considered most critical • A work permit system shall be in place, to include lock-out tag-out procedures and to safeguard work in confined spaces • An approval system for contractors shall be in place • All accidents and near-misses shall be reported and investigated, to include root-cause analysis, and with the subsequent implementation of corrective actions within the planned time • An emergency response plan shall be in place and tested at least once every year • All Business Units shall have a safety committee, to include site managers and other members, to reflect a safety focus throughout the organization • A programme for systematic and regular safety training shall be in place On the farm pen area: 1. Corroded chain links between the main adjoining pontoons. 2. High pressure hoses were connected with corroded mild steel pipe connections and held upright by string. 3. The Perry Buoys (Ring Buoys) securing lines are not attached to the barge. 4. There were various tripping hazards observed on the catwalks such as metal bars. 5. Fuel residue was observed on the deck at at each feed shed exterior fuel storage tanks and no drip trays located under the fuel container on the feed barge. 6. The secondary mort floats are in a poor state of repair. 7. Heavy salmon mort bins are being carried over the feed pipes which could lead to a worker injury. 8. MSDS system is not accessible to the workers on the farm site. 9. The metal catwalk decking is in a poor state of repair and some of the temporary repair plates were not securely fastened. Accommodation and Island based Operations area: 10. The Fuel shed had 2 tanks that were severely corroded. 11. Out of date eye wash and the first aid box in the Operations room had a use by date of Oct 2006. 12. Generator's fuel tank gauge for the double skin was reading 0. Well below the permissible 42. 13. The water reservoir shed adjacent to the tsunami route was untidy, leaking and held containers of bleach. The wiring was also lying on the ground where it was damp. 14. The lean to building toward the rear of the 2nd accommodation building was littered with random items. 15. At both the farm pen area and at the accommodation area, fire extinguishers were not properly mounted.	03/08/2018	Open		Aging site infrastructure, land-based housing creates additional challenges as not all areas fall under the site managers responsibility.	1. Corroded chains to be replaced in nearterm. Farm system set to be scrapped at end of cycle (late 2018). Next cycle will have new cage infrastructure. 2. Plankton mitigation crew scheduled to visit site and repair corroded hoses- parts have been ordered, repair to be conducted post-harvest. 3. Life ring affixed to system 4. Site to conduct tidy-up of system 5. Site to conduct risk assessment on fuelling and ensure no fuel is dripped fuel gauges installed to prevent usage of dip sticks and fuel residue. Operations department continues to look for permanent solution. 6. Mort float to be removed from site float has been removed from site and scrapped 7. H&S working with site staff to create better procedure for moving mort bins 8. MSDS binder printed for feed shed 9. See 1. Images of repairs at Phillips Arm sent to site as reference 10. Risk assessment to be conducted on tanks to determine action plan fuel tanks have been removed from site 11. Item identified by staff, new eyewashes on order prior to audit 12. Identified by maintenance team, technician visiting site week of August 12. 13. Identified by staff, quotes for repair have been conducted, Senior Management to approve project 14. Operations crew to conduct clean-up at house 15. Proper mounts have been ordered and will be installed immediately. See Attachments tab for more detail. Accepted by CAB SG 18 10 18	3/11/18	Corrective plans have been accepted. Certain number of the NCs will be corrected by replacement of site infrastructure at the end of the current cycle. The deadline has been extended until the next surveillance audit to allow time for replacement in fallow period. FG / SG 18 10 18		18 10 18	Site required to be fallowed to allow for site infrastructure to be replaced. Harvesting to be completed by Nov 2018. Site expected to be fallowed until April 2019. Fallow period will be used to upgrade and replace the onsite equipment.	Next surveillance (August 2019)	Granted	18 10 18
4	6.5.2	Minor	MSDS are not held at the point of use and in the main office ashore. The chemicals are stored on pontoons and requires a boat transfer to reach the MSDS if an accident was to occur.	A full list of MSDS is available within the health and safety standards documentation and stored on all site computers however given that chemicals are stored on different pontoons and a vessel journey is required to reach the site from the main office this was thought to be inadequate. The site has carried out risk assessments for all operations and has identified the PPE required for each task. The site uses the risk assessment to understand the risks and eliminate the risks were possible. The site understands that Personal Protective Equipment should only be used where it is not possible to reduce the risk without the use of Personal Protective Equipment. Employees all receive induction training which includes the correct and proper use of Personal Protective Equipment. Workers confirmed within interview process that Personal Protective Equipment was provided and training was provided if required.	03/08/2018	Closed		WCB accepts MSDS online system, distance to house overlooked	SDS binder completed for feed shed - see attachments 1 - Accepted by CAB SG 18 10 18	3/11/18	Evidence that the MSDS have been printed and provided for access in the feed shed has been accepted as sufficient to close the NC. SG 18 10 18	18 10 18					
5	6.5.3	Major	Risk assessment was considered to inadequately assess the risk to the lone worker on site.	Risk assessments are used to identify the risk and employees are trained against the risk assessments. The site has employees who are trained to carry out risk assessments. Health and safety procedures are adapted based on results from risk assessments. Risk assessments are reviewed when changes are made to the processes to avoid potential accidents. However the lone worker risk assessment does not fully take into account the severity, frequency and risks around the current lone working practice. The feed barge is manned by a single worker and during the period of early morning and late evening operations they are the sole worker on the farm site. The current practice is to radio in on an hourly basis. This was considered inadequate to protect the safety of the lone worker.	03/08/2018	Closed		Risk assessment for working alone was considered adequate but was found not to be. Risk assessment updated.	See attachment 2 for risk assessment and additional working alone procedures - Accepted by CAB SG 18 10 18	3/11/18	Risk assessment upd	18 10 18					

6	6.5.6	Minor	A diver's fitness to dive certificate appeared to be out of date on 18th August 2017 and they had dived at the site on the 01st Aug 2018.	Divers are contracted out to a company called Allpen. Dive operations were being conducted during the audit and good practice was observed. The site holds a record of divers, operating period and certificate to dive records. The local form is the Dive inspection 60 Day Checklist. Information held, Medical certification, Occupational Dive Cert. A full plan is held along with checks such as a check of the divers log. During the Dive Inspection 60 Day checklist review of a dive conducted on 01st Aug 2018 1 diver from Allpen had a medical record certificate that appeared to expire in 2017.	03/08/2018	Closed		Transcription error by site	Diving company supplied credentials showing valid certificate, date recorded on 60 day dive check was issue date (2017) rather than expiry (2019). Staff informed and will double check dates. See attachment 3. Accepted by CAB SG 18 10 18	3/11/18	Site provided cert from diving company which indicates that the record had been transcribed in error. Accepted as sufficient to close the NC. SG 18 10 18	18 10 18					
7	7.1.3	Minor	The site has not posted notifications visible to all informing communities during times of therapeutic treatments.	The site has not posted notifications, visible to all, informing communities during times of therapeutic treatments.	03/08/2018	Closed		During the time of treatment, protestors had been boarding the site, and incidences of vandalism were being reported in other areas. As no CB was yet contracted for this audit, advice from CB could not be obtained about how to proceed. Rather than posting the sign and risking further vandalism, MHC posted notification of treatment to public website.	BC Supreme Court granted an injection August 2, 2018 preventing activists from boarding, or entering within the marking buoys, of any MHC farm, citing "tortuois" behaviours and high risk of harm. With this injunction, we are confident that posting treatment in progress signs will not put at risk the safety of site staff or fish on site, nor create potential for damage to infrastructure. http://marineharvest.ca/about/news-and-media/2018/b.c.-supreme-court-grants-injunction-to-prohibit-activists-from-all-marine-harvest-salmon-farms/ Accepted by CAB SG 18 10 18	3/11/18	Period during which the signs were not posting signs was prior to certification period. Site have since then been granted an injunction to prevent activists from boarding. Site has undertaken to post signs in future. Accepted as sufficient to close the NC. FG/SG 18 10 18	18 10 18					

ASC Audit Report - Traceability

10	Traceability Factor	Description of risk factor if present.	Describe any traceability, segregation, or other systems in place to manage the risk.
10.1	The possibility of mixing or substitution of certified and non-certified product, including product of the same or similar appearance or species, produced within the same operation.	The risk is low as the entire site is certified ASC. MHC are the only operator in this area. Harvesting vessel works only for MHC and harvests only from one site at a time. Processing factory is owned by MHC and possess COC certification.	Production site has Aquafarmer system which details the full lifecycle of each pen. Stocks in each pen are not mixed. Product CV for each fish group details lifecycle. Each fish group has separate batch number which allows for full traceability from broodstock to hatchery to production site to vessel to processing site.
10.2	The possibility of mixing or substitution of certified and non-certified product, including product of the same or similar appearance or species, present during production, harvest, transport, storage, or processing activities.	Other sites in the area are also owned by MHC. Vessel harvests from single site at a time and delivers to MHC processing facility, which has COC certification. Site, vessel and processing facility have traceability systems which ensure separation of product.	Aquafarmer system is separately coded for each production site. Harvesting vessel accepts stock from only one site at a time. Different pens are separated into different holds onboard. Processing facility has full batch separation and traceability system. Each batch is coded on entry to the processing facility. Processing facility has MSC COC certification.
10.3	The possibility of subcontractors being used to handle, transport, store, or process certified products.	Vessel is subcontracted solely to MHC and delivers from one site at a time to a MHC processing facility.	Production site traceability system is used to code each batch on the harvest vessel. Processing facility uses different batch code system but this is linked to the production site traceability system.
10.4	Any other opportunities where certified product could potentially be mixed, substituted, or mislabelled with non-certified product before the point where product	No other opportunities for mixing or substitution identified.	Product CV allows for full traceability of each batch from broodstock to final product.

Owned by client **Subcontracted by client**

10.4.a	Total number of sites owned/subcontracted by client producing the same species that is included in the scope of certification	Single site certification. None
	Number of sites included in the unit of certification	Single site certification. None

		Site name(s)	Reason(s)
10.4.b	Site(s) within UoC that has product to be excluded from entering the chain of custody	None	NA
10.5	Detail description of the flow of certified product within the operation and the associated traceability system which allows product to be traced from final sale back to the unit of certification	Aquafarmer system includes fully traceable coding system which can identify the broodstock, hatchery, fish group, transport vessel, production site, harvest vessel and processing site. All treatments and medicinal inputs are entered into Aquafarmer. Product CV can be generated for each batch which details full lifecycle, treatments and feed batches used during production.	

10.6 **Traceability Determination:**

10.6.1	The traceability and segregation systems in the operation are sufficient to ensure all products identified and sold as certified by the operation originate from the unit of	Yes, MHC have traceability systems in place which ensure that all products identified and sold by the operation originate from the unit of certification.
10.6.2	The traceability and segregation systems are not sufficient and a separate chain of custody certification is required for the operation before products can be sold as ASC-certified or can be eligible to carry the ASC logo.	NA
10.6.3	The point from which chain of custody is required to begin	COC starts at reception of product at the processing facility.
10.6.4	If a separate chain of custody certificate is required for the unit of certification	NA

For Multi-site clients

ASC Audit Report - Closing

12 Evaluation Results

12.1 A report of the results of the audit of the operation against the specific elements in the standard and guidance documents	The audit was conducted onsite and in the regional office. All of the specific criteria in the standard and the guidance documents were audited. Apart from the non-conformances, sufficient evidence was presented to indicate adherence to all clauses and criteria.
12.2 A clear statement on whether or not the audited unit of certification has the capability to consistently meet the objectives of the relevant standard(s)	The unit of certification has the capability to meet the objectives of the ASC Salmon Standard V1.1.
123 In cases where BEIA or PSIA is available, it shall be added in full to the audit report. IF these documents are not in English, then a synopsis in English shall be added to the report.	NA

13 Decision

13.1 Has a certificate been issued? (yes/no)	Yes
13.2 The Eligibility Date (if applicable)	09th November 2018

13.3	Is a separate CoC certificate required for the producer? (yes/no)	No
13.4	If a certificate has been issued this section shall include:	
13.4.1	The date of issue and date of expiry of the certificate.	Issue date: 09th November 2018 Exp date : 08th November 2021
13.4.2	The scope of the certificate	Salmon
13.4.3	Instructions to stakeholders that any complaints or objections to the CAB decision are to be subject to the CAB's complaints procedure. This section shall include information on where to review the procedure and where further information on complaints can be found.	Please note that any complaints or objections to the SAI Global certification decision are to be subject to the SAI Global complaints procedure. The procedure can be reviewed by following the below link.https://www.saiglobal.com/assurance/feedback.htm

14 Surveillance

14.1	Next planned Surveillance	
14.1.1	Planned date	
14.1.2	Planned site	
14.2	Next audit type	
14.2.1	Surveillance 1	x
14.2.2	Surveillance 2	
14.2.3	Re-certification	
14.2.4	Other (specify ty	

LIVING OCEANS
Healthy Oceans. Healthy Communities.

Attn: Linda McDonnell
SAI Global
Linda.McDonnell@saiglobal.com

9th October 2018,

Stakeholder Submission RE: draft Initial Full Assessment Report, Marine Harvest Canada's Midsummer farm, by SAI Global, published on the ASC website 18th September 2018

Upon review of the draft Aquaculture Stewardship Council (ASC) audit for Marine Harvest Canada's Midsummer Island farm, we find SAI has failed to comply with the ASC Certification and Accreditation Requirements (CAR) and the ASC audit manual for several Salmon Standard indicators.

According to the draft audit report, Midsummer has breached their licenced biomass. In addition, we believe it would be irresponsible for SAI Global to grant ASC certification given the clear opposition of fish farms by the First Nations of the territory in which the Midsummer farm resides. Therefore, the certification would undermine the credibility of the ASC, the salmon standard and SAI Global.

Our comments and concerns are provided in detail below. We look forward to hearing how SAI will address these outstanding concerns. Furthermore, we ask that our stakeholder submission be included in the final published report.

Sincerely,

Kelly Roebuck
Living Oceans Society

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Salmon Standard Requirements

The ASC CAR stipulates Conformity Assessment Bodies (CABs) must conform with the following audit process 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.*

We find the auditor has failed to follow 17.3 for the following Salmon Standard indicators:

I. **Indicator 1.1.1 Presence of documents demonstrating compliance with local and national regulations and requirements…**

The audit report provides the following evidence for indicator 1.1.1:

> *"Department of Fisheries and Oceans Canada (DFO) issued an aquaculture license on July 1st 2016 which expires on June 30th 2022. (AQFF 115233 2016/2022). This sets a maximum combined peak biomass of 2500 tonnes of Atlantic Salmon"*

DFO's list of current valid marine finfish B.C. aquaculture licence holders confirms MHC's Midsummer farm is licenced for 2,500mT.[1]

However, the audit report lists the estimated annual production volumes of the unit of certification of the current year (6.5) to be 3,075mT. Therefore, Midsummer farm is in breach of their maximum combined peak biomass as per their licence and therefore does not conform to indicator 1.1.1.

II. **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 Midsummer farm 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)

[1] https://open.canada.ca/data/en/dataset/522d1b67-30d8-4a34-9b62-5da99b1035e6

as the relevant nutrients for water quality targets. CCME guidelines only measure nitrate (as acknowledged in the draft report) and cannot be used as evidence of "national water classification".

VR 198 was approved by the ASC VR-committee on the 13th 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".[2]

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.

III. Indicator 3.1.1 Participation in an Area-Based Management scheme.

The CAB incorrectly evaluates this indicator as "compliant" and states, "Marine Harvest Canada is the only farming company with sites in this particular area of the Broughton".

The Salmon Standard Appendix II-1 specifies the following definition of "area":

> *"II-1. A Definition of "area"*
> *If area-based management is already a regulatory requirement of the farm's jurisdiction, then farms will use this definition of "area" for the purposes of these requirements. In jurisdictions where ABM is not a regulatory requirement, the area covered under the ABM must reflect a logical geographic scope such as a fjord or a collection of fjords that are ecologically connected. The boundaries of an area should be defined, taking into account the zone in which key cumulative impacts on wild populations may occur, water movement and other relevant aspects of ecosystem structure and function."*

Considering the key cumulative impacts on wild populations, which would include the potential disease and pathogen impacts, Midsummer farm resides near juvenile salmon migration routes that are shared with several other salmon farms. Figure 1 illustrates the key migration routes.

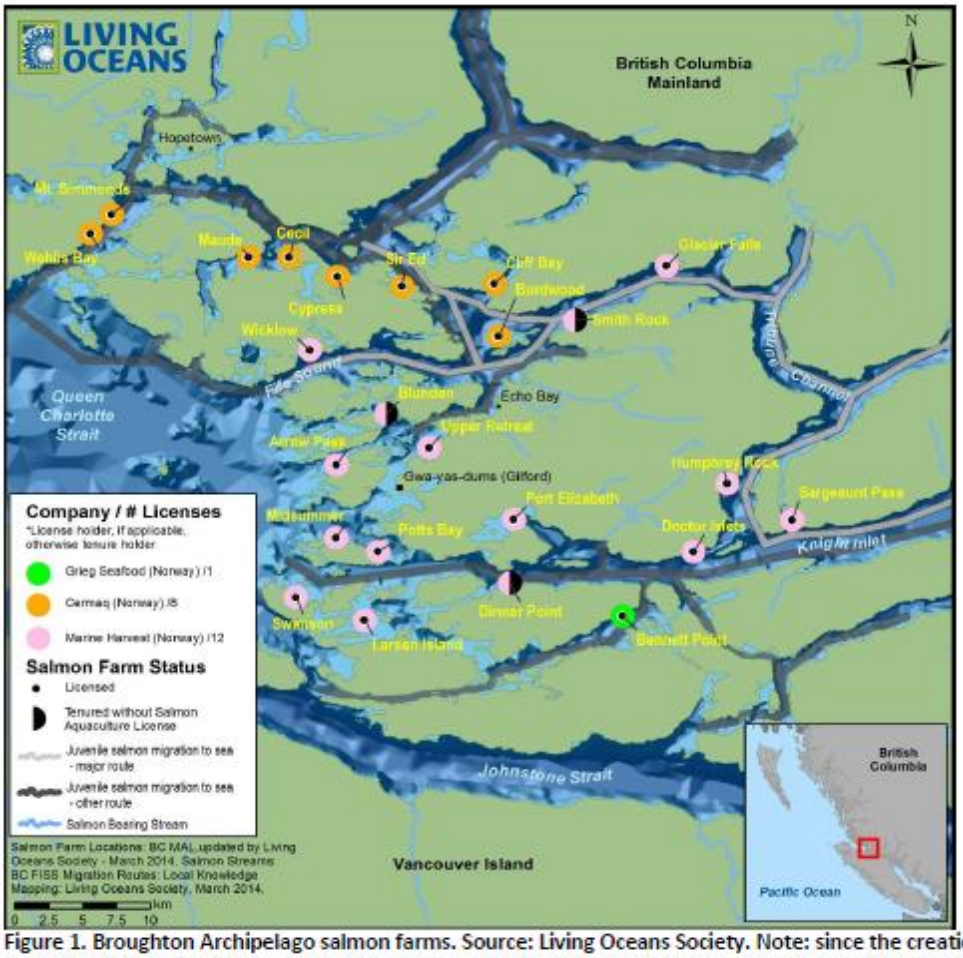

Figure 1. Broughton Archipelago salmon farms. Source: Living Oceans Society. Note: since the creation of this map, two new Grieg Seafood farms were established in Clio Channel (near the location of their 'Bennet Point' farm).

Figure 2 illustrates the collection of narrow and confined fjords the three companies share that encompass Knight and Kingcome Inlets.

	release farm																			
capture farm	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	[redacted]	4078	2372	135	339	25	85	28	3	14	118	1	3	13	25	1	4			
2	282	[redacted]	9882	4	47	82	205	5	9	96	442		3	9	180	11	11	2		
3	236	833	[redacted]	20	80		3	3		1	14	1		1	1					
4	1241	311	363	[redacted]	64		1	20				5	4	4						
5	1030	369	448	620	[redacted]	1	2	281	51		2	121	61	148	7	1				
6	19	14	16	41	14	[redacted]	890	294	339	463	665	156	255	822	1445	41	33	6	19	20
7						8	[redacted]			517	225				265	801	1078	521	88	31
8	1887	630	528	1241	956	69	81	[redacted]	2576	103	322	3284	2595	[redacted]	795	4	1		1	1
9	50	9	19	85	15	111	120	429	[redacted]	137	654	231	223	568	968	10	5			
10		2	2			13	585	2	4	[redacted]	471		1	1	322	16	74	22	5	6
11	4	218	190	2		346	982	40	85	616	[redacted]	13	34	53	877	67	98	28	9	15
12	291	84	89	416	814	5	1	943	229	1	8	[redacted]	1383	517	38					
13	528	147	181	808	393	5	5	2113	890	12	32	4770	[redacted]	1437	88	1			3	7
14	1403	464	380	2337	681	39	48	[redacted]	9068	71	227	2755	2365	[redacted]	565	5	1		2	2
15	4	58	61	14	5	883	1865	156	213	2165	5917	85	117	190	[redacted]	211	221	53	31	34
16						96	136	4	11	23	16	1	12	10	20	[redacted]	[redacted]	5482	2058	908
17				1		36	9	4	3	1			6	6	2	2014	[redacted]	4827	658	381
18						17	4	1					1	7		1164	1641	[redacted]	289	109
19	4	1	3	9	1	805	16	112	164	10	28	90	140	178	69	1850	1016	656	[redacted]	[redacted]
20	21		4	11	2	1125	31	160	195	19	31	250	197	226	100	1274	689	459	[redacted]	[redacted]

Figure 3. Particle modelling connectivity between Broughton Archipelago salmon farms. Source: DFO Legend: Connectivity range – Blue (none) to Red (very high).

As study of Broughton Archipelago estuarine and tidal currents observed "the bottom estuarine flow in Knight Inlet actually comes from Queen Charlotte Strait via the "back-door" of Fife Sound and Tribune Passage" and that "the surface estuarine flow coming down Knight Inlet bifurcates with part going down Tribune Channel and Fife Sound and part continuing down Knight Inlet".[4] The authors conclude "Consequently, these surface flows can be expected to have important implications for the potential interactions (e.g., transfer of sea lice and viruses) between farmed and wild salmon".

Located within the critically important migration route of wild salmon, the collection of narrow and confined fjords including the Knight Inlet, Tribune Channel and Fife Sound (and their tributaries) in the Broughton Archipelago meet the boundary definition of "area" as per the ASC salmon standard Appendix II-1.

Compliance with salmon standard indicator 3.1.1 should therefore be determined on the basis of the Broughton Archipelago "area" and as per Appendix II-1. B Requirements related to participation in the scheme, compliance requires that at least 80 percent of farmed production in the Broughton is participating in the ABM scheme. Compliance with this indicator would require MHC to demonstrate co-

[4] Foreman, M, Stuchhi, D, Zhang, Y & Baptiste, A 2005. Estuarine and Tidal Currents in the Broughton Archipelago, *Atmosphere-Ocean*, vol. 44 https://doi.org/10.3137/ao.440104

ordination with Cermaq and Grieg Seafood for the following ABM components and guidance, as per Appendix II-
1.C ABM components and guidance:
1. Application and rotation of treatments;
2. Stocking;
3. Fallowing;
4. Monitoring schemes; and
5. Setting and revising a maximum ABM lice load.

Furthermore, the audit report refers to Variance Request 145 for indicator 3.1.1 in aim that MHC can simply defer to current DFO management in the absence of an ABM scheme. The Variance (#145) refers to a different BC salmon farming company, Mitsubishi/Cermaq and their farms located in a different area, Clayoquot Sound. Mitsubishi/Cermaq are the only company in Clayoquot Sound north of Tofino. This is unlike the MHC Broughton farms where other companies operate (as discussed above), therefore requiring area-based coordination beyond company best management practices and DFO management. The variance is also specific to the ABM stocking requirement only.

Consequently, we submit the quoted variance request (145) is not applicable, as per our reasons outlined above.

In addition, we provide evidence in the form of a recent peer review study that shows DFO's management policy to be inadequate for meeting ABM requirements for the application and rotation of treatments.

Appendix II-1 (Application and rotation of treatments) states: "Farmers must be able to demonstrate a coordinated treatment plan and evidence that the schedule and rotation of treatments are being implemented."

Analysis by Bateman et al. (2016)[5] suggest the combination of unusual environmental factors and delayed management action by farms contributed to the factors leading to the 2015 Broughton Archipelago sea louse outbreak. The study found DFO sea lice management policy to be "not sufficient" and instead recommended a cooperative coordinated ABM approach be adopted. Specifically, the study observed a lack of coordination between farms, as demonstrated by the offset treatment schedules at some farms, including those owned by the same company.

Therefore, in the absence of a relevant variance request, and most notably, in the absence of participation in an ABM scheme (as detailed in Appendix II-1), Midsummer does not conform to Indicator 3.1.1.

[5] Bateman, A, Peacock, SJ, Connors, B, Polk, Z, Berg, D, Krkošek, M & Morton, A 2016, 'Recent failure to control sea louse outbreaks on salmon in the Broughton Archipelago, British Columbia', *Canadian Journal of Fisheries and Aquatic Sciences*, vol. 73(8), pp.1164-1172.

IV. **Indicator 3.2.2 If a non-native species is being produced, evidence of scientific research [41] completed within the past five years that investigates the risk of establishment of the species within the farm's jurisdiction and these results submitted to ASC for review**

The audit report fails to provide "evidence of scientific research completed within the past five years that investigates the risk of establishment". Instead, the auditor notes state:

> *"Atlantic salmon has been farmed in BC since 1985, prior to 1993, when the convention on Biological Diversity was ratified and prior to June 13th 2012 when the ASC standard V1.0 came into force."*

Footnote 41 of Indicator 3.2.2, states the following requirement:

> *"The research must at a minimum include multi-year monitoring for non-native farmed species, use credible methodologies and analysis, and undergo peer review."*

Specifically, the audit manual's evidence of compliance for 3.2.2C requires CABs to:

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

Furthermore, 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.

V. **Criterion 7.2 Respect for indigenous and aboriginal cultures and traditional territories (Indicators: 7.2.1; 7.2.2; 7.2.3) & Criterion 7.3 Access to resources (Indicators: 7.3.1; 7.3.2)**

While the audit report acknowledges the local First Nation opposition to the Midsummer farm and that "regular monitoring in order to confirm compliance is required" – it fails to provide evidence of an 'active process' or 'continued consultations' as instructed by the Standard and audit manual (7.2.3); instead, the auditor notes any "engagement" has been obstructed by "legal routes". Despite this, indicator 7.2.3 is still listed as "compliant".

It appears the intent of criterion 7.2, to address potential negative impacts on indigenous communities by ensuring proactive consultation and protocol agreements, becomes moot in circumstances where First Nations adamantly oppose salmon farming in their traditional territories. In practice, the criterion only appears to 'work' when Indigenous groups are willing to engage with salmon farming within their territory. Granting certification to Midsummer farm that does not have Indigenous consent to operate in their traditional waters is misrepresenting the Standard's claim to be 'socially responsible' in regard to respecting First Nations' rights and title.

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31 October 2018

Stakeholder Submission RE: Initial Full Assessment Report, Marine Harvest Canada's Midsummer Island farm, by SAI Global Assurances Services

Dear Kelly,

Thank you for your submission of the 9th October 2018 in relation to the draft assessment report of the Marine Harvest Canada's Midsummer Island farm site to the ASC Salmon Standard. It is an integral part of the ASC process that Stakeholders have an input and we appreciate your comments.

In your submission, you state that SAI have failed to comply with the ASC certification requirements and with the manual. As a general comment on this, our auditors are trained by ASC to audit the ASC Standard they also have extensive experience in aquaculture and auditing techniques so we can assure you the audit is robust and conducted in compliance to the standard required.

We have addressed the comments in the submission in same sequence as raised below;

I. **Indicator 1.1.1, compliance with regulations: You claim that the farm is in breach of this indicator as they will produce more than the maximum allowable biomass.**

   The Department of Fisheries and Oceans Canada (DFO) sets a maximum combined peak biomass of 2500 tonnes of Atlantic salmon at Midsummer Island according to the issued license for the site. The license further defines "peak biomass" as "the maximum biomass of finfish within the facility during the production cycle" (p. 4). Peak biomass is therefore the biomass on site at a given time, rather than the total production allowable at the site. As harvests may extend over a number

of months, the total production on site may exceed 2500 tonnes as the remaining stock continue to growth.

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

The BC Water Quality Guidelines for Nitrogen, Nordin 2009, were considered to be a target for coastal water quality with the aim of protecting marine aquatic life. An independent assessment reviewed during the audit has concluded that the water quality, according to the limits set in this guideline, is equivalent to good or very good. Footnote 12 of the Audit Manual – ASC Salmon Standard v1.1 provides examples of relevant nutrients for water quality targets but does not require that national targets include each of these variables. For the reason stated, VR 198 was not applied.

III. **Indicator 3.1.1 Participation in an area based management scheme.**

In theVR145, ASC state in their finding that "The intent of the ASC Salmon Standard regarding Criterion 3.1.1 is to address the impact of disease transmission of salmon farms on wild salmon in a collective approach. Details of this approach are spelled out in Appendix II-1 of the ASC Salmon Standard. Complying to the current DFO management plan is in line with the intent of the ASC Salmon Standard (criteria 3.1.1 and Appendix II1)." The assessment of the audit team during the audit also concluded that there are robust health management procedures in place, in the case with others sites belonging to the audited company in the area of Broughton.

IV. **Indicator 3.2.2 Non-native species:**

Atlantic salmon has been in production in British Columbia for many decades and is has been studied extensively since that introduction. Reviewed evidence during the audit confirmed that wild salmonid monitoring reports include incidences of Atlantic salmon capture in surveys in all production areas. The results of the surveys showed no evidence of risk of establishment of the species as no Atlantic salmon (Salmo salar) were captured during the samplings. Other peer reviewed papers available to the audit team included:

Bisson, Peter A. "Assessment of the Risk of Invasion of National Forest Streams in the Pacific Northwest by Farmed Atlantic Salmon." Published by US Department of Agriculture Forest Service, November 2006.
Piccolo, John J. Orlikowska, Ewa H. "A biological risk assessment for an Atlantic Salmon (Salmo salar) invasion in Alaskan waters." Aquatic Invasions, Published online October 6, 2011.
Ginetz, R.M.J. "On the risk of colonization by Atlantic salmon in B.C. waters." Prepared for B.C. Salmon Farmers Association, May 2002.

V. **Criterion 7.2 and 7.3 Respect for indigenous cultures and aboriginal cultures and traditional territories & access to resources.**

As required under the Aquaculture Stewardship Council, SAI Global reached out to a number of interested groups and individuals in the region, including First Nations groups, inviting comments and submissions from these various groups and individuals. During the onsite element of the audit the audit team reviewed evidence of the applicant's outreach to all such interested groups and individuals to develop dialogue and positive working relationships. Through this process the audit team determined the farm to be in compliance.

We hope that this answers all of your queries, and if you require any additional details, please don't hesitate to contact us.

Yours sincerely

JUN. BAZO

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Internal Auditors Requirements

Annex B - Table D - Internal auditors qualifications and competencies

Items denoted with (*) are required when the training is made available by the ASC

Req.#		Requirement	Evidence	Met	Unmet
For all internal auditors					
B45	Auditor training	* Completed the ASC training for new requirements as specified by the ASC within the deadlines set by ASC			
		Undertake additional training on changes to legislation, specific standards, codes or conventions as appropriate			
B60	Work experience	The individual shall have experience relevant to the business being audited.			
B51	Interviewing	Be experienced in different types of interviewing techniques			
B52	Language	Fluent speaker and reader of the language(s) used by managers, administrators and workers or accompanied by an independent interpreter			
For internal audit team leader					
B42	Audit/inspection Experience	At least two satisfactory witness audits as an acting audit (team) leader, shadowed by and under the supervision of a competent internal auditor			
For auditing multi-site requirements (IMS)					
B44	Audit/inspection training	Successfully completed an Internal Assessor training course based on ISO 19011 principles that have a minimum duration of sixteen (16) hours			
B45	Auditor training	successfully completed either an ISO management system internal auditor course (ISO 9001/14001/22000/27000/OHSAS/etc.) provided by a certification body or a professional auditor training institution			
		* Successfully passed the 'ASC Farm Traceability' online training module			
		Had an audit peer witnessed by a qualified ASC internal auditor no less than once in each two (2) year period			

B54	Management systems and reference documents	Have a general knowledge of management systems standards (such as ISO 9001), applicable procedures or other management systems documents used as audit criteria			
For auditing environemntal requirements					
B59	Technical languag	Have knowledge of the technical language employed in aquaculture and processing of aquaculture products			
For auditing social requirements					
B45	Auditor training	Successfully completed a training course for auditing social requirements provided by a certification body or professional training institution specialised in social auditing			