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 (except unannounced audits).
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	24-Sep-18
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

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 the Client	Marine Harvest Canada
PDF 1.4.1.a Name of the unit of certification	Shelter Bay
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 V9W8C9
PDF 1.4.5 Email address	katherine.dolmage@marineharvest.com

PFD 1.4.6	Phone number	2508503276
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 1.5.2.a	Ownership status	
PDF 1.5.3	Group certification	

PDF 1.6 Sites to be audited

Site Name	GPS Coordinates	List all species per site and indicate if they are in the scope of the standard	Ownership status (owned/ subcontracted)	Date of planned audit and type of audit (Initial, SA1, SA2, recertification, etc.)	Status (new, in production/ fallowing /in harvest)
Shelter Bay	50 57.93N 127 27.145W	Salmon	Owned	05th -09th Nov 18	In production

PDF 1.7 Species and Standards

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

PDF 1.8 Planned Stakeholder Consultation(s) and How Stakeholders can Become Involved

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
Port Hardy Council	Government	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Sayward Town Council	Government	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Kwakiutl First Nation	Government	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
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
Coast Forestry Products Association	Forestry	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
Coast Forestry Products Association	Fisheries	Via Email	Prior to audit and when the Draft Assessment Report is posted on the ASC website	Via Email
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
Flurers Smokery	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
BC Centre for Aquatic Health Sciences		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

PDF 1.9 Proposed Timeline

PDF 1.9.1

Contract Signed:	Sep-18
Start of audit:	Nov-18

PDF 1.9.2	Onsite Audit(s):	05th -09th Nov 18
PDF 1.9.3	Determination/Decision:	Feb-19
PDF 1.9.4		

PDF 1.10 Audit Team

Column1	Name	ASC Registration Refer
Lead Auditor	Fergal Guilfoyle	N/A
Social Auditor	Leon Reed	N/A

PDF 1.10.1

PDF 1.10.3

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 - Leon Reed Technical Review - Luis Martinez
1.6 Client's Contact person: Name and Title	Katherine Dolmage Certification Manager
1.7 Date	08-Jan-19

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	

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 production site at Shelter Bay, Vancouver Island, British Columbia, Canada. Producing Atlantic Salmon in 10 cages on a sheltered site with accommodation onsite in a floating barge. 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 smolt from a hatchery at approx 60-150g. Site grows the stock until harvest. Harvest usually begins after 18 months and is completed by 24 months. The site is usually fallowed for a period before being restocked.
4.3	Type of unit of certification (*select only one type of unit of certification in the list)*	Single farm.
4.4	Type of audit (*select all the types of audit that apply in the list)*	Initial

4.4.1 Number of sites included in the unit of certification

	Owned by client	Subcontracted by client
Initial audit - 11/2018	One	None
Surveillance audit 1 - mm/ yyyy		
Surveillance audit 2 - mm/ yyyy		
Recertification audit - mm/ yyyy		

4.5	A summary of the major findings	There were 2 major findings against P6, 6.5.1 and 6.10.1. There were 6 minor findings, 3 against P2, 1 against P3, 1 against P5 and 1 against P6.

4.6	The Audit determination	Certification 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 Shelter Bay, including operation facilities and accommodation on floating barges onsite.
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	3529.6t
6.6	Actual annual production volumes of the unit of certification of the previous year *(mandatory for surveillance and recertification*	4,126t
6.7	Production system(s) employed within the unit of certification *(select one or more in the list)*	Floating, circular netpens.
6.8	Number of employees working at the unit of certification (*see notes in comment to this cell*)	Total of 7, 2 shifts of 3 and the site manager.
6.9	Size, and/or number of ponds, pens (if multi site, per site)	10 x 120m circular netpens with 2 extra licensed but not installed.

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 (accommodation and feed barges, mort floats etc.). 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 to the North East of Vancouver Island, BC, Canada. Production area known as Port Hardy.

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 Leon Reed - Social Auditor Date of desk review 29th - 31st Oct 18. Date of onsite audit - 6th Nov 2018. Date of office audit 5th and 9th Nov 2018. Date of report writing 26th - 30th Nov 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 - mm/yyyy		
	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	29th - 31st Oct 18	Ireland
8.3.2	Onsite audits	5th - 9th Nov 18	Shelter Bay, BC
8.3.3	Stakeholder interviews and Community meetings	None	None
8.3.4	Draft report sent to client	08-Jan-19	
8.3.5	Draft report sent to ASC	22nd Jan 19	
8.3.6	Final report sent to Client and ASC	13-Mar-19	

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.	Katherine Dolmage - Certification Manager Renee Hamel - Certification Administrator Blaine Tremblay - Health and Safety Manager David Gibbs - Site Manager Richard Opala - Regulatory Affairs Manager

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

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)*	

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 Shelter Bay. The Department of Fisheries and Oceans Canada (DFO) issued an aquaculture license on 15th June 2017 which expires on June 30th 2022. (AQFF 116647 2016/2022). This sets a maximum combined peak biomass of 3500 tonnes of Atlantic Salmon. Also required is a License of Occupation, for the foreshore, from the Province of British Columbia (File Number 1407748) issued on 3rd May 2017 (valid until 2025). Also required is a navigation waters permit (2003 500 702 T11362, issued 22nd Sept 2016).	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 and POH District 26 - 6 - 18 receipt number 101833). 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 includes general conditions which must be adhered to but no site specific conditions. The site is compliant with all conditions. There are no conditions specifically relating to water quality and no discharge license is required, over and above permits detailed in 1.1.1. Freshwater sites, such as the hatcheries detailed in section 8 of this audit report, require permits to discharge into fresh waterbodies and are compliant (see section 8.1).	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.	A modelling exercise was conducted and a site specific AZE has been determined using Depomod. Client chooses to use option #2 sulphide. Sulphide measurements taken at peak biomass for previous cycle (2015YC) were compliant. However site is currently at 78% biomass and benthic sampling has not taken place. Sulphide measurements in the sediment outside the AZE were not available.	Minor	Benthic Sample results not available. A minor NC was raised, benthic sampling is planned and sulphide measurements should be available immediately, once sampling occurs.	
		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.				
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).	Benthic samples taken during the peak biomass period of the previous generation (2015YC) indicated compliance with this criteria (ITI from stations outside the AZE were >25). Benthic sampling at peak biomass for current generation has not taken place and faunal index	Minor		
		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.				

	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.	scores were not available.			
		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.			Benthic Sample results not available. NC was classed as a minor, benthic sampling is planned and results for indicator will be estimated from sulphide measurements.	
		i. Submit faunal index scores to ASC (Appendix VI) at least once for each production cycle.				
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 sampling results from samples taken during the peak biomass of the previous generation (2015YC) indicate compliance with the number of HAT. However for the current generation the peak biomass samples have not been taken and the results were not available.	Minor	Benthic Sample results not available. NC was classed as a minor, benthic sampling is planned and results for indicator will be estimated from sulphide measurements.	
		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 which is based on a multi-parameter approach. A site specific AZE has been determined and the results are credible and have been tested. 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 (Oxygyard). Readings are checked against realtime probes in cages and at feed barge. Weekly average DO results were submitted to ASC. Results for past 6 months range from 52.3 - 100.8%. Seasonally, in this region, there tends to be a period from Aug to Nov when DO levels drop in the whole region. This is considered a natural phenomenon. During this time the site has a procedure to record DO at a reference site (50o 58.6'N 127o 27.6'W) on any occasions when D0 at the site falls below 70%. Results from the reference site indicate this naturally low seasonal DO e.g. week 15th -19th Oct DO at reference site was 56%. DO on site was 57.7%.	Compliant		52.3-100.8%
		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, as per records on Aquafarmer. 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) has developed a set of water quality guidelines for the protection of aquatic life (Canadian Environmental Quality Guidelines, BC WQG). British Columbia has established guideline limits for Nitrate (3.7mg/l) and Ammonia (1.34mg/l), 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, Apr 2017) has analysed water quality samples and classified the result for the Port Hardy area (ammonia 0.15mg/l Nitrate 0.23mg/l) well below the threshold considered adequate for the protection of aquatic life. The farm takes regular	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.	threshold considered adequate for the protection of aquatic life. The farm takes regular water quality samples to ensure conformance with this criteria.			
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.	British Columbia has a classification system which is considered to be equivalent to regional water quality targets and therefore this indicator 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 6838495.9. Calculation was made according to formula in ASC standard. Data was submitted to ASC. BOD values for current production cycle (2017 YC) will be calculated at the end of the cycle and submitted to ASC.	Compliant		6838495.9
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. Operations and accommodation barges are, in general, clean and tidy. Chemicals at the farm site are stored securely. There are procedures for the safe storage and usage of all chemicals (Spill response flow chart 22nd Dec 2015). Staff have received training in chemical use (e.g. biosecurity products use - Marine Site 16th May 18 DG) 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. MK MS222 prescription 16-MK011E). 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. 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.	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 3rd quarter 2018 results range from 0 - 0.1%, e.g. MH Prem 3500 65A 12mm 1T 13th Sept. 0.1% fines.	Compliant		0-.1%
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. 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.	During the license application and assessment process for this farm (25th June 2010) an environmental assessment (CEA) was completed. This was a comprehensive risk assessment of both marine and terrestrial potential impacts. No potential impacts 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). The site is not located in a protected area or HCVA. DFO have continued to permit the production of fish onsite. Ongoing development work, 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) and aims for long-term ecosystem based marine management. Shelter Bay is located within a Protection Management Zone, Cape Caution, where Aquaculture is conditionally approved. Protection management zonation does not imply a recommendation. Existing activity (such as Shelter Bay finfish farm) is permitted to continue while licensed. The condition, within the plan, for Aquaculture within the Cape Caution zone is that First Nations economic opportunities must be maintained.	Compliant		
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]	**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				

	Applicability: All farms except as noted in [22]	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).	The British Columbia mapping system for protected areas (BC Parks and also seasketch.org (using MaPP data)) identifies the Shelter Bay farm site and there are no designated protected areas in the immediate vicinity. The Alison Harbour Marine Park is 4km distant and the Duke Of Edinburgh Ecological reserve is over 10km distant. No other area of High Conservation Value has been identified nearby. The distances involved are considered sufficient to prevent any interaction between the farm site and the conserved aspects of the reserves.	Compliant		
		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.				
		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 (condition 10.2 of DFO license) 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		
		-				
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. No mortality events have been recorded during current or previous production cycle. Mortality records are made public on the Marine Harvest Canada website.	Compliant		
		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 have been no lethal actions against predators or other wildlife at this site. There is a procedure to inform the public of any fatal interactions with wildlife onsite and these procedures are followed on other sites. Information is posted to the public Marine Harvest Canada website.	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 have been no lethal actions against predators or other wildlife at this site. There is a procedure to inform the public of any fatal interactions with wildlife onsite and these procedures are followed on other sites. Information is posted to the public Marine Harvest Canada website.	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.	There has been no lethal actions at the site since the assessment began. There are procedures in place to collect this information, assess and reduce the risk. Records will continue to be kept to measure the number of lethal actions occurring over the coming	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.	continue to be kept to measure the number of lethal actions occurring over the coming years. Information was submitted to the ASC.			
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. 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.	Marine Harvest Canada is the only farming company with sites in this particular area of Queen Charlotte Strait (Port Hardy production area). They operate all of 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 all fish transfers. 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 area. MHC have indicated their willingness to enter into ABM agreements where there is need e.g. in Okisollo where there are other companies farming in the region there is an MOU (1.2.2012) which covers fish health, stocking, bioassays and treatment plans. Fallowing period for Shelter Bay submitted to ASC (Feb 17 - Apr 17).	Compliant		
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. 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.	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. Other research topics include genomic research with GenomeBC and acoustic tag tracking of migrating salmon with the NGO Kintama.	Compliant		
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.	VR 146 (approved) removes the need to calculate the lice load as there is no ABM in the area. However the maximum sealice load for the area could be 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). DFO conduct an annual assessment of wild salmon populations and outlook for the coming season. Annual lice load was submitted to ASC.	Compliant		
		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 throughout the year. Sensitive period is set in the PAR and is contained within the conditions of all salmon farms licensed by DFO (condition 6). Sensitive period is 1st march to 30th June (Condition 6.4). 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. 8th Nov 2018, motile Lepeophtheirus salmonis = 0.12). 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 forecasted outlook for the year. 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.	MHC in partnership with the Tlatlasikwala First Nation have, for the past 7 years, contracted Pacificus Biological services Ltd to carryout field work, in the North Vancouver Island area, to calculate lice levels on wild fish. These reports are made public on the MHC website (Wild Sea Lice Monitoring, 2018). Pink, Chum, Coho and Sockeye were all sampled. Infestation rates for pink and chum (species more at risk and therefore more of a concern) ranged from 14-18%, abundance ranged from 0.31 - 0.46 and intensity ranged from 2.17 - 2.57 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 variation (VR141 approved) in relation to sea lice thresholds and maximum farm lice levels during the sensitive period. DFO have set a threshold of 3 motile Lepeophtheirus salmonis during the sensitive period (condition 6.4). Lice levels on Shelter Bay remained below 3 for the sensitive period (e.g. 3rd Apr 18: 0.99). 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 (DFO website). 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. 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. 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 been studied extensively since that introduction. Wild salmonid monitoring reports include reporting of Atlantic salmon captures which showed no evidence of establishment of the species as no Atlantic salmon (Salmo salar) were captured during the surveys. 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.", US Forest Service, Nov 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 Oct 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 (declaration Apr 17). 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 Shelter Bay farm site for the current and previous generations. There is a system for reporting escapes to the public and to DFO. Escape data is publically available on DFO website. 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		
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.					
		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.				

3.4.2	**Indicator**: Accuracy [48] of the counting technology or counting method used for calculating stocking and harvest numbers **Requirement:** ≥ 98% **Applicability:** All	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. Both Aquascan and VAKI counting machines are used which have a counting accuracy of 99%, verified on the manufacturers 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		99
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. d. Submit estimated unexplained loss to ASC as per Appendix VI for each production cycle. -	Records are kept of all stock movements, stocking and harvest counts, all mortalities, escapes and losses. The total unexplained loss is calculated from this data and submitted to the ASC. Information on unexplained loss is made publically available on the Marine Harvest Canada website. Information for current generation will be made publically available after harvest. EU losses for previous generation (2015YC) were 5.5%. Details of posting date are recorded.	Compliant		5.5
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.					
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	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. 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.	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	Minor		

3.4.4	follow up of escape events); and worker training on escape prevention and counting technologies **Requirement:** Yes **Applicability:** All	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.	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. Pen 2 Net ID G120-1312, growout / market net. Cleaned 16th Oct, dived 17th Sept. However net service record not available. E.g. Net on Pen 2, identified as G120 - 1312, net maintenance log available and completed but net service record detailing strength test results not available.	Minor	Net service records not available. Minor NC raised, systems and equipment address many of the requirements of the indicator but some records not available at time of audit.	
		d. Maintain records as specified in the plan.				
		e. Train staff on escape prevention planning as per the farm's plan.				
		-				

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.				
4.1.1	**Indicator**: Evidence of traceability, demonstrated by the feed producer, of feed ingredients that make up more than 1% of the feed [50]. **Requirement:** Yes **Applicability:** All	a. Maintain detailed records of all feed suppliers and purchases including contact information and purchase and delivery records.	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 all BC MHC sites, is BAP and GGAP certified (BAP M10017 valid till 22nd Oct 19; GGAP GGN/GLN 4052852980685 - valid till 26th Nov 19). MHC record details of all feed purchases and delivery records. 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		
		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.				
		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.				
		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 (42.21%) declared in statement from supplier, signed by commercial manager, North America, August 20th 2018. eFCR calculated correctly. FFDRm calculated correctly. Calculation does not include fishmeal from trimmings. Result for previous generation (2015YC) is 0.45 which is below the limit of 1.2 set for this criteria. Result was submitted to ASC.	Compliant		0.45
		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 and FFDRo was calculated correctly. Result for previous production cycle (2015YC) was 2.22 which is below the threshold of 2.52 set for this criteria. Result was submitted to ASC.	Compliant		2.22
		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.				
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 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 (e.g. King Mackeral Gulf of Mexico, >=6, 9, 10, 8.2, 8.7, verified on FishSource website). 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	[55] Or equivalent score using the same methodology. See Appendix IV-3 for explanation of FishSource scoring.					
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. **Requirement:** Yes **Applicability:** All	**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.					
		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 all MHC BC farms, 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).				
	Indicator: Feed containing fishmeal and/or fish oil	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.				

4.3.4	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]	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].	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 (25th Apr 18, GS -Commercial Manager, North America). This includes trimmings from these fisheries. Skretting Vancouver 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		
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. 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.	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 (25th Apr 18).	Compliant		
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) 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.	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		
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.					
		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.				

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	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]	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		
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. 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.	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		
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. 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.	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 for removal and recycling ashore.	Compliant		
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 **Requirement:** Yes **Applicability:** All	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) b. Provide a description of the types of waste materials that are recycled by the farm. (See also 4.5.1d) c. Inform the CAB of any infractions or fines for improper waste disposal received during the previous 12 months and corrective actions taken.. d. Maintain records of disposal of waste materials including old nets and cage equipment.	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 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. 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 (fixed asset disposal, 15th Nov 16). These are removed to shore for reuse or recycling where possible and responsible disposal where not.	Compliant		
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.					

<table>
<tr><td rowspan="8">4.6.1</td><td rowspan="8">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</td><td colspan="2">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).</td><td></td><td></td><td></td></tr>
<tr><td>a. Maintain records for energy consumption by source (fuel, electricity) on the farm throughout each production cycle.</td><td rowspan="6">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, 2,177,468 kj/mt fish produced, was submitted to the ASC. This energy use assessment is in compliance with requirements of Appendix v-1.</td><td rowspan="6">Compliant</td><td rowspan="6"></td><td rowspan="6">2,177,468</td></tr>
<tr><td>b. Calculate the farm's total energy consumption in kilojoules (kj) during the last production cycle.</td></tr>
<tr><td>c. Calculate the total weight of fish in metric tons (t) produced during the last production cycle.</td></tr>
<tr><td>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.</td></tr>
<tr><td>e. Submit results of energy use calculations (4.6.1d) to ASC as per Appendix VI for each production cycle.</td></tr>
<tr><td>f. Ensure that the farm has undergone an energy use assessment that was done in compliance with requirements of Appendix V-1.</td></tr>
<tr><td rowspan="8">4.6.2</td><td rowspan="8">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</td><td colspan="2">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).</td><td></td><td></td><td></td></tr>
<tr><td>a. Maintain records of greenhouse gas emissions on the farm.</td><td rowspan="6">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 608,035 kg/CO2 equivalent was submitted to ASC.</td><td rowspan="6">Compliant</td><td rowspan="6"></td><td rowspan="6">608,035</td></tr>
<tr><td>b. At least annually, calculate all scope 1 and scope 2 GHG emissions in compliance with Appendix V-1.</td></tr>
<tr><td>c. For GHG calculations, select the emission factors which are best suited to the farm's operation. Document the source of those emissions factors.</td></tr>
<tr><td>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.</td></tr>
<tr><td>e. Submit results of GHG calculations (4.6.2d) to ASC as per Appendix VI at least once per year.</td></tr>
<tr><td>f. Ensure that the farm undergoes a GHG assessment as outlined in Appendix V-1 at least annually.</td></tr>
<tr><td>Footnote</td><td colspan="6">[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).</td></tr>
<tr><td>Footnote</td><td colspan="6">[69] GHG emissions must be recorded using recognized methods, standards and records as outlined in Appendix V.</td></tr>
</table>

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, 19,289 CO2e was submitted to ASC.	Compliant		19,289
		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. No evidence of treatment with antifouling agents was observed during audit. 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	a. Declare to the CAB whether nets are cleaned on-land.	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		
		b. If nets are cleaned on-land, obtain documentary evidence from each net-cleaning facility that effluent treatment is in place.				

	Applicability: All farms except as noted in [71]	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.				
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.	MHC does not use copper treated nets.	N/A		
		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.				
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.	MHC does not use copper treated nets. Farm is exempt from testing for Cu in the sediment.	N/A		
		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.				
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.	MHC does not use copper or any other biocide treated nets.	N/A		
		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.				
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.					
5.1.1	**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 action when required **Requirement:** Yes **Applicability:** All	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 veterinarians (MK and DM) and forms part of the DFO license. The plan covers all requirements for the identification and monitoring of diseases, parasites and environmental conditions for good fish health.	Compliant		
		b. Ensure that the farm's current fish health management plan was reviewed and approved by the farm's designated veterinarian [78].				
	Indicator: Site visits by a designated veterinarian [78] at least four times a year, and by a fish health manager [79]	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.	Company fish health technicians visit the site monthly (e.g. 5th Nov 18 TMcW). The vet			

5.1.2	at least once a month **Requirement:** Yes **Applicability:** All	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.	visits at least quarterly. Site was last visited by MK, 1st Aug 2018. 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. 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. 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). 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).	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. 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. Increased mortality at this site has been diagnosed as due to naturally low Do in the region and some underlying PGD. As per license condition increased mortality was notified to DFO every 10 days e.g. 21st Oct 18 reporting of mortality for previous 10 days (e.g. 16th Oct 16,050kg. Current total mortality is 26.5% with main diagnosis environmental conditions 7% and mechanical injury 6%. Mortality for previous generation (2015YC) was 28.5%. Data was submitted to the ASC.	Compliant		100
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.					
		a. Calculate the total number of mortalities that were diagnosed (see 5.1.4) as being related to viral disease.				

5.1.5	**Indicator**: Maximum viral disease-related mortality [82] on farm during the most recent production cycle **Requirement:** ≤ 10% **Applicability:** All	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).	There were no diagnoses of viral mortalities in the previous 2 cycles. The total unexplained and unspecified mortality rate, for the most recent cycle was 8.32%. Data was reported to the ASC.	Compliant		8.32
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 28.5%. Maximum total unexplained mortality for the previous generation, as a percentage of the total mortality was 29.2%, less than the 40% threshold, therefore the criteria is compliant. Data was submitted to ASC.	Compliant		29.2
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, including high def cameras, pred nets and electric fencing and sapphire grow and pred nets. MHC overall survival target is 90%. Mortality on Shelter Bay in previous cycle was 28.5%.	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 site **Requirement:** Yes **Applicability:** All	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. 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. 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).	Fish health records include the details of all treatments over previous and current production on site and in hatchery (and intermediate site if applicable) E.g. all pens treated with Slice 17th-30th Sept 18, prescription DM 18-034, 0.07mg/kg fish/day, 60 day withdrawal, prescribed by vet DM (10th Aug 18). Veterinary prescriptions are on file for each treatment ordered. Veterinary medicines are stored in secure locker. Data on chemical use was submitted to ASC.	Compliant		

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]. b. Maintain records of voluntary and/or mandatory chemical residue testing conducted or commissioned by the farm from the prior and current production cycles. -	No banned antibiotics have been used on site. Treatment records checked. Residue testing includes antibiotics and no residues detected. Canadian Pacific Aquaculture Regulations limits the use of antibiotics.	Compliant		
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). 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.	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 lice counting procedure; Slice for anti-lice treatment and florfenicol for treating mouth myxo. Records are kept within Aquafarmer for minimum 2 production cycles.	Compliant		
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). 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.	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 and treatment logs (e.g. MS222 5 days withdrawal period). Site manager was aware of withholding periods and treatments were input to system on same day.	Compliant		
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. 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.	Farm calculations made on spreadsheet and found to be correct. PTI for previous generation was 3.2, based on single treatment of Slice. Current generation has PTI of 3.2, based on single Slice treatment, Site is in compliance. PTI score was submitted to ASC.	Compliant		3.2
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	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. 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.	PTI score for most recent production cycle is <6, therefore criteria is NA.	Compliant		<6

		d. As applicable, submit data to ASC on parasiticide load for the most recent production cycle and the two previous production cycles (Appendix VI).				
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).	There are no prophylactic treatments of antibiotics on MHC BC farms. Antibiotic treatments are administered only under the direction of a vet and only post diagnosis for a detected bacterial disease. Tests results 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].	Fish health team have a copy of the WHO list of antibiotics listed as critical for human health. DFO approve the Fish Health Management Plan and therefore approve antibiotics available for use, none of which are critically important for human health. Fish health team and farm management are aware of the implications of using an antibiotic on the list.	Compliant		
		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.				
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.	Mouth myxobacterial disease is endemic to certain regions of BC. Treatment involves infeed administration of Florfenicol under veterinary supervision. There have been 3 treatments of florfenicol onsite (e.g. June 15th-24th 2017, Prescription 17-MK-013). Site is in compliance.	Compliant		
		b. Calculate the total number of treatments of antibiotics over the most recent production cycle and supply a verifiable statement of this calculation.				
Footnote	[91] A treatment is a single course medication given to address a specific disease issue and that may last a number of days.					
	Indicator: If more than one antibiotic treatment is used	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.			Current load is greater than	

5.2.10	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	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.	3 antibiotic treatments have been administered in the current production cycle, 3 in the previous production cycle (2015YC) and 3 in the 2013YC. The load in the current cycle is 199kg, the average load in the previous 2 cycles was 183.5 which is 8% greater. Therefore the site is not in compliance and a minor NC is raised.	Minor	average of previous 2 loads. A minor Nc was raised: Mouth Myxo is an endemic disease in this area, antibiotics are the only treatment available, the antibiotic used was the best available, as described by a Vet. There is research ongoing into a vaccine for this disease, a trial was stocked onto a site in late 2018. QA35 was submitted on 28th Feb 2018.	>8%
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). b. Maintain records showing the farm has informed all buyers of its salmon about all therapeutants used in production.	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		
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. 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.	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. However bioassays are carried out annually on a regional basis e.g. assay on lice from Shelter Pass 2018 CAHS 100% mortality after 24 hours @500ppb Slice. There have been 3 treatments of antibiotics for the treatment of Mouth Myxo and these have produced the expected results. Continued efficacy is monitored for the development of resistance. Vet has determined that no resistance is forming. Bioassays have been conducted on the causative organism (T.maritimum) but are of limited value due to the bacteria being difficult to culture and slow growing.	Compliant		
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. 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.	Bioassays for lice treatments have determined that there is no resistance forming and therefore this indicator is not applicable. Continued efficacy of antimicrobial activity determines that no resistance is forming.	N/A		

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. 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. -	All fish onsite are from a single year class, currently 2017YC. They were stocked, from Ocean Falls and Darymple, between Apr 17 and May 17. The size varied from 60 - 153g. Transfer records were checked and verified for all movements of fish onsite.	Compliant		
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. 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).	No unidentified transmissible agent was suspected or detected over the current or previous production cycles. There have been no unexplained mortality events. Data was submitted to the ASC.	Compliant		
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. DFO regulations are also developed in line with the OIE code. Fish health team are aware of the OIE code and it implications for their work. Staff training is ongoing and continuous. Fish Health Management Plan is drawn up, with site specific mortality reduction plan 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. There have been detections of VHS on MHC farms in this region over previous cycles but this virus is endemic to the region. Mortality was communicated to the ASC. No VHS, or other notifiable disease has been identified onsite in the current cycle.	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 and they are tested to show they have understood the Code of conducts. The Code of Conduct can also be accessed via intranet, which also allows access to human resources Policy & Procedure Manual. Code of Conduct section 5.3. 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.	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	There is a Code of Conduct, which is provided to all employees and they are tested to show they have understood the Code of conducts. The Code of Conduct can also be accessed via the intranet, which also allows access to human resources Policy & Procedure Manual. Code of Conduct section 5.3 relates to this area. The workers confirmed that that the above information was provided to them.	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 against the farm site management for violations of employees' freedom of association and collective bargaining rights. Workers confirmed that they are aware of the code of conduct section 5.3 and assured that they understood their rights.	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 5.4 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." The age of the workers was verified through the Human Resources Management System and proves compliance. Identification is held on file for all farm employees and is signed and verified by Senior Management.	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 5.4 sets out the main controls. Young workers risk assessment is carried out and displayed within the working areas. All young workers are assessed before employment. All workers including young workers have the working hours recorded on a time management system. There are no young workers employed at the facility at the time of the audit. No young workers are employed at this site 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. Confirmed by employee interviews that employees received a copy of the contract of employment. Workers have signed all contracts. Through worker interviews and documentation checks, it was confirmed that all working hours are conducted on a voluntary basis. The employer does not withhold the employee's original identity documents. This was confirmed through employee interviews. The employer does not withhold any part of workers' salaries, benefits, property or documents to oblige them to continue working for the employer. This was confirmed in employee interviews. Employees confirmed they are not repaying debt.	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 section 5.2 & 6.1. The anti-discrimination policy that is in place, indicates 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. Employees confirmed that they are respected with regards equal treatment. All managers have been trained in equality and diversity. This is part of the code of conduct training.	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 process to the record all discrimination complaints. To date, there have not been any complaints. There is no evidence of discrimination. Employees interviewed stated that the company did not discriminate against them. Workers that were 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 4.1. Employees are trained in emergency response procedures. The training has been recorded in the onsite training systems (DATS) and displayed on the employee notice boards. Health and safety training is carried out by an external company every year and all staff (100%) take health and safety training annually. Ongoing training carried out on an online training software management systems. Marine Harvest tries to ensure that the overall training levels are above 80 percent (this includes all training, health and safety training is 100%). It is the responsibility of the site managers to ensure that this level is achieved.			

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 Code of Conduct section 4.1 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 concerning 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 It was noted on the site tour that; The house, feed barge A & B where not up to the required H&S standards • No High level Health & Safety audit has been conducted or could be provided • No structural reports could be provided for the engineering work that had been carried out in the feed barges A& B • No asbestos reports could be provided for the house. • There were a lot of electrical faults identified.	Major	It was noted on the site tour that; The house, feed barge A & B where not up to the required H&S standards • No High level Health & Safety audit has been conducted or could be provided, including safety training • No structural reports could be provided for the engineering work that had been carried out in the feed barges A& B • No asbestos reports could be provided for the house. • There was a lot of electrical faults identified Major NC was raised due to repeated failure to identify lapses in Health and Safety Standards.	
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	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 where possible. The site understands that PPE should only be used where it is not possible to reduce the risk without the use of PPE. Employees all receive induction training which includes the correct and proper use of PPE. There are modules that are built into the online health & Safety management system that employees have to complete each year. The site manager ensures this training is carried out and recorded. Workers confirmed within interview process that PPE was provided and training was provided if required.	Compliant		
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 carried by the site manager every year. All reviews are documented. Changes are made sooner if the process changes or new machinery is implemented. Risk assessments are used to identify the risk and employees are trained against the risk assessments. The site has trained employees that carry out risk assessments. This training is recorded on the MH internal DATS system. 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 Risk Assessments where found not to be correctly completed and incorrectly assessed.	Minor	Risk Assessments where found not to be correctly completed and incorrectly assessed. A minor NC was raised, there is a system for the assessment of risk and it has been implemented but there have been breaches of this system.	
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	Facility records all health & safety related accidents. Accidents are investigated by the Health & Safety manager. All accidents and near misses are now recorded in the DATS system. The system has been introduced to have better controls for investigating accidents. The system generates email communications to all of the relevant employees including the health & safety manager The system is monitored and tracked to ensure that all corrective actions have taken place.	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	Insurance is available for all workers to ensure that they are compensated to cover costs related to occupational accidents. Public liability insurance is also available to cover all over parties.	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. Employer keeps records of farm diving operation. All external divers are given full details of the operations that are required. All diving certification was provided. All divers have the required accreditations. Dive certifications are checked by site staff every 60 days and annual reviews are also carried out.	Compliant		
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 on an electronic accounting system and verified. All wages paid are in line or above minimum wage requirements. Wages are well above minimum wage (starting at $18 compared to $10.25 minimum).	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 carry out their own reviews to ensure that levels are correct. There are details of living wages for BC available which states the living wage is $16.42 MHC starting wage is $18.00	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. Employees are paid bi-weekly by electronic bank transfer Employees confirmed within the interview process that information was available and electronic transfer payments are made	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%	All employees provided with a contract of employment, and a copy of the contract was available in the personnel files. There was no evidence of Labour only contracts or false apprenticeships. Workers confirmed that there are no, Labour only contracts or false apprenticeships.	Compliant		

	Applicability: All				
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	There was no evidence of Labour only contracts. The employee's interviews confirmed that no labour only contracts are used, and no false apprenticeships are used.	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 is recorded within the employee personnel file. Their interactions are detailed in writing within the employee personnel files.	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's personnel files and have agreed action plans if required. None of the workers interviewed had any grievances so unable to confirm. The company policy is to respond to each stage of the process within 14 days.	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 does not impact the workers physical, mentally.	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 does have a performance management policy, so this should be noted alongside the disciplinary policy. None of the workers had been involved with a disciplinary procedure but confirmed workers 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			
		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).	Compliant		

6.10.1	**Indicator:** Incidences, violations or abuse of working hours and overtime laws [126] **Requirement:** None **Applicability:** All	Farm Employees The company holds document for Employment Standards Act for BC for working regulations. The working shift pattern is carried out over two weeks. The shift pattern consists of 8 days on and six days off. The average hours over the two weeks is 40 hours per week. Working hours are provided by site managers to the payroll and working hours' department. The workers confirm that working hours are correct before this. Records on Time Solutions system show that workers are not exceeding the working hours that are allowed. Operations Employees It was noted through the sample • Workers are working in excess of 12 hours per day. The highest number of hours recorded was 15 hours. From the sample it was noted that the working hours policy had been breached on 17 occasions • Workers are work more that 3 days of 12 hours. It was noted throughout the sample provided.	Major	It was noted through the sample of working hours for the operations employees that; • Workers are working in excess of 12 hours per day. The highest number of hours recorded was 15 hours. From the sample it was noted that the working hours policy had been breached on 17 occasions • Workers are work more that 3 days of 12 hours. It was noted throughout the sample provided. A Major NC was raised due to repeated breaches of the law and internal procedures.	
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 are paid a premium rate for overtime hours they are paid 150% for the first 2 hours and 200% for any hours worked after that. Dayforce System confirmed that overtime is infrequent. Workers confirmed that overtime is rare and is voluntary.	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 this. As stated in HR policy section 9 Employee training and development and education assistance programs. All training records are maintained on the DATS system. 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 also the HR Policy are in line with all social and labour requirements Corporate policy is approved by the Senior Management Team in Campbell River The scope of all corporate policies cover all company operations. All 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	There is a community engagement letter it is an invitation sent to the mayor of each community it covers the direction of the company and initiatives that are being developed. There is an agreement in place with the FN in this area. The company recently sent out communication to all the local communities with details on new technology, Therapeutic Treatments, opportunities for future growth and information regarding certification The community engagement letter states the agenda. Notes are taken during the meeting, and follow-up emails are sent out to stakeholders No representatives made themselves available to the auditors.	Compliant		
Footnote	[130] Regular and meaningful: Meetings shall be held at least bi-annually with elected representatives of affected communities. The agenda for the meetings should in part be set by the community representatives. Participatory Social Impact Assessment methods may be one option to consider here.				
7.1.2	**Indicator:** Presence and evidence of an effective [131] policy and mechanism for the presentation, treatment and resolution of complaints by community stakeholders and organizations **Requirement:** Yes **Applicability:** All	MHC has a policy Doc#5/FW905 External Complaint resolution. The communications manager logs all external complaints. A log has been created. The Log details who raised the complaint and the nature of the complaint. The complaints are managed and closed off when the matter has been dealt with. The company policy is all complaints are passed to the communications manager and then forwarded to senior management should it be required. The complaints procedure is detailed and sets out the requirements for handling each complaint.	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	MHC are operating in some indigenous territories and have several agreements (IBA) in place with FN groups. Shelter Bay is located in the Gwa'sala & Nakwaxda'xw traditional territory. The agreements demonstrate that MHC is aware of Local/national laws and regulations for each FN group. There is a spreadsheet detailing agreements with each FN. There is also a log sheet that records all meetings/calls and communication. No indigenous representatives were interviewed	Compliant		
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]	MHC are operating in some indigenous territories and have several agreements (IBA) in place with FN groups. Shelter Bay is located in the Gwa'sala & Nakwaxda'xw traditional territory. The agreements demonstrate that MHC is aware of Local/national laws and regulations for each FN group. There is a spreadsheet detailing agreements with each FN. There is also a log sheet that records all meetings/calls and communication. There is no evidence that the FN''s have any objection to the farm and it's operations. No indigenous representatives were interviewed	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]	MHC are operating in some indigenous territories and have several agreements (IBA) in place No indigenous groups requested any form of engagement with the auditors	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]	MHC are operating in some indigenous territories and have several agreements (IBA) in place with FN. MH has an agreement with the Gwa'sala & Nakwaxda'xw FN. No indigenous groups requested any form of engagement with the auditors	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	As detailed in CEAA screening report MHC does not have exclusive use of the location the farms are located in. There is no restriction of access and report notes the site is located in territory with no issues with the use of the location. No stakeholders, representatives from the local community requested any form of engagement with the auditors	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 CEAA report for the site includes consultation with FN, local community and government. It is noted in the report that FN has no issues with the license application. No stakeholders, representatives from the local community requested any form of engagement with the auditors	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	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.	Current stock onsite are from Darymple and Ocean Falls hatcheries. Smolt can be supplied supplied from 3 hatcheries, all owned by MHC, Big Tree Creek, Dalrymple and Ocean Falls. All 3 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	Compliant		

8.1	**Requirement:** Yes **Applicability:** All Smolt Producers	c. Obtain records from smolt suppliers showing monitoring and compliance with discharge laws, regulations, and permit requirements as required. -	(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 Lake, conditional water license 116629. Big Tree Creek hatchery extracts water from a well and therefore requires no extraction license. DFO license AQFW 112572 2015 valid until 18th Jun 2024, Landfile number 1403852.	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)	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):**			
8.3	**Indicator**: Evidence of an assessment of the farm's 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	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. 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.	Biodiversity impact assessments of all 3 hatcheries were carried out by Mainstream Biological Consulting in 2014. In each case the reports found no significant risk of negative impact	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 biosolid 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.	Hatchery records are available on the shared network and calculations of phosphorous discharge are made on a spreadsheet. Feed records are kept and phosphorous content is provided by feed supplier. MHC have requested a variation (VR231 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. Phosphorous discharge for Big Tree Creek was calculated as 2.69 kgP/mt. Ocean Falls discharges to sea and therefore has requested a variation (VR92 approved). Ocean Falls does not therefore have to comply with this criteria.	Compliant		

		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.				1.27; 2.69
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 **Requirement:** Yes [137] **Applicability:** All Smolt Producers except as noted in [137]	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. 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. e. Retain evidence as described in 8.5a-d necessary to show compliance of each facility supplying smolt to the farm.	Atlantic salmon is not native to BC however attempts to introduce it to west coast Canadian rivers were made in the early 1900's (DFO website). 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		
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. 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.	MHC have reported zero escapes from their freshwater hatcheries over the past number of years. There is an internal reporting system which would be used in the event of an escape but it indicates no escapes. Escapes must be reported to DFO who publish the data online and there are no reports from freshwater hatcheries since 2011.	Compliant		0
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%	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.	See 3.4.2. The count used for stock tracking and growth modelling on the production site is the hatchery count usually made at vaccination. Both Aquascan and VAKI counting machines are used which have a counting accuracy of 99%, verified on the manufacturers	Compliant		

	Applicability: All Smolt Producers	B. Review records to verify that accuracy of the smolt supplier's counting technology or counting method is ≥ 98%.	product specifications.			99%
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.	See 4.5.21. 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 sites and onshore operations sites had good facilities for the disposal of all waste. Records are kept of all waste disposal and recycling e.g. Dalrymple Invoice: Shearwater Marine 0308389-0621-9, 4 cubic yards of waste and 6 cubic yards of recycling.	Compliant		
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	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.	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 32,129,287 kj/mt fish/production cycle. Big Tree Creek was 42,581,999 kj/mt.	Compliant		
		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.				30; 32,129,287; 42
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.	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, Big Tree Creek was 2,065,926 and for Ocean Falls 1,190,178 kg CO2 e. The discrepancy between the 2 recirc hatcheries and Ocean Falls was primarily due to the higher energy costs related to recirculation.	Compliant		
		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.				2,799,349; 2,065,926; 1,190,178
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.	See 5.1.1 MHC provided a copy of the Salmonid Health Management Plan (HMP) which covers both marine growout sites and freshwater hatcheries, updated October 2017. This document is produced by the fish health team, including 2 designated veterinarians (MK and DM) and forms part of the DFO license. The plan covers all requirements for the identification and monitoring of diseases, parasites and environmental conditions for good fish health.	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 MHC hatcheries 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. Fish from Big Tree Creek were vaccinated with Apex IHN and Renogen/Forte Micro. 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. 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).	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, this is accompanied by a attestation form completed by the company Vet, e.g. Darymple 15th Jan 18, DM which declares that the smolt are disease free prior to transfer. 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		
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. There have been no treatments in the freshwater hatcheries in recent years. Only prescription on file 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 any MHC freshwater hatchery in recent years.	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 any MHC freshwater hatchery in recent years.	Compliant		
8.17	**Indicator**: Allowance for use of antibiotics listed as critically important for human medicine by the WHO [147] **Requirement:** None [148] **Applicability:** All Smolt Producers	a. Provide to smolt supplier(s) a current version of the WHO list of antimicrobials critically and highly important for human health [147]. 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 any MHC freshwater hatchery in recent years.	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. Canadian fish health legislation and licensing regulations are drawn up under the OIE 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 also applicable to the freshwater hatchery sites (see 6.1-6.11).	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.	Freshwater Hatcheries are owned and run my MHC and are subject to the same procedures and policies as the production site audited under this report. See Principle 7 for evidence of compliance.	Compliant		
		b. Review documentation from 8.20a to verify that the smolt supplier's consultations and community engagement complied with requirements.				
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 subject to the same procedures and policies as the production site audited under this report. 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.	Freshwater Hatcheries are owned and run my MHC and are subject to the same procedures and policies as the production site audited under this report. See Principle 7 for evidence of compliance.	Compliant		
		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.				
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.	Freshwater Hatcheries are owned and run my MHC and are subject to the same procedures and policies as the production site audited under this report. See Principle 7 for evidence of compliance.	Compliant		
		b. Where relevant, obtain documentary evidence that smolt suppliers undertake proactive consultations with indigenous communities.				
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.	Smolt are not produced in open systems.	N/A		
		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.				
8.25	**Indicator**: Allowance for producing or holding smolt in net pens in any water body	a. Take steps to ensure that the farm does not source smolt that was produced or held in	Smolt are not produced in open systems.	N/A		

8.25	**Requirement:** Yes **Applicability:** All Smolt Producers Using Open Systems	net pens.	Smolt are not produced in open systems.	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.	Smolt are not produced in open systems.	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.	Smolt are not produced in open systems.	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.					
	Indicator: Minimum percent oxygen saturation of water 50 centimetres above bottom sediment (at all oxygen monitoring locations described in Appendix VIII-6)	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).				

8.28	**Requirement:** ≥ 50% **Applicability:** All Smolt Producers Using Open Systems	b. Obtain from smolt suppliers the DO monitoring results from all monitoring stations for the past 12 months.	Smolt are not produced in open systems.	N/A		
		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).	Smolt are not produced in open systems.	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.				
8.30	**Indicator**: Maximum allowed increase in total phosphorus concentration in lake from baseline (see Appendix VIII-7) **Requirement:** 25% **Applicability:** All Smolt Producers Using Open Systems	a. Determine the baseline value for TP concentration in the water body using results from either 8.29a or 8.29b as applicable.	Smolt are not produced in open systems.	N/A		
		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.				
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.	Smolt are not produced in open systems.	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.	Hatcheries take regular effluent samples for analysis, as per DFO aquaculture license conditions. Samples are tested for Nitrate, Nitrite, TSS, Soluble Phosphorous, Total Ammonia, BOD, Chloride, salinity, pH and DO. (E.g. Big Tree Creek 19th Sept 18 Nitrite 0.678mg/l; Darymple 18th Sept 18, Nitrite 0.159 mg/l and Ocean Falls 4th Sept 18, Nitrite <0.005 mg/l. Water quality results were submitted to the ASC.	Compliant		
		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.				
Footnote	[155] See Appendix VI for transparency requirements for 8.32.					
	Indicator: Minimum oxygen saturation in the outflow	a. Obtain the water quality monitoring matrix from each smolt supplier (see 8.32b).				

8.33	(methodology in Appendix VIII-2) **Requirement:** 60% [156,157] **Applicability:** All Smolt Producers Using Semi-Closed or Closed Production Systems	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 are taken monthly from discharge pipe at 3 hatcheries. A single reading at Darymple was recorded as less than 60% but the sampling point has been moved and since then no readings have been below 60%. 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. The macroinvertebrate survey of the discharge site at Big Tree Creek (Jul 2016) indicated no significant impact of the discharge on macro-invertebrate communities. No survey required at Ocean Falls due to marine discharge.	Compliant		
8.35	**Indicator**: Evidence of implementation of biosolids (sludge) Best Management Practices (BMPs) (Appendix VIII-4) **Requirement:** Yes **Applicability:** All Smolt Producers Using Semi-Closed or Closed Production Systems	a. Maintain a copy of smolt supplier's biosolids (sludge) management plan and confirm that the plan addresses all requirements in Appendix VIII-2. b. Obtain from smolt suppliers a process flow diagram (detailed in Appendix VIII-2) showing how the farm is dealing with biosolids responsibly. 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 biosolid (sludge) cleaning maintenance, and disposal as described in Appendix VIII-2.	The MHC biosolids BMP plan (21st Sept 2015) 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 by contractor (e.g. Big Tree Creek inv 17551 date 14th Aug 18, Able and Ready septic, 9.5 hours; Darymple 30th Oct 18 Inv 36176 Walco Industries, haul to renewable resources. No biosolids are discharged.	Compliant		

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	2.1.1	Minor	Benthic Sample results not available. A minor NC was raised, benthic sampling is planned and sulphide measurements should be available immediately, once sampling occurs.	A modelling exercise was conducted and a site specific AZE has been determined using Depomod. Client chooses to use option #2 sulphide. Sulphide measurements taken at peak biomass for previous cycle (2015YC) were compliant. However site is currently at 78% biomass and benthic sampling has not taken place. Sulphide measurements in the sediment outside the AZE were not available.	06/11/2018	Closed		Site not yet at peak biomass	Sampling being conducted by Mainstream Environmental January 15-16, 2018 to coincide with peak biomass	07/02/2019	Client has closed to use option #2 Sulphide. Results from sampling 15/1/19 Mainstream Biological, 92.2, 42.3, 88.0. All in compliance. Evidence accepted as sufficient to close the NC. FG 5/2/19.	5/2/19					
2	2.1.2	Minor	Benthic Sample results not available. NC was classed as a minor, benthic sampling is planned and results for indicator will be estimated from sulphide measurements.	Benthic samples taken during the peak biomass period of the previous generation (2015YC) indicated compliance with this criteria (ITI from stations outside the AZE were >25). Benthic sampling at peak biomass for current generation has not taken place and faunal index scores were not available.	06/11/2018	Closed	224	Site not yet at peak biomass	Sampling being conducted by Mainstream Environmental January 15-16, 2018 to coincide with peak biomass. Variance for 2.1.2 and 2.1.3 has been accepted by ASC (see email confirmation) but not yet available on ASC website	07/02/2019	VR224 has been approved (email 9/11/18). This has given Marine Harvest Canada a variance for 2.1.2 and 2.1.3 allowing for the use of Sulphide levels as a proxy of benthic health. Accepted as sufficient to close the NC FG, 5/2/19	5/2/19					

3	2.1.3	Minor	Benthic Sample results not available. NC was classed as a minor, benthic sampling is planned and results for indicator will be estimated from sulphide measurements.	Benthic sampling results from samples taken during the peak biomass of the previous generation (2015YC) indicate compliance with the number of HAT. However for the current generation the peak biomass samples have not been taken and the results were not available.	06/11/2018	Closed	224	Site not yet at peak biomass	Sampling being conducted by Mainstream Environmental January 15-16, 2018 to coincide with peak biomass. Variance for 2.1.2 and 2.1.3 has been accepted by ASC (see email confirmation) but not yet available on ASC website	07/02/2019	VR224 has been approved (email 9/11/18). This has given Marine Harvest Canada a variance for 2.1.2 and 2.1.3 allowing for the use of Sulphide levels as a proxy of benthic health. Accepted as sufficient to close the NC FG, 5/2/19	5/2/19					
4	3.4.4	Minor	Net service records not available. Minor NC raised, systems and equipment address many of the requirements of the indicator but some records not available at time of audit.	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. Pen 2 Net ID G120-1312, growout / market net. Cleaned 16th Oct, dived 17th Sept. However net service record not available. E.g. Net on Pen 2, identified as G120 - 1312, net maintenance log available and completed but net service record detailing strength test results not available.	06/11/2018	Closed		Oversite during site set up	Net records have been supplied by net manager and are available at the farm- see attached.	07/02/2019	Net records forwarded on to auditor. Accepted as sufficient to close the NC, FG 5/2/19	5/2/19					
5	5.2.10	Minor	Current load is greater than average of previous 2 loads. A minor Nc was raised: Mouth Myxo is an endemic disease in this area, antibiotics are the only treatment available, the antibiotic used was the best available, as described by a Vet. There is research ongoing into a vaccine for this disease, a trial was stocked onto a site in late 2018. QA35 was submitted on 28th Feb 2018.	3 antibiotic treatments have been administered in the current production cycle, 3 in the previous production cycle (2015YC) and 3 in the 2013YC. The load in the current cycle is 199kg, the average load in the previous 2 cycles was 183.5 which is 8% greater. Therefore the site is not in compliance and a minor NC is raised.	06/11/2018	Delayed		More fish on site resulted in greater volume of antibiotic required	Guidance requested from ASC. Allowable volume for next crop calculated.	07/02/2019			5/2/19	ASC QA 35 has been scheduled to be answered in late 2018 / early 2019. Guidance will impact the outcome of the NC so delay was approved.	6/11/19	Approved	5/2/19

6	6.5.1	Major	It was noted on the site tour that; The house, feed barge A & B where not up to the required H&S standards • No High level Health & Safety audit has been conducted or could be provided, including safety training • No structural reports could be provided for the engineering work that had been carried out in the feed barges A& B • No asbestos reports could be provided for the house. • There was a lot of electrical faults identified Major NC was raised due to repeated failure to identify lapses in Health and Safety Standards.	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 4.1. Employees are trained in emergency response procedures. The training has been recorded in the onsite training systems (DATS) and displayed on the employee notice boards. Health and safety training is carried out by an external company every year and all staff (100%) take health and safety training annually. Ongoing training carried out on an online training software management systems. Marine Harvest tries to ensure that the overall training levels are above 80 percent (this includes all training, health and safety training is 100%). It is the responsibility of the site managers to ensure that this level is achieved. The marine Harvest Code of	06/11/2018	Closed		Old system set for disposal after current crop. Maintenance had been done as needed, but not to the level required	H&S audit conducted on site. Structural reports have been commissioned for barges. Asbestos tests conducted on site. Electrical audit conducted post-audit. See attachments. Entire barge system to be decommissioned and replaced with new equipment prior to next cycle.	07/02/2019	Reports and plans for replacement inspected and approved as sufficient to ensure safe operation on site. Accepted as sufficient to close the NC. FG LR 5/2/19	5/2/19					
7	6.5.3	Minor	Risk Assessments where found not to be correctly completed and incorrectly assessed. A minor NC was raised, there is a system for the assessment of risk and it has been implemented but there have been breaches of this system.	Risk assessments are carried by the site manager every year. All reviews are documented. Changes are made sooner if the process changes or new machinery is implemented. Risk assessments are used to identify the risk and employees are trained against the risk assessments. The site has trained employees that carry out risk assessments. This training is recorded on the MH internal DATS system. 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 Risk Assessments where found not to be correctly completed and incorrectly assessed.	06/11/2018	Closed		Staff unfamiliar with process.	H&S have updated risk assessment training procedures and reviewed with Shelter Bay staff.	07/02/2019	Training procedures reviewed and accepted as sufficient to ensure RA will be completed correctly in future. Accepted as sufficient to close the NC. FG LR 5/2/19	5/2/19					

8	6.10.1	Major	It was noted through the sample of working hours for the operations employees that; • Workers are working in excess of 12 hours per day. The highest number of hours recorded was 15 hours. From the sample it was noted that the working hours policy had been breached on 17 occasions • Workers are work more that 3 days of 12 hours. It was noted throughout the sample provided. A Major NC was raised due to repeated breaches of the law and internal procedures.	Farm Employees The company holds document for Employment Standards Act for BC for working regulations. The working shift pattern is carried out over two weeks. The shift pattern consists of 8 days on and six days off. The average hours over the two weeks is 40 hours per week. Working hours are provided by site managers to the payroll and working hours' department. The workers confirm that working hours are correct before this. Records on Time Solutions system show that workers are not exceeding the working hours that are allowed. Operations Employees It was noted through the sample • Workers are working in excess of 12 hours per day. The highest number of hours recorded was 15 hours. From the sample it was noted that the working hours policy	06/11/2018	Closed		Staffing issues resulted in extensive overtime.	Exceedances to HR policy regarding working hours continued by staff of Blue Adventurer vessel. In January, 2 employees were terminated, 2 written warnings issued and a manager suspended based on continued disregard of HR policy and safety warnings. A new boat captain has been hired, and a meeting with the managing director outlining safety expectations was included as part of induction training.	07/02/2019	Amendments to policies reviewed and actions reviewed and accepted as sufficient to ensure that working hours are not exceeded in future. Accepted as sufficient to close the NC. FG LR 5/2/19	5/2/19					

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 vessels works only for MHC and harvests only from one site at a time. Processing factory at Port Hardy is owned by MHC and possesses COC certification (Number MSC - C - 54292 valid until 14th Jan 2021).	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. Vessels harvest from single site at a time and deliver to MHC processing facility, which has COC certification (MSC-C-54292). Site, vessels and processing facility have traceability systems which ensure separation of product.	Aquafarmer system is separately coded for each production site. Different pens are separated into different holds onboard. Harvesting vessel can, on occasion, harvest from 2 sites but separate the harvest into 2 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 (MSC-C-54292).
10.3	The possibility of subcontractors being used to handle, transport, store, or process certified products.	Vessels are subcontracted solely to MHC and delivers separate batches, each in separate holds onboard, to the 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 enters the chain of custody.	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	Where Salmon (Salmo salar) are uplifted from the farm site.
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)	13-Mar-19

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.	13 Mar 2019 - 12 Mar 2022
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	Feb-20
14.1.2	Planned site	Shelter Bay
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

13th February 2019,

Stakeholder Submission RE: draft Initial Full Assessment Report, Marine Harvest Canada's (Mowi Canada) Shelter Bay farm, by SAI Global, published on the ASC website 23trd January 2019

Upon review of the draft Aquaculture Stewardship Council (ASC) audit for Marine Harvest Canada's Shelter Bay 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.

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

The draft Shelter Bay 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." [emphasis added]*

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

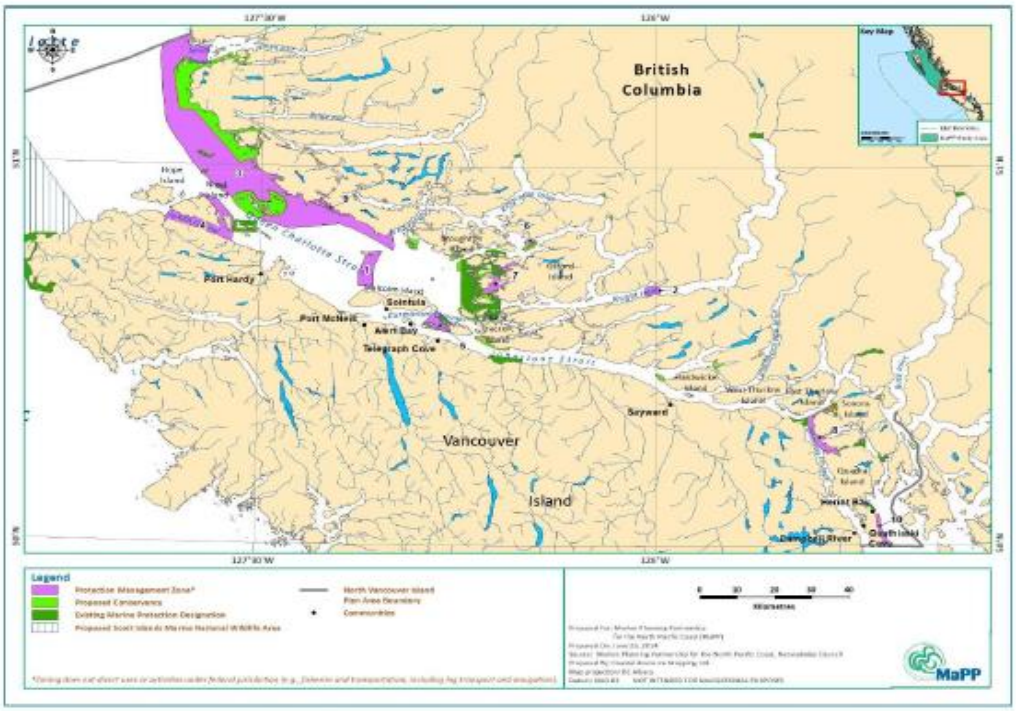
VR 198 was approved by the ASC VR-committee on the 13th November 2016. As per the ASC's variance process, the reapplication of an approved variance occurs when a "certifier encounters an identical situation for which an earlier variance request has been submitted and approved".[1]

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.

[1] https://www.asc-aqua.org/what-you-can-do/get-certified/about-our-certification/

II. Indicator 2.4.2 Allowance for the farm to be sited in a protected area or High Conservation Value Areas (HCVAs)

The draft audit report incorrectly states Shelter Bay is not located in a HCVA. The Marine Area Planning Partnership's (MaPP) North Vancouver Island Marine Plan[2] specifically identifies the Cape Caution area (PMZ3), for which the Shelter Bay farm resides, as a 'Protection Management Zone' area and describes it as, *"Important species and habitats, including those of cultural importance to First Nations; connects existing conservation and protection areas and provides a network/corridor between the Central Coast and North Vancouver Island Marine Plan Areas, which assists in the conservation and protection of habitat and seasonal runs and activities of species with cultural and economic value; includes important areas for Grey Whales, Humpback Whales and northern resident Killer Whales, and herring; includes important habitat for seabirds that breed in adjacent conservation and protection areas."*



PMZ3 – Cape Caution. Source: MaPP.

[2] http://mappocean.org/wp-content/uploads/2015/11/MarinePlan_NorthVancouverIsland_28072015_corrected.pdf

The ASC audit manual instructs:

> *"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."*

Furthermore:

> *"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."*

While the NVIMP grandfathered finfish sites as a conditionally 'acceptable' activity within PMZ3 (Cape Caution), the farm should be required to demonstrate "that it is not negatively impacting the core reason an area has been identified as a HCVA".

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

In 2014, Shelter Bay farm withdrew its initial ASC application following the downing of six sea lions at the farm. Since then, nearby ASC certified farms - Marsh Bay and Doyle Island have also experienced sea lion drownings. These events should require MHC to provide evidence of a risk assessment and concrete steps to avoid future incidences.

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

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 Area-Based Management (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 Discovery Island farms where another company operates (also Mitsubishi/Cermaq), 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)[3] 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), Shelter Pass does not conform to Indicator 3.1.1.

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 peer reviewed papers that are more than 5 years old.

In addition, 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..."*

Wild salmonid monitoring reports do not fulfill this requirement.

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[3] 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.

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.

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ATTN: Kelly Roebuck
Living Oceans Society
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Sointula, BC V0N 3E0

13th March 2019

Re. SAI Global response to submission on Assessment Report for ASC076 MOWI Canada Shelter Bay.

Dear Kelly,

Thank you for your submission of the 13th February 2019 in relation to the draft assessment report of the Marine Harvest (now MOWI) Canada's Shelter Bay farm site to the ASC Salmon Standard.

I note your assertion that SAI has failed to comply with a number of ASC requirements and wish to provide you with the Audit Team's responses to the specific issues raised in your submission; note issues are addressed in the general order in which they were raised.

In addition, as it is a requirement of the ASC process, I would like to assure you that both your submission and our responses will of course be included in the audit report.

I would like to once again thank you for having taken the time to communicate with the audit team.

Yours sincerely,

Sam Dignan
Interim ASC Scheme Manager

Salmon Standard Requirements

I. 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 were considered to be a target for coastal water quality and independent assessment has concluded that the water quality is good. Footnote 12 offers examples but it is not considered necessary to include each of these nutrients.

II. Indicator 2.4.2 Allowance for the farm to be sited in a protected area or High Conservation Value Areas (HCVAs)

The plans and conditions for the Protection Management Zone were inspected and found to not necessarily adhere to the definition of a HCVA. Our auditor is satisfied that the conditional approval of finfish farming in the region is sufficient to demonstrate that farming will not have a significant negative impact on the habitats and species for which the area has been designated.

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

Our auditor is satisfied that the farm is taking sufficient steps to minimize lethal incidents onsite. Incidents on other sites are not within the scope of this audit. The standard takes cognisance of incidents which take place on the site in question over the previous 2 years and over the period of certification, if certified.

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

Our auditor is satisfied that the farm is sited in the Port Hardy production area and that Marine Harvest is the only farming company with sites in the region. Our auditor is further satisfied that adherence to DFO conditions is sufficient to ensure disease and parasite transmission to wild stocks is minimized.

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.

Our auditor is satisfied that there is sufficient evidence available that Atlantic salmon have not established breeding populations in the wider region. There is sufficient fishing pressure and scientific sampling in the region to ensure that if a breeding population were established it would be identified.