SAI GLOBAL
ASSURANCE SERVICES

Aquaculture Stewardship Council

Salmon Standard

Final Assessment Report

Non-confidential issue

ASC Salmon Standard V1.0 June 2012

Marine Harvest Canada
Monday Rock, Quatsino Sound

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1. Summary

This report documents the initial full assessment audit findings for Marine Harvest Canada's Monday Rock farm site, a single site cage system for ongrowing Atlantic Salmon (*Salmo salar*) from smolt to harvest.

The Monday Rock farm is part of Marine Harvest Canada, which is a publically listed company. Marine Harvest Canada is producing more than half of the farmed salmon exported from British Columbia each year. Marine Harvest Canada employs 500 people.

The audit was conducted to the Aquaculture Stewardship Council Version 1.0 Certification and Accreditation Requirements (CAR V1.0 March 2012). The audit was a single site farm, Monday Rock, Which grows Atlantic salmon (Salmo Salar) from smolt input to the point of harvest.

The site visit was conducted from the 9th November – 12th November 2015

A total of 2 major and 5 minor non-conformities were raised. A table of non-conformances is presented in the report. Two Variation Requests (VR's) were submitted relating to the audit.

Date of Certification	19th April 2016
Date of Expiry	18th April 2019
Date of audit (site visit)	9th to 12th November 2015
Date of Report Writing	November 2015 to April 2016
Date of Review	February 2016

2. CAB Contact Information

The audit was carried out by SAI Global. All correspondence on the audit should be directed to the following address and contact e-mail:

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3. Background on the Applicant Farm

Marine Harvest Canada globally produces one-fifth of the world's farm-raised salmon at facilities in Norway, Scotland, Canada, Chile, Ireland and the Faroe Islands. Globally, they employ over 10 000 people, and are publicly traded on the New York and Oslo Stock Exchange.

In Canada, farms operate on the coast of British Columbia and Vancouver Island, where 500 people produce 45,000 tonnes of Atlantic salmon each year. At this time of report writing, Marine Harvest Canada has three farms that are ASC Certified; Marsh Bay, Duncan and Doyle. Marine Harvest Canada is four-star certified to the Global Aquaculture Alliance Best Aquaculture Practices. Marine Harvest Canada has a number of hatchery sites - Dalrymple and Ocean Falls are the hatcheries and Big Tree Creek facility is the egg providers.

Marine Harvest Canada is producing more than half of the farmed salmon exported form British Columbia each year. Around 500 employees are based in Campbell River were the majority of production and administrative functions are based. There are 30-35 active marine sites per cycle from 5 managed production areas in BC. Smolts are supplied by 4 Marine Harvest Canada freshwater sites in total. Finished product is processed by two Marine Harvest Canada processing units. All feed is supplied by Skretting at the sea sites. The main markets for the finished products are Canada, United States and Asia. There are many working partnerships with First Nations that also include business opportunities. Marine Harvest Canada has an ethos in helping build strong communities through significant sponsorships, donations and supports community organizations including service groups, sports teams, social programs and salmon enhancement societies. Water conservation is a high priority for all Marine Harvest Canada Hatcheries use recirculation technologies that have been adopted to reduce fresh water consumption by up to 95 percent. Monday Rock is a soft bottomed site with 10 30mx30m steel cages with sapphire nets. There are 5 employees on this site plus the site manager. There are cameras in each pen and a central barge based feeding system. Fish were stocked in November 2014 and harvest is expected in April 2016. Sites are subject to DFO inspections that are un-announced.

4. Scope

The audit was conducted to the Aquaculture Stewardship Council Certification Version 1.0 Certification and Accreditation Requirements (CAR V1.0 March 2012) against the Salmon Standard V1 (June 2012). The audit was a single marine site, Monday Rock Farm, that on-grows Atlantic salmon (*Salmo salar*) from smolt input to the point of harvest.

CAR Version	Version 1.0
Standard	Salmon Standard V.1.0 June 2012
Species	Atlantic salmon (*Salmo Salar*)
Scope of Audit	Single site marine cage fish farm (excluding cages 7 and 8 – as a result of VR 140)
Company Name:	Marine Harvest Canada
Address:	124-1334 Island Hwy
City/State:	Campbell River, Vancouver Island
Province/Country:	BC Canada
Postal Code :	V9W 8C9
Company Email	Katherine.Dolmage@marineharvest.com
Application Status:	Single Site
Farm :	Monday Rock Farm
Farm Address:	Quatsino Sound, 50 29'5"N 127 52'48"W
Farm Activity:	On growing of Atlantic Salmon (Salmo salar)
Annual Production Volume	3240 metric tons maximum standing stock
Receiving Water :	Marine Harvest Canada is licensed to operate five salmon farms in Quatsino Sound, though only four are currently operational. Stocking and fallowing are coordinated at the four sites. No other company operates salmon farms in Quatsino Sound. The area is home to all species of Pacific salmon. Heavy rainfalls in the area, combined with logging activity can result in an influx of nutrients. The water quality in Quatsino Sound can be considered very good, and remains largely unaffected by the salmon farming sector

5. Audit Plan

5.1 Auditors

Paul Casburn, Auditor (Lead Auditor)	Principle 1,2,3,4,5 and 8
Leon Reed (Social Auditor)	Principle 6 and 7

5.2 Previous Audits

This is the farms first audit under the ASC Salmon Standard V1.0 June 2012.

5.3 Audit Plan as Implemented

The audit was conducted between the 9th November 2015 and 12th November 2015.

Day 1 was the on-site audit of Monday Rock farm.
Day 2 was office based at the Campbell River office, composed of an Opening Meeting and review of Principle 1, 2, 3 and 6 that include Regulations, Environmental Sustainability, Health Management, Wild populations, Social Accountability and Health & Safety. Stakeholder meetings also took place on this day.
Day 3 was also office based composed of reviewing Principles 4, 5, 7 and 8 that include the use of resources, disease management, interaction with local communities and Freshwater Production
Day 4 was also office based at the Campbell River office.

Under CAR V1.0 17.4.2, it is a requirement to witness harvesting at the initial audit. Harvest of salmon was not witnessed as the harvest cycle has not commenced, as it is their first audit. The justification is that the Applicant is looking to have certified product on the market when they harvest, hence it cannot be viewed during their initial audit. It is proposed to witness harvesting at one of the surveillance audits.

5.4 Staff Interviews

Attendee (Name, Surname)	Role/Organization	Opening meeting	Document review	Site visit	Closing meeting
Paul Casburn	SAI Auditor	✓	✓	✓	✓
Leon Reed	SA 8000 Auditor	✓	✓	✓	✓
Tina Garlinski-Gonsky	HR Manager		✓		
Ian Roberts	Public Affairs Director				✓
Greg Gibson	Environmental Assesment Biol.		✓		
Blaine Trembley	H&S Manager		✓		
Leith Paganoni	First Nation and Community Relation Manager	✓	✓	✓	✓
Katherine Dolmage	Certification Manager	✓	✓	✓	✓
Renée Hamel	Certification Administrator	✓	✓	✓	✓
Gerry Burry	Site Manager		✓	✓	
Michelle Bluhm	Assistant Manager		✓	✓	
Carole Perreault – Quatsino Fisheries Coordinator	Quatsino Fisheries Coordinator			✓	
April Webber – Quatsino Referrals Coordinator	Quatsino Referrals Coordinator			✓	

Interviews were conducted of a number of other employees both based in the office and at the farm site.

Interviews with employees in respect of principle 6 were conducted in appropriate circumstances to ensure confidentiality and privacy.

5.5 Stakeholder Submissions

Living Oceans Society was an active stakeholder during the audit process. Details of a meeting with Jenna Stoner of Living Oceans Society are provided in Appendix 2.

A submission from was revived from Living Oceans Society on 31st March 2016. That submission and the SAI Global response are provided in Appendix 2.

5.6 Confidential Report

No information was identified as confidential.

6. Findings and Corrective Actions

No.	Clause in Standard	Detail of Major Non-Conformity	Root Cause Analysis	Corrective Action Summary	Evidence	Accepted/Not Accepted/Variation Request (VR)
1	2.1.3 c,d,e	The sediment samples have just begun to be collected and analysed. The results cannot be evaluated.	Samples not required for regulatory purposes; ~3months required for experts to analyse results	Columbia Sciences is currently analysing benthic samples and will have results within 3 months	Benthic Biodiversity Assessment Monday Rock Farm Site Site Reference #1237 Survey Date: November 18 and 19, 2015 submitted by E-mail on the 11th February	Accepted.
2	3.1.7 c	The farm is regulated on overall numbers of Lep lice and not just mature females as required by ASC. The metric of 0.1 has not been met during the sensitive period.	Different species of lice, and reduced treatment options in BC make meeting the 0.1 threshold irresponsible	Variance request has been submitted to ASC; MHC has contracted local experts to expand on VR and provide in depth information on regional differences	Variance approved by ASC. Number 141 on the ASC website	VR approved.
No.	**Clause in Standard**	**Detail of Minor Non-Conformity**	**Root Cause Analysis**	**Corrective Action Summary**	**Evidence**	**Accepted/Not Accepted/Variation Request (**
1	2.1.1 g	Redox results have not yet been submitted.	Site has not yet reached peak biomass	Redox will be analysed at peak in accordance with PAR monitoring	Peak biomass samples taken but not yet analysed.	Minor closeout plan accepted.
2	2.1.2 e, i	The results have not been submitted as the samples have not been analysed.	Site has not yet reached peak	Samples have been taken at ~70% of peak to provide pre-harvest data, samples will be taken again at peak	Peak biomass samples taken but not yet analysed. Will be submitted when available.	Minor closeout plan accepted.

3	2.5.5 a	The bird reported as being entangled was reported on the ASC dashboard but was not reported within the 30 days.	Infrequent incidents resulted in poor understanding of requirements.	All sites made aware of reporting procedures for birds	Procedure will be checked at surveillance.	Minor closeout plan accepted.
4	2.5.7 a	There was no assessment done for the one bird fatality.	Infrequent incidents with birds resulted in lack of procedure for incidents	Formal reporting for incidents now required for all accidental deaths, “Animal Incident Report”	Procedure will be checked at surveillance.	Minor closeout plan accepted.
5	8.33 b, c	The oxygen levels in the effluent are not over 60%.	Flow through tanks taken offline resulted in decreased effluent DO	Major refit underway at Dalrymple will address DO issues	Refit progress will be checked at surveillance	Minor closeout plan accepted.

7. Evaluation Results

Principle 1: Comply with all applicable national laws and local regulations:

Facility Number	Pacific Fishery Management Area	Landfile Number	Licence Holder	Site Common Name	Combined Peak Biomass	Species
1237	7	1406960	Marine Harvest Canada	Monday Rock in, Quatsino Sound	3240	Atlantic Salmon (*Salmo salar*), Pacific Halibut (*Hippoglossus stenolepis*), Pilchard (*Sardinops sagax*)

DFO is responsible for issuing licences for the importation into Canada and movement between provinces of live fish (salmonids), eggs, and dead, un-eviscerated fish under the federal Fisheries Act (1985) and for fish health under the federal Fish Health Protection Regulations

Transport Canada grants authorizations for aquaculture facility plans affecting navigation under the Navigable Waters Protection Act (1985). DFO or Transport Canada manages the environmental assessment process in coordination with Environment Canada and the Canadian Environmental Assessment Agency under the Canadian Environmental Assessment Act (1992).

Other important departments and agencies for aquaculture include Health Canada, Agriculture and Agri-Food Canada, the Pest Management Regulatory Agency and the Canadian Food Inspection Agency (CFIA). These departments and agencies ensure the safety and quality of fish products, feeds, veterinary drugs and vaccines under the Fish Inspection Act (1985), the Feeds Act (1985), the Food and Drugs Act (1985) and the Pest Control Products Act (2002).

All updates to local law are updated within the Marine Harvest Canada Quality Management System and are available to the whole of the Marine Harvest Group. The PAR Licence number is AQFF 113126 2015. Internal audits are carried out to ensure compliance with national and local laws and regulations. The last audit date was carried on the 18.11.2014. Government grants the PAR Licence once it is confirmed that national preservation areas are not affected.

All tax payments are details on the company profit and loss accounts, which are carried out by external accounting company. The accounting company is Ernest & Young. The accountants are detailing all tax payments within in the annual report for the stock markets which it is associated with. All national labour codes and laws applicable to farm are available on the Marine Harvest Canada Human Resources management system. Human Resources management team reviews all codes and laws and updates as required

Principle 2: Conserve natural habitat, local biodiversity and ecosystem function

The site is a soft bottom mostly. Option 2 has been chosen. Samples are taken in house using the recommended sampling methods and equipment. While the sampling at peak biomass has not yet been taken there is historical sulphide sample and measuring carried out in Monday Rock for the DFO. The results are gained using the approved methods.

The map of the site is available and has been put together internally by Marine Harvest Canada. Sampling has been based on the autodepomod system with the stations located accordingly.

Shannon Weiner have been indicated that it will be used which is option 2.

Samples are taken in accordance to requirements. Option 2 being used. The results have not been submitted as the samples have not been analysed.

The company Marine Harvest Canada takes its own samples following the FAO Aquaculture Activities regulations guidance document section 4.8 covers biological sampling. The independent lab being used for analysis follows appropriate testing methods.

Marine Harvest Canada uses the DEPOMOD modelling tool to determine the AZE. Monday Rock was first modelled in 2015 Model allows parameters can be changed to reflect what's actually happening. The model used 3500 tons and the average feed scenario. DEPOMOD is used as the modelling tool and is favoured by DFO. The model was developed in Scotland in conjunction with SEPA.

Aquafarmer production database developed by Mercatus is used where oxygen's are recorded for each site. The oxygen data goes back to October 2014. There are automatic loggers on the site and is backed up with hand held probes. Samples results are then input into the data base every day. The records show that there was no sampling period that was below 70%. There are 8 Pentair probes on site and there are five in-pen probes at 5m as well as three probes in ambient seawater (1m, 5m and 10m). There is a backup hand held probes. The staff are capable of calibrating if required.

There are no samples recorded below 2mg/l. The CCME, Canadian council for ministers of the environment set quality guidelines. The only parameter mentioned in seawater is Nitrate.

Report which is a literature review from Dr Stephen Cross and Sherington on water quality conditions of Coastal British Columbia and Nutrient release from net cage aquaculture in Quatsino Sound. Papers reviewed from 1982 to 2005. Reports the water in the area as considered to be as very good. Dated April 2014 and July 2015 for the Quatsino Sound. The most recent sampling for the area undertaken by the CCME was 2012 for Nitrate in this area. As there are Nitrate levels used to determine water quality guidelines for the Marine area under the CCME this clause is not applicable. The company is monitoring algae continuously looking for trends and species. There is also nutrient monitoring in this process.

Calculations for BOD were checked and data reviewed included biomass and feed. The FCR was checked and corresponds. The BOD was 3,362,605. This was for the 2014 harvest cycle.

There is a procedure in place for 'feed sample procedure for marine sites' document SW129. Established August 2014. Hand held sieves are used. The results show that the levels of fines was <0.1%.

In June 2004 the previous owners Stolt Sea Farm published an environmental assessment for the Monday Rock site based on the requirement of the Canadian Environmental Assessment Act. The NWPA file is #8200-T-11291.1 and the LWBC file is #1406960. There have been no amendments to the licence on this site so the report is still applicable. There is a second report also from 2004 called the Quatsino Sound Coastal plan carried out by the DFO and includes elements such as Sea-Otters and Whales populations in the sound.

In both the reports there are no specific identified impacts. The DFO aquaculture licence has no conditions on mitigation for potential impacts either. Licence last reviewed in September 2015.

While there is no potential critical impacts either identified or being affected the company has an Environmental and Biodiversity policy stating their commitment to the environment and stating continuous improvement. Dated 7th May 2015 and signed by the Managing Director of Marine Harvest Canada.

There are various maps showing the status of the protected and important environmental areas in Quatsino Sound. The closest official protected area is Quatsino Provincial Park which neighbours Monday Rock site. This is a terrestrial and marine protected area. Map consulted was on the Environment Canada website. There is a declaration from Richard Opala Regulatory affairs manager sent by e-mail dated April 2014 declaring that all finfish tenures are not sited in a HCVA protected area. However there can be protection for individual species of animals or fish. In this case there are no rockfish preservation areas. Not located in a HCVA.

The PAR licence prohibits the use of ADD's. Found in section 11.2 page 17 prohibits their use.

No lethal predator control devices have been used since 2012. MHC have switched to the HDPE nets manufactured in India with an electrified wire one foot above the water line. There is a DFO web page showing all the farm sites in BC and the lethal deaths of Mammals and these have to be reported. There have been no deaths of predators on this site since at least 2012.

One dead bird was found tangled and unidentifiable. A report was made to the MHC management but species could not be identified as it was very old but was highly unlikely that it was red listed and was most likely a duck. Wildlife Interaction Plan in place and there is a list of red listed animals on site. There are ID cards for cetaceans available. There was no red listed bird mortalities recorded.

No lethal actions in the past year. The bird reported as being entangled was reported on the ASC dashboard but was not reported within the 30 days. The staff are now aware of the 30 days requirement with the new Predator Avoidance Plan.

There have been no lethal actions in the past 2 years though DFO publish all data including zero mortality reports. The last lethal action by MHC was in April 14th 2012 was reported to DFO and logged on the website.

Principle 3: Protect the health and genetic integrity of wild populations.

There are 4 sites in the sound of which there are only 2 stocked with fish currently. All 4 sites are owned by Marine Harvest Canada. There is a plan in place to fallow the entire sound in June 2016 and will not restock until October thereby introducing sound ABM rules.

Fallowing periods have been submitted. The other site in the sound is called Koskimo and is about 2km and has the same year class of fish and co-ordinated treatments. Also owned and managed by Marine Harvest Canada. There is no ABM with other farms in this area and all the immediate sites are belonging to Marine Harvest Canada. ASC have been informed. Fallow from 17th July 2014 to November 6th 2014. The company undertakes various research activities such as being a party to the Genome BC strategic salmon health initiative looking at the high mortality rate of wild juvenile salmon during outward migration. The BC Salmon Farmers Association advisory committee that has committed a $1.5m in research funding for academics and independent research institutions from 2015 to 2020. Open to pathogen transfer and salmon migration. Broughton Archipelago Monitoring Program looking at sea lice and the Regulatory Compliance & Certification Director sits on this program. Just been published in March 2015. All the requests for collaboration end up going through the BC Salmon Farmers Association and all requests are documented through minuted meetings. Marine Harvest Global have a dashboard showing research projects for this area. The annual report has a section on research and development.

Lice load is set by the government and last reviewed in 2012. Under the farms licence conditions there is a trigger level of 3 motile lice from March to June following bi-weekly monitoring. For the rest of the year the tests shall be carried out every 4 weeks unless the level exceeds 3 motiles (trigger level to notify DFO). There is no setting of maximum sea lice load related to Biomass, just lice per fish. All lice counts are sent to DFO. The DFO may audit the farm unannounced and may result in re-training for staff on counting or if outward migration times will trigger treatments. Harvest may also follow. Annual review takes place for annual licence review. There is a new Federal Aquaculture regulation coming into force in before the end of 2015. There has been nothing added for lice. The ABM is set by DFO and does not take into account the geographic bay but the location of the other farms in the area. All the farms in this bay are owned by Marine Harvest Canada.

The regulation was submitted which report the limits set at <3. This is a trigger level to inform DFO and have an action plan. This is not a mandatory treatment level. The farm check for lice as per the licence requirements which is 60 fish from 3 cages monthly. During out migration periods the testing is required bi-weekly. For ASC weekly testing is carried out during the sensitive periods. Information on variation of sampling is logged on the dashboard. The company also has and spreadsheet that is maintained. There is a SOP called SW 822 called sea lice monitoring in marine sites. The ASC requirements are located in the ASC implementation manual. All the Monday Rock lice information has been posted onto the website within 7 days. Records are maintained and they are logged on the company dashboard. All five species of Pacific Salmon occur plus steelhead trout in the area and there is a list on the DFO website. BC Salmon Farmers post a map showing all the active salmon farms from all companies during the migration time. There is a paper available from 'Open Access' called Spatio-Temporal migration patterns of Pacific Salmon smolts in Rivers and coastal marine waters. Melnychuk et al. There is an update for April on the Mainland Inlet Pink Salmon update bulleting Number 7.

DFO control lice testing and call for more testing during the smolt migration. The DFO identify the sensitive periods. Primarily based on the pink salmon. The most critical are the Pinks and the Chums are the smallest smolt size are considered the most critical. Critical period is defined as March 1st to June 30th.

The site manager and staff were asked about sensitive periods and were knowledge of such periods. They reported March to July as being sensitive. The company has informed the CAB that they operate in a wild Salmonid area. Surveys carried out by Mainstream biological consulting. The Centre for Aquatic Health Sciences verify the species of fish and lice from the survey. Report was sent to the CAB prior to audit. Posted on the ASC dashboard on October 15th on the MHC website.

Sensitive period as per the farm licence and trigger levels for lice are from March 1 to June 30th inclusive. Pacific Aquaculture Regulation 7.3. The farm is regulated on overall numbers of Lep lice and not just mature females as required by ASC. The metric of 0.1 cannot be met due to the limited allowance of treatments permitted in Canada. Trials of H2O2 were used on this site. A variance request resides with ASC on this issue.

Treatment strategies are considered depending on the information from the wild lice monitoring. The wild lice monitoring data will be combined in the future to look at lice trends. There has only been one report so far on the Quatsino Sound area. Marine Harvest Canada farm Atlantic Salmon Salmo salar on this site. According to the Fisheries and Oceans Canada website Atlantic salmon were first farmed in British Columbia in the 1980's. There are reports of Atlantic Salmon being introduced for angling purposes back as early as 1874 to California and 1905 to British Columbia.

The DFO website shows that the first importation of salmon eggs for farming came from Scotland in 1985 when 130,000 eggs were imported. All egg imports are logged on the website as public reporting on Aquaculture. On the DFO website there is an exotic alert for Atlantic salmon with an id chart and telephone number for reporting. There is monitoring of the rivers by DFO on the makeup and abundance of species present on rivers in the area. From 1990 to 2004 there was an Atlantic Salmon Watch program run by DFO to look at potential interactions of Atlantic salmon in the area. MHC also under took independent surveys in 2010 following an escape. There have been no indications of the establishment of the species in this area. MHC will submit a report during the five years of the SAD publication.

No Cleaner fish are used although the company is currently examining local lumpfish for potential as cleaner fish. Dated 26th April 2013 there is a Global declaration on GM and Transgenic salmon and states that it will not be used unless the requirements are changed. The thrust of the declaration is that there is no use of Transgenics.

DFO show the import of eggs over the years on their website. MHC has a policy of only sourcing eggs within their own Canadian company. Eggs and Broodstock origin is on the Aquafarmer database and was reviewed. There are no purchases per say as the units are all under MHC's jurisdiction. There are official Blanket fish transfer licences for moving eggs from broodstock units to Hatcheries. There have been no reported escapes in this most recent production cycle. Escape reports are published by DFO and go back as far as 2011.There have been no reported escapes on the current cycle and the farm has installed new stronger sapphire nets.

The counters used are VAKI and Aquascan counters. Records are kept of counting accuracy on a freshwater production spreadsheet. There is a new SOP reference FW269 called Smolt Inventory control. This provides guidelines as to which count to use. The smolt suppliers are all MHC owned. Both off site and onsite counting takes place. There are various counts such as Hatchery book count, Hatchery dispatch count and smolt input count as well as vaccination counts. Protocols on calibration are used from the VAKI manual and followed by relevant staff. VAKI manuals can be accessed online at www.vaki.com . Spec sheet from VAKI stating an accuracy of over 99%. The Aquascan states accuracy between 98% and 100%.

All records of mortalities are maintained and recorded both on the site and on the Aquafarmer database. This is the first audit and the farm keeps all records and intends to post final figures on the website following completion of Harvest in June 2016. The last cycle has a 0.9% difference. It will be made public on their website on the ASC dashboard when the final report is available after harvesting. As part of the PAR licence (Pacific aquaculture regulation) there is an escape prevention plan SW 951. It was submitted pre-audit. There is also a fish containment plan SW 962. There is an Escape response flowchart located on the sites.

All areas covered. The staff were questioned on the escape prevention plan and there are regular training for onsite staff in relation to implementing the escape prevention plan. The site has an escape prevention box with netting, needles, weights, ropes etc. and once per year there is a mock escape drill documented. There is specific site escape risk analysis detailing the history of escapes in the Quatsino area as well as wildlife exclusion measures.

Plan includes escape prevention kits and they were inspected on the site. There was a farm drill on Escape prevention carried out once per year and the staff sign drill document to say they carried out this drill as part of training requirements. There is a once per year escape drill carried out on site. Assistant Manager Michelle Bluhm was interviewed and questioned and the plan is implemented and there is an escape pack with netting, twine and needles available. Cameras that pan and tilt are in each cage with excellent resolutions monitor the behaviour of the fish. New net cleaner due will have cameras to monitor nets.

Principle 4: Use resources in an environmentally efficient and responsible manner

The only supplier to the sea site is Skretting. The location of the production unit is in Richmond BC. As well as informing Skretting of MHC participation in ASC Skretting were part of the development of the standard. Skretting Canada Vancouver has GAA BAP certification. Date of cert issued 29th October 2014. Valid until 21st October 2016. Cert number BAP1202. SAI Global is the CAB. Skretting Canada Vancouver has declared that they will be adopting method 2 for mass balance. Skretting assures traceability for all ingredients that makes up more than 1% of the feed. This is regularly verified with different certifications such as ISO 9001:2008, HACCP, BAP and Skrettings Nutrace internal standard. The company has the GAA BAP standard that insures traceability.

Skretting has supplied lists of species used as fishmeal including the species used in by-products dated June 5th 2015. Species include Hake, Herring and Sardine. Sources of fish used are classed in geographic areas such as Hake from the Pacific Ocean area FAO 67 and 77. The weighted average

fishmeal inclusion is 8.6% excluding the meal from trimmings. There is a program used to do running FCR and other calculation called Aquafarmer and it was developed by Mercatus. It's a spreadsheet format and has permanent formulas imbedded in the system. The current FCR for Monday Rock is 1.25.

For the FFDRm the number for the previous cycle was verified. The current FFDRm is 0.6. The feed manufacturer Skretting states that the weighted Average fishoil inclusion for Q4 2014 was 10.1% excluding oil from trimmings. For the FFDRo the number for the previous cycle was verified. The current FFDRo is 2.25. It was submitted for previous production cycle. Marine Harvest Canada International Policy on Sustainable salmon feed dated the 8/11/13 was reviewed and incorporates the intent of the criteria. This has not been changed. This policy is in force and active since November 2013. This is updated in the international report as part of the requirements under the stock exchange requirements.

Skretting provided a table for the species and sources of fishmeal and fish oil and score from Fishsource.org. Geographical areas were also listed. The stock for Hake biomass from the FAO 67 and 77 on the supplied table is 10. This was confirmed on fish source. Skretting Vancouver is certified under the BAP standard for feed mills. Valid until 21/10/2016. BAP require a verified chain of custody for compliance to their standard. All species of fish used are listed and do not appear on the IUCN list as endangered. Skretting have a signed declaration that there is no IUU species used. Under Nutreco supplier code of conduct. This is also a BAP requirement.

Skretting (Nutreco), under their sustainable procurement policy for Marine products version 2010 state under section 7 Criteria that the supplier needs to provide documentation that the meal and oil is IFFO RS or MSC certified. Under section 7.2 of the Skretting (Nutreco) criteria for Marine raw materials it mentions Endangered or critically endangered but not vulnerable. Skretting have further provided a table showing that no vulnerable species are registered in their list of supplied raw material.

Only Skretting feed is used by the Client. Skretting are part of the Nutreco group and a vendor policy is in place where all suppliers must sign applicable declarations guaranteeing source. Skretting is BAP certified until October 2016. BAP have a similar principle which was provided to compare. BAP and GAA are in the process of harmonising their standards.

Declaration on the Marine Harvest Global Corporate documents called Marine Harvest Canada position on sustainable sources of non-marine raw materials in salmon feed signed by Oyvind Oaland Global director and Catrina Martins Group manager and dated 29/11/13. The document refers to the Roundtable for Responsible Soy (RTRS). There is no Soya in the feed used. The company has informed Skretting of the fact that they do not use any Soya. E-mail from Gavin Shaw Skretting to MHC confirming that Soya is not used. April 1 2014. Declarations were supplied and were fully investigated. No use of GMO's are stated. Mail from Skretting stating that the feed includes Canola oil and Corn Gluten that are transgenic. Dated January 7 2014. There is no change in this.

Materials storage and waste disposal plan SFW 963. Refers to the ASC standard. Waste is removed by the Feed delivery boat as the main waste is pallets and plastic from the feed. The main recycling that takes place on the site is feed packaging materials such as plastic pallet wrap, wooden pallets and used bulk feed bags.

Nets ropes and other production equipment are also included but would not occur as often as the packing materials. The company has a website for used equipment sales www.marineharvestusedsales.com. Disposal forms are used by the site managers when equipment is being de-commissioned and there is a column for describing what happens to the item i.e. sold, re-cycled or donated. Equipment is also donated to enhancement facilities.

There was no evidence of waste build-up. Recycling through sales on the website of old materials nets etc. There is an asset disposal forms are kept as a record. Every 14 days following feed delivery by the Patty S Blackwater (boat company), the pallets, wrap and bags are sent with them back to the Skretting facility for re-cycling. There is a GHG Energy assessment excel sheet used. Items recorded include petrol, diesel and gas (propane).

The farms energy consumption was 3187752 kJ per mT for the previous production cycle. MHC has used a tool from MH Scotland to record and calculate the energy consumption. This diagnostic tool was developed by the Department of energy and climate change part of the UK's DEFRA government agency. Records are maintained using the DEFRA diagnostic tool database. There is no scope 2. Scope 1 emissions was 555173. The original GHG calculations and the GWP conversions all originated from DEFRA in the UK where Scotland has been using these calculations for longer than Canada.

The company has only supplied the scope one emissions per mt and that is 46.2kg/Mt. For this cycle to date the GHG emissions 76,232kg CO2 equivalents. The farm cleans its nets in-situ using an MPI net washer. The company /facility used is Grey River Net BC and Campbell River net loft.

According to e-mails received the company do not have an effluent licence as they do not discharge. Solids are separated and the water is re-cycled back into the facility. All nets are being replaced with HDPE nets and no copper is used. The plan is to have these nets replaced from nylon. All this site cages are using HDPE nets. Copper treated nets are not used. Monday Rick uses an MPI net washer.

Principle 5: Manage disease and parasites in an environmentally responsible manner

Fish health management plan dated October 2015. The updates include the new requirements for moving fish and refers to the SOP's SW955, SW 138, SW 819 and FW 260. Submitted to the DFO for part of the licence requirements.

Approved by Diane Morrison DVM the company Vet in October 2015. The health unit maintain record of all health visits on a database. This records site records, comments, number if fish examined and tests done. External lab results are linked to the results. The last visit carried out to Monday Rock was July 12th to 15th 2015 by Diane Morrison, DVM, Fish health and food safety director. There are two other fish health managers employed and their initials appear on the database. Checked qualifications for Diane Morrison who has been a vet since 1992. The other two fish managers have B Sc's.

There is a Mortality Collection and disposal procedure for Marine sites SW 124. This procedure cover classification, records and disease outbreak. Mortality records were reviewed on site during the visit. Disposal is via a sealed mortality bin located away from the site. When it's full it's brought ashore to the Coal Harbour landing facility where the morts are trucked to a company called Foenix Forest Technology and is used for a product called Seasoil. Receipt from the company dated 1/10/15. Invoice

number 7264. 23 totes from Coal Harbour attached. There was a large number of mortality events during a freshwater treatment. The licence description of a mass mortality event was not reached.

The mortality records on the farm were reviewed along with the protocols for assigning cause of mortality. Daily mort checks are carried out using uplifts. All the staff has been trained in assigning reasons for mortality. Unknown reasons or assigning disease must be referred to the fish health team. Mort sheets have all required information. 30 fish are generally sampled for fish health. The off-site lab used is only when unknown mortalities need to be assessed. The lab is situated in Campbell River. Third party labs can also be used such as centre for aquatic health sciences in Campbell River. All analysis of total mortality is logged in Aquafarmer. There is the fish health database recording mortalities and the Vet controls access to it. The cage by cage information can be accessed. There have been no viral mortalities in the current cycle

The company uses a spreadsheet to recorded monthly mortalities in both percentage terms for count and Biomass. Done on an overall company basis based on historical information and how each site has produced in the past. Updated regularly in real time. This is done company wide and per site. There is a companywide reduction plan and targets set for the production. The current target set for 2015 is for 91% survival. This is up from 2011 when the target set was 86%. Disease is not the biggest cause of morts but Plankton is. The plan indicates that that plankton mitigation measures and monitoring are taking place. Plans are broken down to their KPIs on each site. There are Weekly tactical meetings for the staff on the site. There are bonuses set for each site depending on criteria such as survival.

There was a list of all chemicals and therepeutans used, available in the on-site records. Records are well maintained and include the date used and the quantity used. Veterinarian sanction and prescriptions were also recorded. Aquafarmer also has the same records and these are available on site. The site supervisor records these records on the drug treatment log. The same person then enters the details into Aquafarmer which then becomes the official record for the site. Prescriptions are also recorded in the Fish health data base by the fish health group. These records are subject to DFO unannounced inspection. Records were inspected and cover the previous production cycle. This is the sites first audit. It has been submitted as one florenfenicol and one SLICE treatment.

Marine Harvest Global has a list of all relevant companies that shows an extensive list of countries and their allowable and unallowable contaminant's drugs and microbiology and statutory limits for fish for all these growing areas. This data base is updated when a country changes its limits by anybody in the Marine Harvest family that has the current information. Every possible worldwide therapeutant is listed. Marine Harvest Canada also have a medicine positive list showing drugs allowable however in the case of Tribrissen even though it's allowed MHC no longer use it for the US market. Even though there is a positive list it does not mean that the treatments are used. There are declarations that were revised in 2013 stating that the company will not purchase or use prohibited chemicals or therapeutants. Following the use and a therapeutant the Aquafarmer system locks in place the withdrawal time. Logged in the prescriptions. Maxam in Vancouver carry out residue testing for each site prior to harvest. They are accredited to Standards Council of Canada no. 117. Pre harvest test from Monday Rock January 2014 from Maxam. Ref B410773. Testing is mandatory from CFIA. Checked use logs and the therepeutants are on the approved list.

The farm has the original prescription located in the drug record file on site as required by its DFO operating licence. Records are kept on site and on Aquafarmer 15/030 reference for the SLICE

prescription. Referenced in section 2.10.1. SOP Document SW 123. Health Canada website lists all drugs allowed for use in the culture of fish for food and includes details of withdrawal periods.

http://www.hc-sc.gc.ca/dhpmps/vet/legislation/pol/aquaculture_anim-eng.php

Last treatment for previous production was February for SLICE. Harvest date was completed in July 17th 2014. The calculation took into account all therapeutant use. The PTI is currently 3.2. Prescriptions available and reviewed on site as required by DFO and licencing. Logs are present. Treatments can be observed on the Aquafarmer program and on the fish health files. There has been only one treatment of antibiotic at this site, dated January 2015. The company uses the WHO website on critically important antimicrobials for human medicine. Checked florfenicol use and it's classed as highly important and not of critical importance. No critically important antibiotics used in the current production cycle.

Once per year (January) MHC supply their customers with a 'Suppliers Quality Assurance Certificate'. It mentions potential treatments and refers the reader to web links with the Canadian Food inspection agency for regulatory status. It lists the possible supply plants. A list of the primary customers is also attached for the audit. Updated January 2015. A list of the primary customers was provided for the audit. When sales of ASC product become available it will be possible to trace sales versus treatments as it is with all sales currently. On the bottom of the Suppliers QA certificate there is a statement from the Food Safety assurance technician to contact her if there are any questions. Her number and extension is included. There has been no customer requests for residue tests from MHC but MHC will provide them if required.

A medicinal treatment other than Antibiotics is Emmamectin (Slice). The company has been doing trials on Hydrogen peroxide and there is permission to use H2O2 and two were carried out. All treatments are recorded in the treatment log. Following all treatments a bioassay is carried out. For this site it was carried out on the 20 May 2015. There have not been any successive treatments. There was only on Slice treatment and it was effective. Trials with hydrogen peroxide have been allowed by DFO for the Quatsino area prior to treatments taking place. The company is currently working on permissions for other production areas.
The salmon were stocked in November 2014. They came from one hatchery Dalrymple. The fish size on the farm corresponds with the Aquafarmer reported size of 2.729kg.

Numbers are reviewed by the Fish health group. First review is on the farm who within 24 hours must contact the fish health group and is logged on the site activity log. There have been no unexplained mortality events. There is a red and green system in place that assesses the mortality trends. There were no large or unusual mortality events and all were diagnosed. This is done only if the mortality falls into an event described as the following; 4000kg of morts or more or 2% of the inventory in 24 hours or 10000kg or more or 5% or total fish in 5 days. All mortality was identifiable and explained.

Appendix to the Fish Health Management plan Appendix 1 certification requirements revised November 18th 2014 in order to incorporate the BAP standard requirements. A copy is available to the staff through the 'sharepoint'. This appendix includes link for OIE and refers to the Code.

The policies are constant as the FHMP is reviewed annually. The appendix will also be reviewed as and when there are changes to certification requirements. Policies are implemented and the staff are well

informed. Notifiable diseases are immediately conveyed to the DFO and the CFIA who take control and determine the action.

The CAB was informed that on the previous production cycle 159 fish were found to have had VHS.

There has been a variance request submitted to ASC as VHS is endemic in the area and DFO have not required culling the fish. This was allowed for other sites in BC and the variance number was 89 and 91. DFO are aware that the VHS is endemic.

Principal 6: Develop and operate farms in a socially responsible manner

All Marine Harvest Canada employees are aware that they can join trade unions and there are no farm workers that are unionized, including Monday Rock. Interviews with the workers confirmed that they are free to join unions to protect their rights. There is a Code of Conduct, which is provided to all employees and they are tested to show they have understood the Code of conduct. The Code of Conduct can also be accessed via intranet, which also allows access to human resources Policy & Procedure Manual. Marine Harvest Canada's Code of Conduct section 5.3 relates to this area. There are no outstanding cases against the farm site management for violations of employees' freedom of association and collective bargaining rights.

No evidence of Child Labour was identified during the audit. There is policy stating the rules on employing young workers. The Marine Harvest Canada code of conduct section 5.4 sets out the main rules. Young workers risk assessment is carried out and displayed within the working areas. No young workers have been employed at the time of the audit.

No evidence of forced, bonded or compulsory labour was identified. All employees are provided with contracts of employment. It was confirmed within employee interviews that employees received a copy of the contract of employment. Employer does not withhold employee's original identity documents. Working hours are recorded by a biometric clocking system. Site management verifies hours. All employees confirmed working hours to be correct.

Discrimination is covered in the Marine Harvest Canada code of conduct section 5.2 & 6.1. The anti-discrimination policy that is in place, states 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. Workers that were interviewed had not experienced or heard of any issues with regards to discrimination.

All employees are trained at the point of employment. PPE is provided to the employees and is being used correctly. Employees are trained in the correct use the PPE. All PPE is checked monthly to ensure it is fit for use. Health and Safety risk assessments are carried out and reviewed annually unless there has been a change and the assessment needs to be revised. Once the Risk assessment has been carried out a SWP (Safe Working Practice) or SOP (Standard Operating Procedure) is created and communicated to the workers and located near to the associated hazard for easy reference. Any Accidents/incidents or near misses are logged and investigated with action plan implemented if required. All Diving is carried out by sub-contractors who are certified with copies maintained all Diving operations are overseen by a Marine Harvest Canada Employee. 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

Employee's wages are recorded on an electronic accounting system and are verified. All wages paid are in line or above minimum wage requirements. Employees are paid bi-weekly by electronic bank transfer. Wages and benefits are documented prior to the point of employment. Employees confirmed within interview process that information was available and electronic transfer payments are made.

All employees are provided with a contract of employment and a copy of the contract was available on the personnel files. There is supplier/contract approval process, which is used to compile an approved list of suppliers/contractors. Risk, performance are included as part of the process. The Code of Conduct states that Contractors must comply with the Code of Conduct, which has includes all social responsible practices and policies. There were records of communications with contractors.

Marine Harvest Canada has a clear policy on conflict resolution, as part of the training process employees have to show they have read and understood company policies and procedures and this was confirmed during worker interviews. There was no evidence of grievances or complaints during the audit.

Marine Harvest Canada has no incidences of excessive or abusive disciplinary actions. The company has a written policy for disciplinary actions. Marine Harvest Canada has a performance management policy so this should be noted alongside the disciplinary policy. This process is used to improve the worker.

All working hours are logged on Dayforce by Ceridian HCM, which allows employees, and Management to monitor working hours. All working hours are compliant with the local legislation. All employees are paid overtime premiums and the premiums have been agreed and detailed within the HR Policy.

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. Employees confirmed that they are encouraged to learn and be involved with training courses. Other than compulsory health and safety training employees dictate the speed of additional training.

The Company has demonstrated application and management of company level policies and procedures in line with the standard requirements under principle 6. The Code of Conduct and HR Policies are in line with all social and labour requirements. The Senior Management approves corporate policy. The scope of all corporate policies covers all company operations.

Principle 7: Be a good neighbour and conscientious citizen

There is evidence of consultation with local and national communities and stakeholders. A community engagement letter has been sent to each community covering the direction of the company and initiative's that are being developed. They have also provided details of new technology, therapeutic treatments and opportunities for future growth and information regarding ASC certification. There is evidence of consultation with indigenous groups. There are agreements in place with the indigenous groups within the area of the farm. The farm would seek and obtains community approval before

undertaking changes that restrict access to vital community resources. At this stage no plans are in place for any changes that would affect vital community resources.

Section 8: Standards for suppliers of smolt

The one hatchery concerned at this site is Dalrymple. It's a full re-circulated hatchery. The federal aquaculture permit is dated from June 2015 to June 2024.Licence number AQFW 112571 2015. Provincial licence number is PR083 valid until 30/6/17. Waste permit number PE07802.

Monthly monitoring takes place for the water parameters. Results submitted monthly to ministry of Environment. Samples are taken and analysed by Maxim. Records date back to 2009. The hatchery is owned by MHC. There are letters on file from the ministry of environment stating that there has been no enforcement on breaches as MHC have a good record exercising due diligence.

The hatchery is owned by Marine Harvest Canada and therefore these metrics are covered under principle 6 and 7. Biodiversity impact assessment for the hatchery was drawn up in November 2014. There are a series of recommendations at the end of the report mainly to do with the effluent discharge and its affect. Work is ongoing and the farm is being turned into 100% re-circulation.

The feed used is Skretting and Skretting declare that the P in feed is 1.6 to 1.7 in Nutra XP and 1.4 in Nutra RC. 5.33 tons pf P in feed. Total biomass for the 2014 year class was 519.15 tons. 2.23 tons of P in fish. Total P removed in sludge was 11.08 tons. Sludge removed by Able and ready. Receipt 5/12/14 invoice number 15114.

Non-native Atlantic salmon are farmed. DFO website shows that introductions occurred in 1985 from Scotland. Evidence provided in the form of the information on the DFO website showing egg importations. First listed as 1985 from Scotland.

There are no escapes reported. The system is a full re-circulation with grids and screens in place. The hatchery is land based and a full re-circulation system. The suppliers are all Marine Harvest Canada facilities. All monitoring records are submitted to DFO who keep them indefinitely and are available on their website. There have been no reported escapes from any of the hatcheries. They all have reporting conditions with their PAR licences the same as the marine sites. Vaki automatic counters are used with a reported accuracy of +/- 2%. The smolts are counted 3 times at vaccination, Loading for transfer and then by the well boat into the pens. There is a new Smolt inventory control SOP for hatchery sites Document FW269.

There is a document for the 2014 year class for smolt stocking numbers from all hatcheries to all seas sites.

The hatcheries are owned by Marine Harvest Canada. The feed bags, pallets and plastic are all sent back to the feed company. There is a waste management plan in place for MHC. The policy also covers the sea. S/FW963. There is a declaration on Environmental and biodiversity policy dated 7th May 2015 and signed by the Managing Director of MHC stating that there is commitment to environmental certification programs such as ASC.

All records of fuel and electricity use is recorded for each of the facilities. These records make up part of the reporting into MH on global use of energy. 11,172,357,208 Kj. For all MHC sites FW or SW feed use and fish growth is recorded on the Aquafarmer centralised database management system. The KJ/MT=21,520,616. Energy use assessment is conducted companywide for MHC. GHG's are recorded for each of the facilities. 1244120 CO2 Equivalents. All emission factors are available. The formula came from Marine Harvest's Scottish office and the source came from the Scottish Department of energy and climate change within DEFRA.

The fish health management plan is the same as the FHMP used on the seawater sites for MHC. The veterinarian Diane Morrison covers all the MHC operations. The lists of diseases are available in the Fish health management plan. Vaccinating is not compulsory but are used by all producers in BC as a best management practice. All fish are vaccinated with 2 injections with 3 vaccines. All smolts at this site were vaccinated against IHN, Furunculosis, BKD and Vibrio. The vaccine used is APEX-IHN, Renogen and Forte micro. As all FW and SW sites belong to MHC all information is found on the Aquafarmer system.

There is a fish health inspection report dated 24/8/14 and are tested for diseases such as VHS, BKD, IPN, ISA and bacterial diseases. As the fish are moving from zone 3 to zone 2 the lab accession number was M14082605 and is carried out by Kennebec River bio sciences. There has been no use of antibiotics in the hatcheries. Incoming water is disinfected with Ozone. All other chemical or therapeutant use is recorded on Aquafarmer for example MS222 used for anesthetizing fish. Formalin used to treat Fungus. There have been no treatments in the freshwater units. Marine Harvest Canada owns the hatcheries. Marine Harvest Canada apply the national aquatic animal health plan and it's available on the CFIA webpage at www.inspection.gc.ca. The same polices apply as detailed in Principle 6 as it is the same company.

The same polices apply as detailed in Principle 6 as it is the same company. The same consultations as detailed in principle 7 (7.2.1a) as it is the same company and contact Ian Roberts, Public Affairs Director. The same polices apply as detailed in Principle 7 as it is the same company.

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

These results are available. The hatcheries provide oxygen to the growing tanks and monitor the oxygen levels at effluent. The hatchery is owned by Marine Harvest Canada. This insures good oxygenation in the effluent waters. The oxygen levels in the effluent are not over 60%. Reports are available from a company called 'Biologica' who carried out the macro-invertebrate surveys on the relevant discharges. There has been no change in production and the survey has just been carried out and the results are awaited. There was no issue in 2014 and with no change in biomass there is none expected this year.

Their prescribed methodologies were used by Biologica who are an independent environmental service provider. There was reference to benthic communities of important reference invertebrates such as tricoptera and ephemeroptera being present. The major conclusions showed that there was

consistent abundances and high species richness both above and below the farm shown no sign of impact.

Documented Biosolids Management Plan available. Revised September 2015. There is a flow diagram and map of the sites showing input and waste streams and the sludge collection areas are identified. The disposal of the bio solids is recorded including disposal method and dates of cleaning and disposal. The company who removes the sludge is Able and Ready Septic and Vortex drain Services, BC. Sludge from Marine Harvest Canada hatcheries was brought to Renewable resources (www.renuable.com) ltd in BC by Able and ready.

8. Decision

On 15th April 2016, SAI Global determined that Marine Harvest Canada, Monday Rock Farm site meets the requirements of the ASC Salmon Standard V1.0 June 2012 and is therefore certified.

Date of Issue of Certificate	19th April 2016
Date of Expiry of Certificate	18th April 2019
Outstanding Non Conformities - Major	Zero
Outstanding Non Conformities- Minor	Zero

9. Determination for Chain of Custody (CoC) Certification:

Products from Monday Rock Fish Farm may enter further chains of custody and are eligible to carry the ASC label.

Tracking, tracking and segregation systems within the operation:

Harvest at Monday Rock Fish Farm usually takes place over a 2-3 month window when the entire site is harvested. A Harvest (Refrigerated Salt water RSW) boat arrives at the site and up to 220 tons of fish per day can be harvested. The fish are seined to the side of the harvest boat and pumped aboard.

There are 4 killing channels using a Bader automatic stun and bleed harvest machine, which also counts the fish. The fish are then chuted into one of the 4 RSW tanks. The temperature is set from -0.5 to -1 degree. Once the boat is full it makes its way to the Port Hardy facility, a harvesting station owned and operated by MHC. Here, fish and blood water is unloaded for processing and treatment of the blood water.

Following offloading the harvest boat is disinfected and the disinfection waters are also sent to the treatment plant adjacent to the harvest facility. The Port Hardy processing plant has BAP certification and MSC COC certification.

The harvest manager allocates the harvest boat to the site for harvesting one week in advance of harvest. The site managers, sales team, processors and harvest boats are included in the notification. There is a procedure in place for completing the finfish shipping forms – Marine sites (Drug treatment

history form). It includes the site licence number, date of harvest, Quantity shipped and name of processing plant. This is a legal requirement.

Use of Transhipment:

A harvest boat is used to transfer salmon from Monday Rock fish farm to Port Hardy Processing Plant. The harvest boat is contracted to MHC. It is used exclusively by MHC. When in use at Monday Rock fish farm for harvesting, no other sites are harvested by the well boat at the same time. There is no risk of mixing salmon from other MHC sites during harvesting operations at Monday Rock fish farm. Harvest records are comprehensive are generated at site and transferred to Port Hardy Processing Plant to ensure continuity of information regarding traceability. Automated systems are in place for maintaining harvest production data, tracking all harvest by site cage and generating customer sales forms. All sales transactions can be traced back to packing location, packing date, harvest date, site and cage.

Eligible Operators and point(s) of landing:

The eligible operator at the point of landing of harvested fish is MHC. Port Hardy Processing plant is Chain of Custody Certified and is eligible to claim ASC certified salmon and use the ASC logo.

The Opportunity of substitution of certified with non-certified product within the unit of certification:

There is no opportunity of substitution of certified with non-certified product prior to and at harvesting, the farm site in its entirety is within the unit of certification.

There is very little opportunity to substitute certified with non-certified product at primary packing. Port Hardy does handle non ASC certified salmon from MHC but the traceability systems in place are robust and bespoke to MHC. All boxes/packs of finished product can be traced by label to the original farm and cage. MH have implemented a system that controls labelling of packs with ASC logo to ensure that cross-checking is in place for any harvest from Monday Rock (Or other certified sites).

Points from which Chain of Custody certification is required:

Further Chains of Custody are required from the point of sale from Port Hardy Processing plant, itself already CoC certified.

Eligible operators and point(s) of landing:

Monday Rock is the eligible operator the point of landing is Marine Harvest Canada Port Hardy processing facility.

CoC certification is required from the point where Salmon enter the Marine Harvest Canada processing facility control. Only products harvested as of or after the date of certification are approved to carry the ASC logo.

Appendix 1 Audit Checklist Details

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):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments:**
	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.	A. Review compliance with applicable land and water use laws.	**x**				All applicable laws are available the Marine Harvest Canada quality management system. All updates to local law is updated within the management system and is available to the whole of the Marine Harvest Group
1.1.1		b. Maintain original (or legalised copies of) lease agreements, land titles, or concession permit on file as applicable.	B. Confirm client holds original (or legalised copies of) lease agreements or land titles.	**x**				The lease agreements has been provided for the farm the lease agreement is AQFF 113126 2015
		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).	C. Review inspection records for compliance with national and local laws and regulations (as applicable).	**x**				Internal audits are carried out to ensure compliance with national and local laws and regulations. The last audit date was carried on the 18.11.2014
		d. Obtain permits and maps showing that the farm does not conflict with national preservation areas.	D. Verify facility does not conflict with national preservation areas and has required operational permits if sited in such an area (see 2.4.2).	**x**				Government grants the lease once it is confirmed that national preservation areas are not affected.
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.	A. Verify client has records of tax payments to appropriate authorities. Do not disclose client tax information which is confidential. An independently audited company annual report may be used to confirm tax status.	**x**				All tax payments are details on the company profit and loss accounts, which are carried out by external accounting company. The accounting company is Ernest & Young. The accountant are detailing all tax payments within in the annual report for the stock markets which it is associated with
		b. Maintain copies of tax laws for jurisdiction(s) where company operates.	B. Confirm client has a basic knowledge of tax requirements for farm.				**x**	See 1.1.2 a

		c. Register with national or local authorities as an “aquaculture activity".	C. Verify client is registered with local or national authorities.	**x**				See 1.1.2 a
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.)	A. Confirm client has specified documentation.	x				All national labour codes and laws applicable to farm are available on the Marine Harvest Canada Human Resources management system. Human Resources management team reviews all codes and laws and updates as required.
		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).	B. Review inspection records for compliance with national labour laws and codes (as applicable).				x	See 1.1.3 a
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.	A. Verify that client obtains permits as applicable.				**x**	N/A
		b. Compile list of and comply with all discharge laws or regulations.	B. Review evidence of compliance with discharge laws or regulations.	**x**				N/A
		c. Maintain records of monitoring and compliance with discharge laws and regulations as required.	C. Verify that records show compliance with discharge laws and regulations.	**x**				N/A
PRINCIPLE 2: CONSERVE NATURAL HABITAT, LOCAL BIODIVERSITY AND ECOSYSTEM FUNCTION								
Criterion 2.1 Benthic biodiversity and benthic effects [1]								
			Compliance Criteria (Required Client Actions):		**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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 millivolts (mV) or Sulphide ≤ 1,500 microMoles / 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. Review map to verify appropriate siting of sampling stations (Appendix I-1) and evidence (if applicable) to justify use of a site specific AZE.	**x**				The map of the site is available and has been put together internally by Marine Harvest Canada. Sampling has been based on the autodepomod system with the stations located accordingly.
		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.	B. Review evidence of benthic type and confirm whether to proceed to 2.1.1c.	**x**				The site is a soft bottom mostly
		c. Inform the CAB whether the farm chose option #1 or option #2 to demonstrate compliance with the requirements of the Standard.	C. Record which option the client chose.	**x**				Option 2 has been chosen
		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).	D. Review documentary evidence (notes, GPS coordinates) showing sampling time, stations, and frequency. Cross-check against farm maps and harvest records.	**x**				Samples are taken in house using the recommended sampling methods and equipment.

		e. For option #1, measure and record redox potential (mV) in sediment samples using an appropriate, nationally or internationally recognized testing method.	E. Review results to verify that redox potential of sediments complies with the requirement at each sampling station outside the AZE. Confirm that the testing method used by the farm is appropriate.				x	NA
		f. For option #2, measure and record sulphide concentration (uM) using an appropriate, nationally or internationally recognized testing method.	F. Review results to verify that sulphide concentration in sediments complies with the Standard at each sampling station outside the AZE. Confirm that the testing method used by the farm is appropriate.	x				While the sampling at peak biomass has not yet been taken there is historical sulphide sample and measuring carried out in Monday Rock for the DFO. The results are gained using the approved methods.
		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.	G. Confirm that client has submitted test results to ASC (Appendix VI).			x		Samples have not yet been submitted.
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).	A. Review map to verify appropriate siting of sampling stations (see 2.1.1).	x				The map of the site is available and has been put together internally by Marine Harvest Canada. Sampling has been based on the autodepomod system with the stations located accordingly.
		b. Inform the CAB whether the farm chose option #1, #2, #3, or #4 to demonstrate compliance with the requirement.	B. Record which option the client chose for scoring faunal index.	x				Shannon weiner have been indicated that it will be used which is option 2.

	Applicability: All farms except as noted in [1]	c. Collect sediment samples in accordance with Appendix I-1 (see 2.1.1).	C. Confirm sample collection followed Appendix I-1 (see 2.1.1).	x				Samples are taken in accordance to requirements.
		d. For option #1, measure, calculate and record AZTI Marine Biotic Index [5] score of sediment samples using the required method.	D. Review results (as applicable) to verify that AMBI score of sediments is ≤ 3.3 at each sampling station outside the AZE.				x	Option 2 being used.
		e. For option #2, measure, calculate and record Shannon-Wiener Index score of sediment samples using the required method.	E. Review results (as applicable) to verify that Shannon Wiener score of sediments is > 3 at each sampling station outside the AZE.			x		The results have not been submitted as the samples have not been analysed.
		f. For option #3, measure, calculate and record Benthic Quality Index (BQI) score of sediment samples using the required method.	F. Review results (as applicable) to verify that BQI score of sediments is ≥ 15 at each sampling station outside the AZE.				x	Option 2 being used.
		g. For option #4, measure, calculate and record Infaunal Trophic Index (ITI) score of sediment samples using the required method.	G. Review results (as applicable) to verify that ITI score of sediments is ≥ 25 at each sampling station outside the AZE.				x	Option 2 being used.
		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.	H. Confirm that an approved method was used or that a qualified independent laboratory performed the sampling and calculation of faunal index.	x				An independent lab being used for analysis is based in Courtenay, Vancouver Island.
		i. Submit faunal index scores to ASC (Appendix VI) at least once for each production cycle.	I. Confirm that client submitted faunal index scores to ASC (Appendix VI).			x		Samples have not yet been submitted.
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.	A. Confirm appropriate sediment sample collection as for 2.1.1a and 2.1.1c or exemption as per 2.1.1b.	x				The company Marine Harvest Canada takes its own samples following the FAO Aquaculture Activities regulations guidance document section 4.8 covers biological sampling.
		b. For sediment samples taken within the AZE, determine abundance and taxonomic composition of macrofauna using an appropriate testing method.	B. Confirm that an appropriate method was used or that a suitably qualified independent laboratory performed the analysis.	x				An independent lab is being used for analysis and follows appropriate testing methods
		c. Identify all highly abundant taxa [6] and specify which ones (if any) are pollution indicator species.	C. Confirm that all samples from within the AZE have ≥ 2 highly abundant [6] taxa (exclusive of pollution indicator species).		x			The sediment samples have just begun to be collected and analysed. The results cannot be evaluated.
		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.	D. Confirm that a suitable method was used or that a suitability qualified independent laboratory performed the scoring of faunal index.		x			The sediment samples have just begun to be collected and analysed. The results cannot be evaluated.
		e. Submit counts of macrofaunal taxa to ASC (Appendix VI) at least once for each production cycle.	E. Confirm that client has submitted scores to ASC (Appendix VI).		x			The sediment samples have just begun to be collected and analysed. The results cannot be evaluated.
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, within three years of the publication [8] of the SAD standard (i.e. full	Note: Farms may define a site-specific AZE at any time before this date as long as they demonstrate full compliance by June 13, 2015.						
		a. Undertake an analysis to determine the site-specific AZE and depositional pattern before 3 years have passed since publication of the Standard on June 13, 2012.	A. Review documentation to confirm that the farm has undertaken an analysis before the required date.	x				Marine Harvest Canada uses the DEPOMOD modelling tool to determine the AZE. Monday Rock was first modelled in 2015. Model allows parameters can be changed to reflect what's actually happening. The model used 3500 tons and the average feed scenario. The site is a steel cage site.

	compliance by June 13, 2015) **Applicability:** All farms except as noted in [1]	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].	B. Confirm that the farm used a robust and credible modelling system to define the site-specific AZE.	**x**				DEPOMOD is used as the modelling tool and is favoured by DFO. The model was developed in Scotland in conjunction with SEPA.
		c. Maintain records to show that modelling results for the site-specific AZE have been verified with > 6 months of monitoring data.	C. Confirm that farms have validated the general applicability of the site-specific AZE using monitoring data (i.e. 'ground truthing').				**x**	This is being done in conjunction with the sampling as required by DFO and by the ASC.
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.							
Footnote	[8] Publication: Refers to the date when the final standards and accompanying guidelines are completed and made publicly available. This definition of publication applies throughout this document.							
Criterion 2.2 Water quality in and near the site of operation [12]								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
Footnote	[12] 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 [13] of dissolved oxygen (DO) [14] on farm, calculated following methodology in Appendix I-4 **Requirement:** ≥ 70% [15] **Applicability:** All farms except as noted in [15]	**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 15] 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.	A. Do not schedule audit until client provides a minimum of 6 months of DO data.	**x**				Aqua farmer production database developed by Mercatus is used where oxygen's are recorded for each site. The oxygen data goes back to October 2014.

		b. Provide a written justification for any missed samples or deviations in sampling time.	B. Review records for completeness and conformity with methodology in Appendix 1-4.	x				There are automatic loggers on the site and is backed up with hand held probes. Samples results are then input into the data base every day.
		c. Calculate weekly average percent saturation based on data.	C. Review calculation and confirm all weekly averages ≥ 70%.	x				The records show that there was no sampling period that was below 70%.
		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).	D. As needed, review DO data from reference site and document in the audit report (see instruction).	x				All samples were above 70%
		e. Arrange for auditor to witness DO monitoring and calibration while on site.	E. Witness DO monitoring and verify calibration while on site. On-site values should fall within range of farm data for DO. If an out of range measurement is observed, raise nonconformity.	x				There are 8 Pentair probes on site and there are five in-pen probes at 5m as well as three probes in ambient seawater (1m, 5m and 10m). The staff are capable of calibrating if required.
		f. Submit results from monitoring of average weekly DO as per Appendix VI to ASC at least once per year.	F. Confirm that client has submitted DO results to ASC (Appendix VI).	x				They have been submitted.
Footnote	[13] 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	[14] Averaged weekly from two daily measurements (proposed at 6 am and 3 pm).							
Footnote	[15] 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/litre 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.	A. Review the farm's calculation and confirm that ≤ 5% of weekly samples fall under 2 mg/l DO.				x	There are no samples recorded below 2mg/l.
		b. Submit results from 2.2.2a as per Appendix VI to ASC at least once per year.	B. Confirm that client has submitted results to ASC (Appendix VI).	x				They have been submitted.

2.2.3	**Indicator**: For jurisdictions that have national or regional coastal water quality targets [16], demonstration through third-party analysis that the farm is in an area recently [17] classified as having “good” or “very good” water quality [18] **Requirement:** Yes [19] **Applicability:** All farms except as noted in [19]	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	A. Record whether indicator is applicable.	**x**				The CCME, Canadian council for ministers of the environment set quality guidelines. The only parameter mentioned in seawater is Nitrate.
		b. Compile a summary of relevant national or regional water quality targets and classifications, identifying the third-party responsible for the analysis and classification.	B. Confirm that there has been a recent third-party analysis (within two years prior to the audit) to classify areas according to national or regional water quality targets.	**x**				Report which is a literature review from Dr Stephen Cross and Sherington on water quality conditions of Coastal British Columbia and Nutrient release from net cage aquaculture in Quatsino Sound. Papers reviewed from 1982 to 2005. Reports the water in the area as considered to be as very good. Dated April 2014 and July 2015 for the Quatsino Sound.
		c. Identify the most recent classification of water quality for the area in which the farm operates.	C. Confirm that the analysis and classification shows the farm is located in an area where the water quality complies with the requirement.	**x**				The most recent sampling for the area undertaken by the CCME was 2012 for Nitrate in this area.
Footnote	[16] Related to nutrients (e.g., N, P, chlorophyll A).							
Footnote	[17] Within the two years prior to the audit.							
Footnote	[18] 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	[19] 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 weekly monitoring of nitrogen and phosphorous [20] levels on farm and at a reference site, following methodology in Appendix I-5	a. Develop, implement, and document a weekly monitoring plan for N, NH4, NO3, total P, and ortho-P in compliance with Appendix I-5, testing a minimum of once weekly in both locations. For first audits, farm records must cover ≥ 6 months.	A. Review the farm's monitoring plan and verify that the farm has collected monitoring data for N and P following the methodology in Appendix I-5.				**x**	As there are Nitrate levels used to determine water quality guidelines for the Marine area under the CCME this clause is not applicable. The company is monitoring algae continuously looking for trends and species. There is also nutrient monitoring in this process.
		b. Calibrate all equipment according to the manufacturer's recommendations.	B. Verify that client calibrates equipment as needed.				**x**	As there are Nitrate levels used to determine water quality guidelines for the Marine area under the CCME this clause is not applicable.

	Requirement: Yes **Applicability:** All farms except as noted in [19]	c. Submit data on N and P to ASC as per Appendix VI at least once per year.	C. Confirm that client has submitted N and P data to ASC (Appendix VI).				**x**	As there are Nitrate levels used to determine water quality guidelines for the Marine area under the CCME this clause is not applicable.
Footnote	[20] 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 [21]) 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.	A. Review calculation, cross-check data used with feed and harvest records.	**x**				Calculations for BOD were checked and data looked included biomass and feed. The FCR was checked and the number matched. The BOD was 3,362,605. This was for the 2014 harvest cycle.
		b. Submit calculated BOD as per Appendix VI to ASC for each production cycle.	B. Confirm that client has submitted calculated BOD to ASC (Appendix VI).	**x**				Has been submitted.

Footnote	[21] 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.							
Criterion 2.3 Nutrient release from production								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
2.3.1	**Indicator**: Percentage of fines [22] in the feed at point of entry to the farm [23] (calculated following methodology in Appendix I-2) **Requirement:** < 1% by weight of the feed **Applicability:** All farms except as noted in [23]	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.	A. Review timing and location of testing. If testing off-site, verify rationale and ensure consistent with [23].	x				There is a procedure in place for 'feed sample procedure for marine sites' document SW129. Established August 2014.
		b. If using a sieving machine, calibrate equipment according to manufacturer's recommendations.	B. Verify that client has appropriate testing technology on site and that, if applicable, it is calibrated as required.				x	Hand held sieves are used.
		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.	C. Review testing results and confirm that the pooled sample for each quarter has a percent fines of <1%.	x				The results show that the levels of fines was <0.1%
Footnote	[22] 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	[23] 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):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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.	A. Review the assessment to confirm that it complies with all components outlined in Appendix I-3.	**x**				In June 2004 the previous owners Stolt sea farm published and environmental assessment for the Monday Rock site based on the requirement of the Canadian environmental assessment act. The NWPA file is #8200-T-11291.1 and the LWBC file is #1406960. There have been no amendments to the licence on this site so the report is still applicable. There is a second report also from 2004 called the Quatsino Sound Coastal plan carried out by the FAO and includes elements that were missed in the previous mentioned report such as Sea-Otters and Whales populations in the sound.
		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.	B. Verify the farm has a plan to address all potential impacts identified in the assessment.	**x**				In both the reports there are no specific identified impacts. The DFO aquaculture licence has no conditions on mitigation for potential impacts either. Licence last reviewed in September 2015.
		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.	C. Verify that the farm implements the plan(s).	**x**				While there is no potential critical impacts either identified or being affected the company has an Environmental and Biodiversity policy stating their commitment to the environment and stating continuous improvement. Dated 7th may 2015 and signed by the MD of Marine Harvest Canada.

2.4.2	**Indicator**: Allowance for the farm to be sited in a protected area [24] or High Conservation Value Areas [25] (HCVAs) **Requirement:** None [26] **Applicability:** All farms except as noted in [26]	**Instruction to Clients for Indicator 2.4.2 - Exceptions to Requirements that Farms are not sited within Protected Areas or HCVAs** The following exceptions shall be made for Indicator 2.4.2: Exception #1: For protected areas classified by the International Union for the Conservation of Nature (IUCN) as Category V or VI (these are areas preserved primarily for their landscapes or for sustainable resource management). Exception #2: For HCVAs if the farm can demonstrate that its environmental impacts are compatible with the conservation objectives of the HCVA designation. The burden of proof would be placed on the farm to demonstrate that it is not negatively impacting the core reason an area has been identified as a HCVA. Exception #3: For farms located in a protected area if it was designated as such after the farm was already in operation and provided the farm can demonstrate that its environmental impacts are compatible with the conservation objectives of the protected area and it is in compliance with any relevant conditions or regulations placed on the farm as a result of the formation/designation of the protected area. The burden of proof would be placed on the farm to demonstrate that it is not negatively impacting the core reason an area has been protected. **Definitions** Protected area: "A clearly defined geographical space, recognized, dedicated and managed through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values." High Conservation Value Areas (HCVA): Natural habitats where conservation values are considered to be of outstanding significance or critical importance. HCVA are designated through a multi-stakeholder approach that provides a systematic basis for identifying critical conservation values—both social and environmental—and for planning ecosystem management in order to ensure that these high conservation values are maintained or enhanced						
		a. Provide a map showing the location of the farm relative to nearby protected areas or High Conservation Value Areas (HCVAs) as defined above (see also 1.1.1a).	A. Review map and cross-check against independent information sources (e.g. 1.1.1d) to determine if the farm is sited in a protected area or HCVA.	**x**				There are various maps showing the status of the protected and important environmental areas in the Quatsino Sound. The closest official protected area is Quatsino park and is about 5km distance from the site. This is a terrestrial and marine protected area. Map consulted was on the environment Canada website.

		b. If the farm is <u>not</u> 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.	B. Obtain a copy of the farm's declaration stating that the farm is not sited in a protected area or HCVA (as applicable).	**x**				There is a declaration from Richard Opala Regulatory affairs manager sent by e-mail dated April 2014 declaring that all finfish tenures are not sited in a HCVA protected area. However there can be protection for individual species of animals or fish. In this case there is no rockfish preservation areas.
		c. If the farm <u>is</u> 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.	C. Review the applicability of the exception requested by the farm together with the supporting evidence to determine if the farm is eligible. If yes, Indicator 2.4.2 is not applicable.				**x**	Not located in a HCVA.
		d. If the farm is sited in a protected area or HCVA and the exceptions provided for Indicator 2.4.2 <u>do not apply</u>, then the farm does not comply with the requirement and is ineligible for ASC certification.	D. Review evidence to determine whether the farm is allowed to be sited in a protected area or HCVA and hence eligible for ASC certification.				**x**	Not located in a HCVA.
Footnote	[24] 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	[25] 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	[26] 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 [27]								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
Footnote	[27] 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, within three years of the date of publication [28] of the SAD standard (i.e. full compliance by June 13, 2015) **Applicability:** All	a. Prepare a written statement affirming that the farm's management is committed to eliminate all usage of acoustic deterrent devices (ADDs) or acoustic harassment devices (AHDs) by June 13, 2015.	A. Confirm that farm management has prepared a written statement of commitment.				**x**	The PAR licence prohibits the use of ADD's. Found in section 11.2 page 17 prohibits their use.
		b. Compile documentary evidence to show that no ADDs or AHDs were used by the farm after June 13, 2015 (applicable only after the specified date).	B. Review documentary evidence (e.g. predator management policies, records of predator incidents) and cross-check against interviews with farm staff and local community members (applicable only after the date specified in 2.5.1a).				**x**	Prohibited use under the PAR licence.
		-	C. During the on-site audit, inspect the farm to confirm that no ADDs or AHDs are present at the facilities (applicable only after June 13, 2015).				**x**	Prohibited use under the PAR licence.
Footnote	[28] Publication: Refers to the date when the final standards and accompanying guidelines are completed and made publicly available. This definition of publication applies throughout this document.							

2.5.2	**Indicator**: Prior to the achievement of 2.5.1, if ADDs or AHDs are used, maximum percentage of days [29] in the production cycle that the devices are operational **Requirement:** ≤ 40% **Applicability:** All, until June 13, 2015	**Instruction to Clients for Indicator 2.5.2 - Percentage of Days that ADDs or AHDs were used** Farms must calculate the percentage of days in the production cycle that ADDs or AHDs were operated using data from the most recent complete production cycle. For first audits, farms may be exempted from compliance with Indicator 2.5.2 for the most recent complete production cycle if the farm can satisfactorily demonstrate to the auditor that: - the client understands how to accurately calculate percentage of days the devices were operational; - the client maintains all information needed to accurately calculate the percentage of operational days based on > 6 months of data for the current production cycle; and - the client can show how plans for the current production cycle will ensure that the farm will meet requirements at harvest (i.e. devices in operation <40% of days). Indicator 2.5.2 is applicable until June 13, 2015, after which the use of ADDs and AHDs is not allowed under the standard.						
		a. Maintain a log for the use of any ADDs or AHDs on farm that includes recording the number of days (24-hour cycles) during which the devices were used.	A. Review log and cross-check with records of predator incidents.				**x**	Prohibited use under the PAR licence.
		b. Calculate the percentage of days in the production cycle that the devices were operational in the most recent complete production cycle.	B. Verify calculations and cross-check against records for the duration of the production cycle.				**x**	Prohibited use under the PAR licence.
		-	C. Confirm devices were operational ≤ 40% of the days of the production cycle.				**x**	Prohibited use under the PAR licence.
		d. Submit data on number of days that ADDs/AHDs were used to the ASC as per Appendix VI. Data must be sent to ASC on an ongoing basis (i.e. at least once per year and for each production cycle).	D. Confirm that client has submitted data on ADDs/AHDs to ASC (Appendix VI).				**x**	Prohibited use under the PAR licence.
Footnote	[29] Day: 24-hour cycle.							
2.5.3	**Indicator**: Number of mortalities [30] of endangered or red-listed [31] marine mammals or birds on	a. Prepare a list of all predator control devices and their locations.	A. Review list.				**x**	No lethal predator control devices are used since 2012. MHC have switched to the HDPE nets manufactured in India. There is a DFO web page showing all the farm sites in BC and the lethal deaths of Mammals and these have to be

	the farm **Requirement:** 0 (zero) **Applicability:** All							reported. There have been no deaths of predators on this site since at least 2012.
		b. Maintain a record of all predator incidents.	B. Review farm records of predator incidents and cross-check against relevant records (e.g. escapes).	**x**				One bird that was unidentifiable. Recorded in September 2015.
		c. Maintain a record of all mortalities of marine mammals and birds on the farm identifying the species, date, and apparent cause of death.	C. Review records for completeness. Cross-check mortality records against interviews with farm staff and community representatives.	**x**				A report was made to the MHC management but species could not be identified as it was very old but was highly unlikely that it was red listed and was most likely a duck.
		d. Maintain an up-to-date list of endangered or red-listed marine mammals and birds in the area (see 2.4.1)	D. Review list for consistency with 2.4.1	**x**				Wildlife interaction plan and there is a list of red listed animals on site. There are ID cards for cetaceans available.
		-	E. Compare results from (a) through (d) above to confirm that there were no mortalities of endangered or red-listed marine mammals or birds on farm.	**x**				There were no red listed bird mortalities recorded.
Footnote	[30] Mortalities: Includes animals intentionally killed through lethal action as well as accidental deaths through entanglement or other means.							
Footnote	[31] Species listed as endangered or critically endangered by the IUCN or on a national endangered species list.							
2.5.4	**Indicator**: Evidence that the following steps were taken prior to lethal action [32] against a predator: 1. All other avenues were pursued prior to using lethal action	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.	A. Review list of lethal actions taken by the farm and cross-check against 2.5.3b.				**x**	No lethal actions in the past year.

	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 [33] **Applicability:** All except cases where human safety is endangered as noted in [33]	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.	B. Review documentation to confirm that the farm shows evidence of compliance with requirements in steps 1-3.				**x**	No lethal actions in the past year. There was no reports on the DFO website of lethal measures having taken place.
		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 [33].	C. Review documentary evidence to verify actions, permissions, and approvals were taken prior to taking lethal action. If client requests exemption due to human safety, review evidence to verify [33].				**x**	No lethal actions in the past year.
Footnote	[32] Lethal action: Action taken to deliberately kill an animal, including marine mammals and birds.							
Footnote	[33] 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 2.5.5, 2.5.6, and 2.5.7 - 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 35]. For the purpose of assisting farms and auditors with understanding how to evaluate compliance with Indicators 2.5.5, 2.5.6, and 2.5.7, 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.

2.5.5	**Indicator**: Evidence that information about any lethal incidents [35] on the farm has been made easily publicly available [34] **Requirement:** Yes **Applicability:** All	a. For all lethal actions (see 2.5.4), keep records showing that the farm made the information available within 30 days of occurrence.	A. Check farm records for publicizing lethal actions against the actions listed in 2.5.4a to confirm that the farm made information available within 30 days.	**x**				The bird reported as being entangled was reported on the ASC dashboard but was not reported within the 30 days. The staff are now aware of the 30 days requirement with the new Predator avoidance plan.
		a. For all lethal actions (see 2.5.4), keep records showing that the farm made the information available within 30 days of occurrence.	A. Check farm records for publicizing lethal actions against the actions listed in 2.5.4a to confirm that the farm made information available within 30 days.				**x**	Repeat of 2.5.5.a
		b. Ensure that information about all lethal actions listed in 2.5.5a are made easily publicly available (e.g. on a website).	B. Verify that required information is easily publicly available.				**x**	There have been no lethal actions in the past 2 years though DFO publish all data including zero mortality reports. The last lethal action on April 14th 2012 was reported to DFO and logged on the website.
Footnote	[34] 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.							
2.5.6	**Indicator**: Maximum number of lethal incidents [35] on the farm over the prior two years	a. Maintain log of lethal incidents (see 2.5.4a) for a minimum of two years. For first audit, > 6 months of data are required.	A. Review log.	**x**				The log is maintained as required.

	Requirement: < 9 lethal incidents [36], with no more than two of the incidents being marine mammals **Applicability:** All	b. Calculate the total number of lethal incidents and the number of incidents involving marine mammals during the previous two year period.	B. Verify that over the previous two years there were < 9 lethal incidents in total and that ≤ 2 of those incidents were marine mammal deaths.	**x**				Only the one bird in the past 2 years.
		c. Send ASC the farm's data for all lethal incidents [35] 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).	C. Confirm that data on all lethal incidents has been submitted to ASC (Appendix VI).	**x**				As the data sent initially had no reference to the bird as it's only just occurred.
Footnote	[35] Lethal incident: Includes all lethal actions as well as entanglements or other accidental mortalities of non-salmonids.							
Footnote	[36] 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.							
2.5.7	**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 **Requirement:** Yes **Applicability:** All	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.	A. Review farm records to confirm that the entire farm performs an appropriate risk assessment following all lethal incidents (see list 2.5.4a).	**x**				There was no assessment done for the one bird reported dead. The company has now modified the Marine mammal incident de-brief sheet to include birds as well. From now on all sites will follow this ASC guideline in assessment and reporting.
		b. Provide documentary evidence that the farm implements those steps identified in 2.5.7a to reduce the risk of future lethal incidents.	B. Verify that the farm implements steps to reduce risk of lethal incidents.	**x**				There is a new de-brief reporting sheet available to all sites on reporting incidents.
PRINCIPLE 3: PROTECT THE HEALTH AND GENETIC INTEGRITY OF WILD POPULATIONS								
Criterion 3.1 Introduced or amplified parasites and pathogens [38,39]								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
Footnote	[38] 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	[39] 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 [38], 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 [38]	a. Keep record of farm's participation in an ABM scheme.	A. Review records of farm participation in ABM scheme. Contact other ABM participants as necessary to confirm the accuracy of client records.	**x**				There are 4 sites in the bay of which there are only 2 stocked with fish currently. All 4 sites are owned by Marine Harvest Canada. There is a plan in place to fallow the entire sound in June 2016 and will not restock until October thereby introducing sound ABM rules.
		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.	B. Review description of ABM to verify that the management activities address each of the four elements from Indicator 3.1.1.	**x**				Fallowing periods have been submitted. The other site in the bay is called Koskimo and is about 2km and has the same year class of fish and co-ordinated treatments. Also owned and managed by Marine Harvest Canada.
		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.	C. Evaluate documents to confirm the ABM complies with Appendix II-1.				**x**	There is no ABM in this area and all the immediate sites are belonging to Marine Harvest Canada.
		d. Submit dates of fallowing period(s) as per Appendix VI to ASC at least once per year.	D. Confirm that client has submitted dates of fallowing periods to ASC (Appendix VI).	**y**				ASC have been informed. Fallow from 17th July 2014 to November 6th 2014.

3.1.2	**Indicator**: A demonstrated commitment [40] 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 [38]	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. Specifically the report looks at Genetic interactions with escapes, environmental discharges, disease and lice impacts and materials for salmon feeds.						
		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.	A. Review evidence that the farm and/or its operating company has communicated with external groups to agree on areas of research about possible impacts on wild stocks and is tracking and responding to research requests.	**x**				The company undertakes various research activities such as being a party to the Genome BC strategic salmon health initiative looking at the high mortality rate of wild juvenile salmon during outward migration. The BC salmon farmers' association advisory committee that has committed a $1.5m in research funding for academics and independent research institutions from 2015 to 2020. Open to pathogen transfer and salmon migration.
		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.	B. Review how the farm and/or its operating company has provided non-financial support for research activities.	**x**				Broughton archipelago monitoring program looking at sealice and the director of environmental performance and certification contributes to this program. Just been published in March 2015.
		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.	C. As applicable, review the provided record of rejecting proposals to confirm that denials were justified and there is no consistent pattern to indicate that the farm and/or its operating company lacks a demonstrated commitment to collaborate on research activities.	**x**				All the requests for collaboration end up going through the BC salmon farmers association and all requests are documented through minuted meetings.
		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.	D. Verify that the farm's communications with researchers demonstrate a commitment to collaborate on relevant areas of research.	**x**				As well as outlined above, Marine Harvest global have a dashboard showing research projects for this area. The annual report has a section on research and development.

Footnote	[40] 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 [38]	a. Keep records to show that a maximum sea lice load has been set for: - the entire ABM; and - the individual farm.	A. Review records to confirm compliance.	**x**				Lice load is set by the government and last reviewed in 2012. Under the farms licence conditions there is a trigger level of 3 motile lice from March to June following bi-weekly monitoring. For the rest of the year the tests shall be carried out every 4 weeks unless the level exceeds 3 motile (trigger level to notify DFO). There is no setting of Maximum sea lice load related to Biomass, just lice per fish.
		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).	B. Confirm that sea lice load is reviewed annually and, if applicable, the review incorporates information from monitoring of wild salmon.	**x**				All lice counts are sent to DFO. The DFO may audit the farm unannounced and may result in re-training for staff on counting or if outward migration times will trigger treatments. Harvest may also follow. Annual review takes place for annual licence review. There is a new Federal Aquaculture regulation coming into force in before the end of 2015 and has just recently come in. There has been nothing added for lice.
		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.	C. Evaluate documents to confirm the ABM complies with requirements of Appendix II-2 for establishing and reviewing maximum sea lice loads.	**x**				The ABM is set by DFO and does not take into account the geographic bay but the location of the other farms in the area. All the farms in this bay are owned by Marine Harvest Canada.
		d. Submit the maximum sea lice load for the ABM to ASC as per Appendix VI at least once per year.	D. Confirm that client has submitted the ABM maximum lice load to ASC (Appendix VI).	**x**				The regulation was submitted which report the limits set at <3. This is a trigger level to inform DFO and have an action plan. This is not a mandatory treatment level.
3.1.4	**Indicator**: Frequent [41] on-farm testing for sea lice, with test results made easily publicly available [42] within seven days of testing	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.	A. Review sea lice testing schedule to confirm that weekly testing coincides with known sensitive periods for wild salmon (e.g. during and immediately prior to outmigration of juveniles).	**x**				The farm check for lice as per the licence requirements which is 60 fish from 3 cages monthly. During out migration periods the testing is required bi-weekly. For ASC weekly testing is carried out during the sensitive periods.

	Requirement: Yes **Applicability:** All except farms that release no water as noted in [38]	during and immediately prior to outmigration of juveniles).						
		b. Maintain records of results of on-farm testing for sea lice. If farm deviates from schedule due to weather [41] maintain documentation of event and rationale.	B. Review records to confirm that testing follows the farm's annual schedule. Review the rationale for any deviations from the schedule.	**x**				Information on variation of sampling is logged on the dashboard. The company also has and spreadsheet that is maintained.
		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.	C. Review the farm's methodology for testing sea lice. If practicable, observe testing while on-site. If farm is a closed system using an alternate testing method, document the distinction and review evidence of efficacy of the method.	**x**				There is a SOP called SW 822 called sea lice monitoring in marine sites. The ASC requirements are located in the ASC implementation manual.
		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.	D. Test access from an offsite computer to confirm that results are easily publicly available. If applicable, confirm that the farm made hardcopies of test results easily available to stakeholders.	**x**				All the Monday Rock lice information has been posted onto the website within 7 days.
		e. Keep records of when and where test results were made public.	E. Review records for the past year to confirm the farm posted test results within 7 days of each test. Cross-check against testing schedule (see 3.1.4a).	**x**				Records are maintained and they are logged on the company dashboard.

		f. Submit test results to ASC (Appendix VI) at least once per year.	F. Confirm that client has submitted test results to ASC (Appendix VI).	x				They have been submitted.
Footnote	[41] 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	[42] Posting results on a public website is an example of "easily publicly available."							
3.1.5	**Indicator**: In areas with wild salmonids [43], evidence of data [44] 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 **Applicability:** All farms operating in areas with wild salmonids except farms that release no water as noted in [38]	**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 [43]. 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".							
		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	A. Review salmonid species list for accuracy and cross-check source references. Confirm whether 3.1.5 b and c are applicable.	x				All five species of Pacific Salmon occur plus steelhead trout in the area and there is a list on the DFO website.

		an area with wild salmonids, then 3.1.5b and c do not apply.						
		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.	B. Review the accuracy of the farm's information on local salmonid migratory patterns and stock productivity. Cross-check source references as necessary.	x				BC salmon farmers post a map showing all the active salmon farms from all companies during the migration time. There is a paper available from 'Open Access' called Spatio-Temporal migration patterns of Pacific Salmon smolts in Rivers and coastal marine waters. Melnychuk et al. There is an update for April on the Mainland Inlet Pink Salmon update bulleting Number 7.
		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.	C. Confirm accuracy of farms understanding. Cross-check against 'sensitive periods' listed in the farm's annual schedule for testing for sea lice.	x				DFO control lice testing and call for more testing during the smolt migration. The DFO identify the sensitive periods. Primarily based on the pink salmon. The most critical are the Pinks and the Chums are the smallest smolt size are considered the most critical. Critical period is defined as March 1st to June 30th.
		-	D. Confirm the farm's understanding of this information through interviews.	x				The site manager was asked as were staff on the farm were also knowledgeable on sensitive periods. They reported March to July as being sensitive.
Footnote	[43] 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	[44] 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	a. Inform the CAB if the farm operates in an area of wild salmonids. If not, then Indicator 3.1.6 does not apply.	A. Confirm whether the farm operates in an area of wild salmonids based on results from 3.1.5a (above). If not, then Indicator 3.1.6 does not apply.	x				The company has informed the CAB that they operate in a wild Salmonid area.

	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 [38]	b. Keep records to show the farm participates in monitoring of sea lice on wild salmonids.	B. Review evidence to confirm farm's participation in monitoring.	x				Surveys carried out by Mainstream biological consulting. The centre for aquatic health sciences verify the species of fish and lice from the survey.
		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.	C. Evaluate documents to confirm methodology used for monitoring of sea lice on wild salmonids complies with requirements of Appendix III-1.	x				Report was sent to the CAB prior to audit.
		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.	D. Confirm that results are easily publicly available and that they were posted within the required timeframe.	x				Posted on the ASC dashboard on October 15th on the MHC website.
		e. Submit to ASC the results from monitoring of sea lice levels on wild salmonids as per Appendix VI.	E. Confirm that client has submitted monitoring results to ASC (Appendix VI).	x				The link to the report on the dashboard was sent to the ASC.
3.1.7	**Indicator**: In areas of wild salmonids, maximum on-farm lice levels during sensitive periods for wild fish [45]. 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 [38]	a. Inform the CAB if the farm operates in an area of wild salmonids. If not, then Indicator 3.1.7 does not apply.	A. Confirm whether the farm operates in an area of wild salmonids based on results from 3.1.5a (above). If not, then Indicator 3.1.7 does not apply.	x				The sites do occur in areas of wild salmonids.
		b. Establish the sensitive periods [45] of wild salmonids in the area where the farm operates. Sensitive periods for migrating salmonids is during juvenile outmigration and approximately one month before.	B. Review farm's designation of sensitive periods and cross-check against datasets presented in 3.1.4 and 3.1.5.	x				Sensitive period as per the farm licence and trigger levels for lice are from March 1 to June 30th inclusive. Pacific aquaculture regulation 7.3
		c. Maintain detailed records of monitoring on-farm lice levels (see 3.1.4) during sensitive periods as per Appendix II-2.	C. Review records from the farm's sea lice monitoring program to confirm that lice levels are in compliance with the requirement based on farm-wide average lice levels per farmed fish (not values from individual net-pens).		x			The farm is regulated on overall numbers of Lep lice and not just mature females as required by ASC. The metric of 0.1 cannot be met due to the limited allowance of treatments permitted in Canada. Trials of H2O2 were used on this site. A variance request resides with ASC on this issue.

		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).	D. Confirm that monitoring data for lice levels are used in a feedback loop as required by Appendix II-2.	**x**				Treatment strategies are considered depending on the information from the wild lice monitoring. The wild lice monitoring data will be combined in the future to look at lice trends. There have only been one report so far on the Quatsino bay area.
Footnote	[45] 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):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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 SAD standard **Requirement:** Yes [47] **Applicability:** All farms except as noted in [47]	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.						
		a. Inform the CAB if the farm produces a non-native species. If not, then Indicator 3.2.1 does not apply.	A. Confirm the farm does not produce a non-native species by comparing local species (results from 3.1.5a) to the species produced. Cross-check against record from smolt suppliers (e.g. 3.3.1b). If the farm only produces a native species, then Indicator 3.2.1 does not apply.	**x**				Marine Harvest Canada farm Atlantic Salmon *Salmo salar* on this site.
		b. Provide documentary evidence that the non-native species was widely commercially produced in the area before publication of the SAD Standard (i.e. before June 13, 2012).	B. Review evidence to confirm when the non-native species was first brought into wide commercial production in the area of the farm.	**x**				According to the Fisheries and Oceans Canada website Atlantic salmon were first farmed in British Columbia in the 1980's. There are reports of Atlantic Salmon being introduced for angling purposes back as early as 1874 to California and 1905 to British Columbia.

		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.	C. Review evidence to confirm that the farm uses only 100% sterile fish (N.B. at the time of this writing, the SAD Steering Committee was uncertain that any existing technology could reliably deliver 100% sterile fish). Cross-check against smolt purchase records (e.g. invoices).				x	The DFO website shows that the first importation of salmon eggs for farming came from Scotland in 1985 when 130,000 eggs were imported. All egg imports are logged on the website as public reporting on Aquaculture.
		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 [47]; and 3) barriers ensure there are no escapes of biological material [47] that might survive and subsequently reproduce (e.g. UV or other effective treatment of any effluent water exiting the system to the natural environment).	D. Review evidence that the farm complies with each point raised in 3.2.1d and confirm by inspection during on-site audit. Cross check against related farm records for escapes (3.4.1), unexplained loss (3.4.2), and escape prevention (3.4.4).				x	Evidence for 3.2.1 b and c provided.
		-	E. Verify compliance.				x	Evidence for 3.2.1 b and c provided.
Footnote	[47] 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 [48] 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 [49] **Requirement:** Yes, within five years of publication of the SAD standard [50,51] **Applicability:** All	**Instruction to Clients for Indicator 3.2.2 - Exceptions to Allow Production of Non-Native Species** Farms have 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).	A. Confirm the farm has informed ASC which species is in production (Appendix VI).	**x**				ASC have been informed that the fish farmed are Atlantic salmon.
		b. Inform the CAB if the farm produces a non-native species. If not, then Indicator 3.2.2 does not apply.	B. Confirm the farm does not produce a non-native species as for 3.2.1. If the farm only produces a native species, then Indicator 3.2.2 does not apply.	**x**				CAB have been informed that the fish farmed are Atlantic salmon.
		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).	C. Confirm that the scientific research included: multi-year monitoring for non-native farmed species; used credible methodologies & analyses; and underwent peer review. If the farm requests an exemption then enter "NA" and proceed to 3.2.2d.	**x**				On the DFO website there is an exotic alert for Atlantic salmon with an id chart and telephone number for reporting. There is monitoring of the rivers by DFO on the makeup and abundance of species present on rivers in the area. From 1990 to 2004 there was an Atlantic Salmon Watch program run by DFO to look at potential interactions of Atlantic salmon in the area. MHC also under took independent surveys in 2010 following an escape. There have been no indications of the establishment of the species in this area. MHC will submit a report during the five years of the SAD publication.
		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.	D. As applicable, review the farm's request for exemption. Verify that the evidence shows how the farm meets all three conditions specified above.				**x**	None

		e. Submit evidence from 3.2.2c to ASC for review.	E. Confirm the farm submits required evidence to ASC.				x	Will be done before 2017.
Footnote	[48] 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	[49] 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.							
Footnote	[50] Farms have five years to demonstrate compliance with this standard from the time of publication of the final SAD standards and accompanying auditing guidelines.							
Footnote	[51] 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.	A. Confirm whether the farms uses fish for sea lice control. If no, auditor response to 3.2.3A-C is "not applicable" (NA).				x	No Cleaner fish are used, investigating options although the company is currently looking at local lumpfish for potential as cleaner fish.
		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.	B. Review purchase records to confirm the origin and identity of all species that are used for sea lice control on farm.				x	None
		c. Collect documentary evidence or first-hand accounts as evidence that the species used is not non-native to the region.	C. Review evidence for compliance with the requirement. Acceptable documentary evidence: peer-reviewed literature, government documentation confirming species is not non-native to the region. Acceptable first-hand accounts: community testimonials and direct evidence for historical presence of the species in the water body captured with cast nets, trapping devices, or fishing.				x	None
Criterion 3.3 Introduction of transgenic species								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**

3.3.1	**Indicator**: Use of transgenic [53] salmon by the farm **Requirement:** None **Applicability:** All	a. Prepare a declaration stating that the farm does not use transgenic salmon.	A. Verify declaration of no use of transgenic salmon.	**x**				Dated 26th April 2013 there is a Global declaration on GM and Transgenic salmon and states that it will not be used unless the requirements are changed. The thrust of the declaration is that there is no use of Transgenics.
		b. Maintain records for the origin of all cultured stocks including the supplier name, address and contact person(s) for stock purchases.	B. Review records to confirm compliance with the requirement.	**x**				DFO show the import of eggs over the years on their website. MHC have a policy of only sourcing eggs within their own Canadian company. Eggs and Broodstock origin is on the Aqua farmer database and was reviewed.
		c. Ensure purchase documents confirm that the culture stock is not transgenic.	C. If the auditor suspects that transgenic fish are being cultured, test stock identity by collecting 3 fish and sending to an ISO 17025 certified laboratory for genetic analysis.	**x**				There are no purchases per say as the units are all under MHC's jurisdiction. There are official Blanket fish transfer licences for moving eggs from broodstock units to Hatcheries.
Footnote	[53] 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 (http://www.csrees.usda.gov/nea/biotech/res/biotechnology_res_glossary.html).							
Criterion 3.4 Escapes [55]								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
Footnote	[55] 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 [56] in the most recent production cycle **Requirement:** 300 [57] **Applicability:** All farms except as noted in [57]	a. Maintain monitoring records of all incidences of confirmed or suspected escapes, specifying date, cause, and estimated number of escapees.	A. Review client submission for completeness and accuracy of information. Cross-check with the estimate of unexplained loss, maintenance records for small tears in net, predator attacks, etc.	**x**				There have been none.
		b. Aggregate cumulative escapes in the most recent production cycle.	B. Review the calculation and confirm compliance with the requirement.	**x**				There have been no reported escapes in this 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 [57]).	C. Confirm that farm documents show continuous monitoring of escapes.	**x**				Escape reports are published by DFO and go back as far as 2011.

		d. If an escape episode occurs (i.e. an incident where > 300 fish escaped), the farm may request a rare exception to the Standard [57]. 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.	D. Review the farm's request for a rare exception to the Standard for an escape event. Confirm no prior exceptional events were documented during the previous 10 years, or since the date of the start of the production cycle during which the farm first applied for certification. An example of an exceptional event is vandalisation of the farm. Events that are not considered exceptional include failures in moorings due to bad weather, boat traffic incidents due to poor marking of the farm, human error, and predation.				**x**	There have been no reported escapes on the current cycle and the farm has installed new stronger sapphire nets.
		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).	E. Confirm that client has submitted escape monitoring data to ASC (Appendix VI).	**x**				It was submitted.
Footnote	[56] 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	[57] A rare exception to this standard may be made for an escape event that is clearly documented as being outside the farm's control. Only one such exceptional episode is allowed in a 10-year period for the purposes of this standard. The 10-year period starts at the beginning of the production cycle for which the farm is applying for certification. The farmer must demonstrate that there was no reasonable way to predict the events that caused the episode. See auditing guidance for additional details.							
3.4.2	**Indicator**: Accuracy [58] of the counting technology or counting method used for calculating stocking and harvest numbers **Requirement:** ≥ 98% **Applicability:** All	a. Maintain records of accuracy of the counting technology used by the farm at times of stocking and harvest. Records include copies of spec sheets for counting machines and common estimates of error for hand-counts.	A. Confirm that the farm keeps records of counting accuracy for the counting technology or method used on site at stocking and harvest.	**x**				The counters used are VAKI and Aqua scan counters. Records are kept of counting accuracy on a freshwater production spreadsheet. There is a new SOP reference FW269 called Smolt Inventory control. This provides guidelines as to which count to use.
		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).	B. Verify the client obtains information from smolt suppliers (if applicable).	**x**				The smolt suppliers are all MHC owned. Both off site and onsite counting takes place. There are various counts such as Hatchery book count, Hatchery dispatch count and smolt input count as well as vaccination counts.

		c. During audits, arrange for the auditor to witness calibration of counting machines (if used by the farm).	C. Verify that the farm calibrates counting equipment as recommended by the manufacturer.				x	Witnessed calibration not done as there was no well boat available on day of site visit. Protocols on calibration are used from the VAKI manual and followed by relevant staff. VAKI manuals can be accessed online at www.vaki.com
		-	D. Confirm the stated accuracy of the farm's counting technology or counting method is ≥ 98% at both stocking and harvest. Stated accuracy shall be determined by the spec sheet for counting machines and through common estimates of error for any hand-counts.	x				Spec sheet from VAKI stating an accuracy of over 99%. The Aqua scan states accuracy between 98% and 100%.
		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).	E. Confirm that client has submitted counting technology accuracy to ASC (Appendix VI).	x				Have been submitted to ASC.
Footnote	[58] 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 [59] 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).	A. Review records for completeness.	x				All records of mortalities are maintained and recorded both on the site and on the Aqua farmer database.

		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.	B.Verify accuracy of farm calculations for estimated unexplained loss.	**x**				This is the first audit and the farm keeps all records and intends to post final figures on the website following harvest in April May 2016. The last cycle has a 0.9% difference.
		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.	C. Verify that the farm makes the information available to the public.	**x**				It will be made public on their website on the ASC dashboard when the final report is available after harvesting.
		d. Submit estimated unexplained loss to ASC as per Appendix VI for each production cycle.	D. Confirm that client has submitted estimated unexplained loss to ASC (Appendix VI).				**x**	This will be reported following harvest.
		-	E. Compare EUL values (3.4.3a) and counting accuracy (3.4.2a) to recorded escapes to check whether farm reporting is plausible. If EUL is greater than the combined margin of error related to fish counts, investigate potential sources of error as it could indicate the farm under reported mortalities or escapes.	**x**				This will be reported following harvest.
Footnote	[59] 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	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.	A. Obtain and review the farms escape prevention plan prior to scheduling the first audit.	**x**				As part of the PAR licence (Pacific aquaculture regulation) there is an escape prevention plan SW 951. It was submitted pre-audit. There is also a fish containment plan SW 962. There is an Escape response flowchart located on the sites.

	robustness; predator management; record keeping and reporting of risk events (e.g., holes, infrastructure issues, handling errors, reporting and follow up of escape events); and worker training on escape prevention and counting technologies **Requirement:** Yes **Applicability:** All	b. If the farm operates an open (net pen) system, ensure the plan (3.4.4a) covers the following areas: - net strength testing; - appropriate net mesh size; - net traceability; - system robustness; - predator management; - record keeping; - reporting risk events (e.g. holes, infrastructure issues, handling errors); - planning of staff training to cover all of the above areas; and - planning of staff training on escape prevention and counting technologies.	B. Confirm the farm's Escape Prevention Plan contains all required elements for open (net pen) systems as applicable.	**x**				All areas covered. The staff were questioned on the escape prevention plan and there are regular training for onsite staff in relation to implementing the escape prevention plan. The site has an escape prevention box with netting, needles, weights, ropes etc. and once per year there is a mock escape drill documented. There is specific site escape risk analysis detailing the history of escapes in the port hardy area as well as wildlife exclusion measures.
		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.	C. Confirm the farm's Escape Prevention Plan contains all required elements for closed systems as applicable.				**x**	Pen system is used.
		d. Maintain records as specified in the plan.	D. Review documentary evidence showing implementation of the plan.	**x**				Plan includes escape prevention kits and they were inspected on the site.
		e. Train staff on escape prevention planning as per the farm's plan.	E. Review records (i.e. attendance records, meeting notes) to confirm that farm staff attend training on escape prevention planning.	**x**				There was a farm drill on Escape prevention carried out once per year and the staff sign drill document to say they carried out this drill as part of training requirements. Once a year escape drill.

		-	F. Interview farm workers to confirm that the plan is implemented.	x				Assistant Manager was interviewed and questioned and the plan is implemented and there is an escape pack with netting, twine and needles available. Cameras that pan and tilt are in each cage with excellent resolutions monitor the behaviour of the fish. New net cleaner due will have cameras to monitor nets.
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):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**

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 ~~are~~ 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 [62]. **Requirement:** Yes **Applicability:** All	a. Maintain detailed records of all feed suppliers and purchases including contact information and purchase and delivery records.	A. Review feed records for completeness and confirm the number of feed suppliers to the client.	**x**				The only supplier is Skretting. The location of the production unit is in Richmond BC.
		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.	B. Review farm records to verify that the farm has informed all of its feed suppliers of relevant ASC requirements for feed production.	**x**				As well as informing Skretting of MHC participation in ASC Skretting were part of the development of the 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.	C. Verify that the farm obtains current audit reports from all relevant feed producers, that these audits were performed by an audit firm or CAB against an ASC-acknowledged certification scheme, and that audit results demonstrate compliance with requirements.	x				Skretting Canada Vancouver has GAA BAP certification. Date of cert issued 29th October 2014. Valid till 21nd October 2016. Cert number BAP1202. SAI Global are the CAB.
		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.	D. Review which method the farm will use and confirm that independent audit results (4.1.1c) show compliance of feed producers.	x				Skretting Canada Vancouver have declared that they will be adopting method 2 for mass balance.
		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 [62].	E. Review declaration from each feed supplier to confirm the company assures traceability to the level of detail required by Standard.	x				Skretting assures traceability for all ingredients that makes up more than 1% of the feed. This is regularly verified with different certifications such as ISO 9001:2008, HACCP, BAP and Skrettings Nutrace internal standard.
		-	F. Cross-check the declarations against results from audits of feed suppliers (4.1.1c) to verify evidence of required levels of traceability .	x				The company has the GAA BAP standard that insures traceability.
Footnote	[62] 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 [63]								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
Footnote	[63] 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:** < 1.35 **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 > 1.35) 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 < 1.35).						
		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.	A. Verify completeness of records and that values are stated in a declaration from the feed manufacturer.	**x**				Skretting has supplied lists of species used as fishmeal including the species used in by-products dated June 5th 2015. Species include Hake, Herring and Sardine. Sources of fish used are classed in geographic areas such as Hake from the Pacific Ocean area FAO 67 and 77.
		b. For FFDRm calculation, exclude fishmeal derived from rendering of seafood by-products (e.g. the "trimmings" from a human consumption fishery.	B. Verify that the client excludes from the FFDRm calculation any fishmeal rendered from seafood by-products.	**x**				The weighted average fishmeal inclusion is 8.6% excluding the meal from trimmings.
		c. Calculate eFCR using formula in Appendix IV-1 (use this calculation also in 4.2.2 option #1).	C. Verify that eFCR calculation was done correctly.	**x**				There is a program used to do running FCR and other calculation called Aqua farmer and it was developed by Mercatus. It's a spreadsheet format and has permanent formulas imbedded in the system. The current FCR for Monday Rock is 1.25.

		d. Calculate FFDRm using formulas in Appendix IV-1.	D. Verify that FFDRm calculations were done correctly and confirm the value complies with the requirement.	x				For the FFDRm the number for the previous cycle was verified. The current FFDRm is 0.6
		e. Submit FFDRm to ASC as per Appendix VI for each production cycle.	E. Confirm that client has submitted FFDRm to ASC (Appendix VI).	x				It has been submitted.
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 [64] (calculated according to Appendix IV-2) **Requirement:** FFDRo < 2.95 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.	A. Verify completeness of feed records as in 4.2.1A.	x				The feed manufacturer Skretting states that the weighted Average fish oil inclusion for Q4 2014 was 10.1% excluding oil from trimmings
		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.	B. Verify client excludes fish oil rendered from byproducts from the FFDRo or (EPA + DHA) calculation.	x				Option 1 was chosen.
		c. Inform the CAB whether the farm chose option #1 or option #2 to demonstrate compliance with the requirements of the Standard.	C. Record which option the client chose.	x				The calculation was done correctly and verified.
		d. For option #1, calculate FFDRo using formulas in Appendix IV-1 and using the eFCR calculated under 4.2.1c.	D. Verify that FFDRo calculations were done correctly and confirm the value complies with the standard.	x				For the FFDRo the number for the previous cycle was verified. The current FFDRo is 2.25.
		e. For option #2, calculate amount of EPA + DHA using formulas in Appendix IV-2.	E. Verify that (EPA+DHA) calculations were done correctly and confirm the value complies with the standard.	x				It was submitted for previous production cycle.
		f. Submit FFDRo or EPA & DHA to ASC as per Appendix VI for each production cycle.	F. Confirm that client has submitted FFDRo or EPA & DHA to ASC (Appendix VI)	x				The feed manufacturer Skretting states that the weighted Average fish oil inclusion for Q4 2014 was 10.1% excluding oil from trimmings

Footnote	[64] 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):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
4.3.1	**Indicator**: Timeframe for all fishmeal and fish oil used in feed to come from fisheries [65] certified under a scheme that is an ISEAL member [66] and has guidelines that specifically promote responsible environmental management of small pelagic fisheries **Requirement:** < 5 years after the date of publication [67] of the SAD standards (i.e. full compliance by June 13, 2017) **Applicability:** All	Note: Indicator 4.3.1 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. Prepare a policy 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.	A. Verify that the client's policy supports responsible feed sourcing (e.g. programs at http://www.isealalliance.org/portrait/full%20member).	**x**				Marine Harvest Canada International Policy on Sustainable salmon feed dated the 8/11/13 was reviewed and incorporates the intent of the criteria. This has not been changed.
		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 4.3.1a	B. Obtain a copy of the client's letter of intent.	**x**				This policy is in force and active since November 2013. This is updated in the international report as part of the requirements under the stock exchange requirements.
		c. Starting on or before June 13, 2017, use feed inventory and feed supplier declarations in 4.2.1a to develop a list of the origin of all fish products used as feed ingredients.	C. As of June 13, 2017, confirm that the farm has sufficient evidence for the origin of all fish products in feed to demonstrate compliance with indicator 4.3.1. Prior to June 13, 2017, 4.3.1c does not apply.				**x**	This is to be in place by 2017.

		d. Starting on or before June 13, 2017, provide evidence that fishmeal and fish oil used in feed come from fisheries [65] certified under a scheme that is an ISEAL member [66] and has guidelines that specifically promote responsible environmental management of small pelagic fisheries.	D. As of June 13, 2017, review evidence and confirm compliance. Prior to June 13, 2017, 4.3.1d does not apply.				**x**	This is to be in place by 2017.
Footnote	[65] 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	[66] Meets ISEAL guidelines as demonstrated through full membership in the ISEAL Alliance, or equivalent as determined by the Technical Advisory Group of the ASC.							
Footnote	[67] Publication: Refers to the date when the final standards and accompanying guidelines are completed and made publicly available. This definition of publication applies throughout this document.							
4.3.2	**Indicator**: Prior to achieving 4.3.1, the FishSource score [68] for the fishery(ies) from which all marine raw material in feed is derived **Requirement:** All individual scores ≥ 6, and biomass score ≥ 8 **Applicability:** All, until June 13, 2017	**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/ -select "Species" drop down tab to the left and select the relevant species -confirm that the search identifies the correct species, then select the top tab that 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).	A. Cross-check against 4.2.1a to confirm that client recorded a score for each species used in feed.	**x**				Skretting provided a table for the species and sources of fishmeal and fish oil and score from Fishsource.org. Geographical areas were also listed.

		b. Confirm that each individual score ≥ 6 and the biomass score is ≥ 8.	B. Cross-check a sample of the farm's scores against the FishSource website to verify that no individual score is < 6 and no biomass score is < 8.	**x**				The stock for Hake biomass from the FAO 67 and 77 on the supplied table is 10. This was confirmed on fish source.
		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.	C. If the client provides an independent assessment, review the assessment and the qualifications ~~if~~ of the independent third party to verify that the assessment was done in accordance with the FishSource methodology.				**x**	They are on the website.
		-	D. If the species does not have a FishSource score then the fish feed does not comply with the requirement.				**x**	They all have fish source scores.
Footnote	[68] 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	**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.							

	Applicability: All, until June 13, 2017	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.	A. Review evidence and confirm that a third party verified chain of custody or traceability program was used for the fishmeal and fish oil.	**x**				Skretting Vancouver is certified under the BAP standard for feed mills. Valid until 21/10/2016.
		b. Ensure evidence covers all the species used (as consistent with 4.3.2a, 4.2.1a, and 4.2.2a).	B. Verify that demonstration of third-party verified chain-of-custody is in place for all species used.	**x**				BAP require a verified chain of custody for compliance to their standard.
4.3.4	**Indicator**: Feed containing fishmeal and/or fish oil originating from by-products [69] or trimmings from IUU [70] catch or from fish species that are categorized as vulnerable, endangered or critically endangered, according to the IUCN Red List of Threatened Species [71] **Requirement:** None [72] **Applicability:** All except as noted in [72]	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.	A. Review list and confirm consistent with 4.2.1a, 4.2.2a, 4.3.3b.	**x**				All species of fish used are listed and do not appear on the IUCN list as endangered.
		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.	B. Verify that the farm obtains declarations from feed suppliers.	**x**				Skretting have a signed declaration that there is no IUU species used. Under Nutreco supplier code of conduct. This is also a BAP requirement.
		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 [71] and explaining how they are able to demonstrate this (i.e. through other certification scheme or through their independent audit).	C. Review declaration to confirm compliance. The International Fishmeal and Fish Oil Organization's Global Standard for Responsible Supply and the Marine Stewardship Council standards are two options for demonstrating compliance with Indicator 4.3.4c	**x**				Skretting (Nutreco), under their sustainable procurement policy for Marine products version 2010 state under section 7 Criteria that the supplier needs to provide documentation that the meal and oil is IFFO RS or MSC certified.
		d. If meal or oil originated from a species listed as "vulnerable" by IUCN, obtain documentary evidence to support the exception as outlined in [72].	D. Review evidence to support exception (if applicable).	**x**				Under section 7.2 of the Skretting (Nutreco) criteria for Marine raw materials it mentions Endangered or critically endangered but not vulnerable. Skretting have further provided a table showing that no vulnerable species are registered in their list of supplied raw material.

Footnote	[69] 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	[70] IUU: Illegal, Unregulated and Unreported.
Footnote	[71] The International Union for the Conservation of Nature reference can be found at http://www.iucnredlist.org/static/introduction.
Footnote	[72] 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):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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 [75] and local laws [76] **Requirement:** Yes **Applicability:** All	a. Compile and maintain a list of all feed suppliers with contact information. (See also 4.1.1a)	A. Review feed supplier list and cross-check against feed purchases. (See also 4.1.1a)	**x**				Only Skretting feed is used by the Client.
		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.	B. Review policies from each feed supplier to confirm required sourcing policy is in place.	**x**				Skretting are part of the Nutreco group and a vendor policy is in place where all suppliers must sign applicable declarations guaranteeing source.
		c. Confirm that third party audits of feed suppliers (4.1.1c) show evidence that supplier's responsible sourcing policies are implemented.	C. Verify that the scope of third-party audits of feed suppliers includes review of policies and evidence of implementation.	**x**				Skretting is BAP certified until October 2016. BAP have a similar principle which was provided to compare.

Footnote	[75] 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	[76] Specifically, the policy shall include that vegetable ingredients, or products derived from vegetable ingredients, must not come from areas of the Amazon Biome that were deforested after July 24, 2006, as geographically defined by the Brazilian Soy Moratorium. Should the Brazilian Soy Moratorium be lifted, this specific requirement shall be reconsidered.

4.4.2	**Indicator**: Percentage of soya or soya-derived ingredients in the feed that are certified by the Roundtable for Responsible Soy (RTRS) or equivalent [77] **Requirement:** 100%, within five years of the publication [78] of the SAD standards **Applicability:** All, after June 13, 2017	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.	A. Verify that the client's policy supports responsible sourcing of soya or soya-derived feed ingredients.	**x**				Declaration on the Marine Harvest Global Corporate documents called Marine Harvest Canada position on sustainable sources of non-marine raw materials in salmon feed signed by Øyvind Oaland Global director and Catrina Martins Group manager and dated 29/11/13. The document refers to the Roundtable for responsible soya (RTRS). There is no Soya in the feed used.
		b. Prepare a letter stating the farm's intent to source feed containing soya certified under the RTRS (or equivalent)	B. Obtain a copy of the client's letter of intent.	**x**				This is company policy. See 4.4.2 a
		c. Notify feed suppliers of the farm's intent (4.4.2b).	C. Verify that farm notifies feed suppliers.	**x**				The company has informed Skretting of the fact that they do not use any Soya. E-mail from Gavin Shaw Skretting to MHC confirming that Soya is not used. April 1 2014.
		d. Obtain and maintain declaration from feed supplier(s) detailing the origin of soya in the feed.	D. Confirm that the farm has sufficient and supportive evidence for the origin of soya products in feed to demonstrate compliance with indicator 4.4.2				**x**	No soya is used in the feed.
		e. Starting on or before June 13, 2017, provide evidence that soya used in feed is certified by the Roundtable for Responsible Soy (RTRS) or equivalent [77]	E. As of June 13, 2017,- review evidence and confirm compliance. Prior to June 13, 2017, 4.4.2e does not apply.	**x**				This is company policy. See 4.4.2 a though not applicable until 2017.
Footnote	[77] Any alternate certification scheme would have to be approved as equivalent by the Technical Advisory Group of the ASC.							
Footnote	[78] Publication: Refers to the date when the final standards and accompanying guidelines are completed and made publicly available. This definition of publication applies throughout this document.							
4.4.3	**Indicator**: Evidence of disclosure to the buyer [79] of the salmon of inclusion of transgenic [80] plant raw material, or raw materials derived from transgenic plants, in the feed **Requirement:** Yes, for each individual raw	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.	A. Review feed supplier declaration and ensure declarations from all suppliers are present (see also 4.4.1A).	**x**				Declarations were supplied and were fully investigated. No use of GMO's are stated. No Soya is used.
		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	B. Verify evidence of disclosure to all buyers, cross-checking with plant material list (4.4.3a) to see that all transgenic plant ingredients were disclosed	**x**				Mail from Skretting stating that the feed includes Canola oil and Corn Gluten that are transgenic. Dated January 7 2014. There is no change in this.

	material containing > 1% transgenic content [81] **Applicability:** All	disclosures must cover > 6 months.						
		c. Inform ASC whether feed contains transgenic ingredients (yes or no) as per Appendix VI for each production cycle.	C. Confirm that the farm has informed ASC whether feeds containing transgenic ingredients are used on farm (Appendix VI).	**x**				ASC have been informed.
Footnote	[79] 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	[80] 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	[81] 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):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
4.5.1	**Indicator**: Presence and evidence of a functioning policy for proper and responsible [83] 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.	A. Review policy to verify the farm's commitment to proper and responsible treatment of non-biological waste from production in a manner consistent with best practice in the area.	**x**				Materials storage and waste disposal plan SFW 963.
		b. Prepare a declaration that the farm does not dump non-biological waste into the ocean.	B. Verify the client makes a declaration.	**x**				Declaration is on the plan. Refers to the ASC standard.
		c. Provide a description of the most common production waste materials and how the farm ensures these waste materials are properly disposed of.	C. During the on-site inspection look for evidence of proper waste disposal.	**x**				Waste is removed by the Feed delivery boat as the main waste is pallets and plastic from the feed.

		d. Provide a description of the types of waste materials that are recycled by the farm.	D. During the on-site inspection look for evidence of recycling of waste materials as described by client.	x				The main recycling that takes place on the site is feed packaging materials such as plastic pallet wrap, Wooden pallets and used bulk feed bags.
Footnote	[83] 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)	A. During the on-site inspection look for evidence of proper waste disposal. (See also 4.5.1C)	x				Nets ropes and other production equipment are also included but would not occur as often as the packing materials. The company has a website for used equipment sales www.marineharvestusedsales.com. Disposal forms are used by the site managers when equipment is being de-commissioned and there is a column for describing what happens to the item i.e. sold, re-cycled or donated. Equipment is also donated to enhancement facilities.
		b. Provide a description of the types of waste materials that are recycled by the farm. (See also 4.5.1d)	B. During the on-site inspection look for evidence of recycling of waste materials as described by client. (See also 4.5.1D)	x				There was no evidence of waste build-up.
		c. Inform the CAB of any infractions or fines for improper waste disposal received during the previous 12 months and corrective actions taken..	C. Review infractions and corrective actions.				x	There were none.
		d. Maintain records of disposal of waste materials including old nets and cage equipment.	D. Review records to verify waste disposal and/or recycling is consistent with client description and policy.	x				Recycling through sales on the website of old materials nets etc. There is an asset disposal forms are kept as a record. Every 14 days following feed delivery by the Gemini company, the pallets, wrap and bags are sent with them back to the Skretting facility for re-cycling.
Criterion 4.6 Energy consumption and greenhouse gas emissions on farms [84]								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
Footnote	[84] See Appendix VI for transparency requirements for 4.6.1, 4.6.2 and 4.6.3.							

4.6.1	**Indicator**: Presence of an energy use assessment verifying the energy consumption on the farm and representing the whole life cycle at sea, as outlined in Appendix V- 1 **Requirement:** Yes, measured in kilojoule/mt fish/production cycle **Applicability:** All	**Instruction to Clients for Indicator 4.6.1 - Energy Use Assessment** Indicator 4.6.1 requires that farms must have an assessment to verify energy consumption. The scope of this requirement is restricted to operational energy use for the farm site(s) that is applying for certification. Boundaries for operational energy use should correspond to the sources of Scope 1 and Scope 2 emissions (see Appendix V-1). Energy use corresponding to Scope 3 emissions (i.e. the energy used to fabricate materials that are purchased by the farm) is not required. However the SAD Steering Committee encourages companies to integrate energy use assessments across the board in the company. For the purposes of calculating energy consumption, the duration of the production cycle is the entire life cycle "at sea" - it does not include freshwater smolt production stages. Farms that have integrated smolt rearing should break out the grow-out stage portion of energy consumption if possible. Quantities of energy (fuel and electricity) are converted to kilojoules. Verification is done by internal or external assessment following either the GHG Protocol Corporate Standard or ISO 14064-1 (see Appendix V-1 for more details).						
		a. Maintain records for energy consumption by source (fuel, electricity) on the farm throughout each production cycle.	A. Verify that the farm maintains records for energy consumption.	**x**				There is a GHG Energy assessment Xl sheet used. Items recorded include petrol, Diesel and gas (propane).
		b. Calculate the farm's total energy consumption in kilojoules (kj) during the last production cycle.	B. Review the farm's calculations for completeness and accuracy.	**x**				Calculation is 8190036530 Ki
		c. Calculate the total weight of fish in metric tons (mt) produced during the last production cycle.	C. Confirm that the farm accurately reports total weight of fish harvested per production cycle. Cross-check against other farm datasets (e.g. harvest counts, escapes, and mortalities).	**x**				Total weight 2569 tons
		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.	D. Review the farm's calculations for completeness and accuracy.	**x**				The farms energy consumption was 3187752 kJ per MT for the previous production cycle.
		e. Submit results of energy use calculations (4.6.1d) to ASC as per Appendix VI for each production cycle.	E. Confirm that client has submitted energy use calculations to ASC (Appendix VI).	**x**				They were submitted.

		f. Ensure that the farm has undergone an energy use assessment that was done in compliance with requirements of Appendix V-1.	F. Confirm that the farm has undergone an energy use assessment verifying the farm's energy consumption.	**x**				MHC have used a tool from MH Scotland to record and calculate the energy consumption. This diagnostic tool was developed by the Department of energy and climate change part of the UK's DEFRA government agency.
4.6.2	**Indicator**: Records of greenhouse gas (GHG [85]) emissions [86] on farm and evidence of an annual GHG assessment, as outlined in Appendix V-1 **Requirement:** Yes **Applicability:** All	**Instruction to Clients for Indicator 4.6.2 - Annual GHG Assessment** Indicator 4.6.2 requires that farms must have an annual Greenhouse Gas (GHG) assessment. Detailed instructions are presented in Appendix V-1 and references therein. The scope of this requirement is restricted to operational boundaries for the farm site(s) that is applying for certification. However the SAD Steering Committee encourages companies to integrate GHG accounting practices across the board in the company. Verification may be done by internal or external assessment following either the GHG Protocol Corporate Standard or ISO 14064-1 (see Appendix V-1 for more details). Note: For the purposes of this standard, GHGs are defined as the six gases listed in the Kyoto Protocol: carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF_6).						
		a. Maintain records of greenhouse gas emissions on the farm.	A. Verify that the farm maintains records of GHG emissions.	**x**				Records are maintained using the DEFRA diagnostic tool database.
		b. At least annually, calculate all scope 1 and scope 2 GHG emissions in compliance with Appendix V-1.	B. Confirm that calculations are done annually and in compliance with Appendix V-1.	**x**				There is no scope 2. Scope 1 emissions was 555173 .
		c. For GHG calculations, select the emission factors which are best suited to the farm's operation. Document the source of those emissions factors.	C. Verify that the farm records all emissions factors used and their sources.	**x**				GHG Energy assessment sheet is where all factors are recorded.
		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.	D. Verify that the farm records all GWPs used and their sources.	**x**				The original GHG calculations and the GWP conversions all originated from DEFRA in the UK where Scotland has been using these calculations for longer than Canada.
		e. Submit results of GHG calculations (4.6.2d) to ASC as per Appendix VI at least once per year.	E. Confirm that the farm has submitted GHG calculations to ASC (Appendix VI).	**x**				They were submitted.

		f. Ensure that the farm undergoes a GHG assessment as outlined in Appendix V-1 at least annually.	F. Confirm that the farm undergoes a GHG assessments annually and that the methods used comply with requirements of Appendix V-1.	x				This is done.
Footnote	[85] For the purposes of this standard, GHGs are defined as the six gases listed in the Kyoto Protocol: carbon dioxide (CO_2); methane (CH4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF_6).							
Footnote	[86] GHG emissions must be recorded using recognized methods, standards and records as outlined in Appendix V.							
4.6.3	**Indicator**: Documentation of GHG emissions of the feed [87] used during the previous production cycle, as outlined in Appendix V, subsection 2 **Requirement:** Yes, within three years of the publication [88] of the SAD standards (i.e. by June 13, 2015) **Applicability:** All, after June 13, 2015	**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 takes effect on June 13, 2015 and it will apply across the entire previous production cycle. Therefore the SAD Steering Committee advises farms to inform their feed supplier(s) about this requirement long before the effective date. Specifically, the SC recommends that... - 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).	A. Verify declaration from feed supplier(s) and confirm client has declarations from all feed suppliers.	x				Communicated to the feed company Skretting.

		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.	B. Verify calculations cross-checking with feed purchase and use records.	**x**				The com[any has only supplied the scope one emissions per MT and that is 46.2kg/Mt.
		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.	C. Verify calculations.	**x**				For this cycle to date the GHG emissions 76,232kg CO2 equivalents.
		d. Submit GHG emissions of feed to ASC as per Appendix VI for each production cycle.	D. Confirm that the farm has submitted GHG calculations for feed to ASC (Appendix VI).	**x**				Will be submitted at the end of the cycle.
Footnote	[87] 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.							
Footnote	[88] Publication: Refers to the date when the final standards and accompanying guidelines are completed and made publicly available. This definition of publication applies throughout this document.							
Criterion 4.7 Non-therapeutic chemical inputs [89,90]								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
Footnote	[89] Closed production systems that do not use nets and do not use antifoulants shall be considered exempt from standards under Criterion 4.7.							
Footnote	[90] 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 [91], evidence that nets are not cleaned [92] or treated in situ in the marine environment **Requirement:** Yes	a. Prepare a farm procedure for net cleaning and treatment that describes techniques, technologies, use of off-site facilities, and record keeping.	A. Review procedure for completeness.	**x**				The farm cleans its nets insitu using an MPI net washer.
		b. Maintain records of antifoulants and other chemical treatments used on nets.	B. Review documentary evidence and records for completeness, including traceability records of the nets where available.				**x**	None are used.

	Applicability: All farms except as noted in [89]	c. Declare to the CAB whether copper-based treatments are used on nets.	C. Verify whether copper-based treatments are used. If no, Indicator 4.7.1d does not apply to the client. If yes, proceed to 4.7.1D.				**x**	None are used.
		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.	D. Review evidence and interview farm manager to confirm that farm does not do any heavy cleaning of copper-treated nets in situ.				**x**	None are used.
		e. Inform ASC whether copper antifoulants are used on farm (yes or no) as per Appendix VI for each production cycle.	E. Confirm that the farm has informed ASC whether copper antifoulants are used on farm (Appendix VI).				**x**	None are used.
Footnote	[91] 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	[92] 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 [93] **Requirement:** Yes **Applicability:** All farms except as noted in [89]	a. Declare to the CAB whether nets are cleaned on-land.	A. Review declaration and cross-check with records from 4.7.1b. If nets are not cleaned on land, Indicator 4.7.2 does not apply. If nets are cleaned on land, proceed to 4.7.2B.	**x**				The company /facility used is Grey River Net BC and Campbell river net loft.
		b. If nets are cleaned on-land, obtain documentary evidence from each net-cleaning facility that effluent treatment is in place.	B. Review documentary evidence to confirm that each net-cleaning facility has effluent treatment in place.	**x**				According to e-mails received the company they do not have an effluent licence as they do not discharge. Solids are separated and the water is re-cycled back into the facility.

		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.	C. If applicable, review documentary evidence to confirm that land-based cleaning sites have appropriate technologies in place to capture copper in effluents and that they function as intended.				x	All nets are being replaced with HDPE nets and no copper is used. The plan is to have these nets replaced from nylon. All this site cages are using HDPE nets.
Footnote	[93] 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 [89]	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.	A. Review declaration and cross-check against declaration from 4.7.1c. Record whether Indicator 4.7.3 is applicable to the client.				x	Copper treated nets are not used.
		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.	B. As applicable, verify the farm tested sediment samples for copper from the reference stations specified in 2.1.1d and 2.1.2c which lie outside the AZE.				x	Copper treated nets are not used.
		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.	C. Verify the measurements were taken using appropriate equipment and testing methods.				x	Copper treated nets are not used.
4.7.4	**Indicator**: Evidence that copper levels [94] 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	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.	A. Document and verify applicability of 4.7.4 to client (see also 4.7.3A)				x	Cab was informed.
		b. Provide evidence from measurements taken in 4.7.3b that copper levels are < 34 mg Cu/kg dry sediment weight.	B. Verify that copper levels are < 34 mg Cu/kg sediment. If no, proceed to 4.7.4C.				x	Copper treated nets are not used.

	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 [89] and excluding those farms shown to be exempt from Indicator 4.7.3	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).	C. If applicable, review evidence to confirm that farm followed Appendix I-1 for testing copper levels at reference sites.				**x**	Copper treated nets are not used.
		d. Analyse results from 4.7.4c to show the background copper concentrations as measured at three reference sites in the water body.	D. As applicable, review data to confirm that copper levels fall within the range of background concentrations as measured at reference sites.				**x**	Copper treated nets are not used.
		e. Submit data on copper levels in sediments to ASC as per Appendix VI for each production cycle.	E. Confirm that farm has submitted to ASC data on copper levels in sediment (Appendix VI).				**x**	Copper treated nets are not used.
Footnote	[94] 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 [89]	a. Identify all biocides used by the farm in net antifouling.	A. Review list of biocides and cross-check against treatment records (see 4.7.2b) and purchase records.				**x**	None used.
		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.	B. Review documentary evidence to confirm compliance.				**x**	None used.
PRINCIPLE 5: MANAGE DISEASE AND PARASITES IN AN ENVIRONMENTALLY RESPONSIBLE MANNER								
Criterion 5.1 Survival and health of farmed fish [95]								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
Footnote	[95] 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 and parasites **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.	A. Obtain and review the farm's fish health management plan.	**x**				Fish health management plan dated October 2015. The updates include the new requirements for moving fish and refers to the SOP's SW955, SW 138, SW 819 and FW 260. Submitted to the DFO for part of the licence requirements.
		b. Ensure that the farm's current fish health management plan was reviewed and approved by the farm's designated veterinarian [96].	B. Verify there is evidence to show that the farm's designated veterinarian [96] reviewed and approved the current version of the plan.	**x**				Approved by Diane Morrison DVM, the company Vet in October 2015.
5.1.2	**Indicator**: Site visits by a designated veterinarian [96] at least four times a year, and by a fish health manager [97] at least once a month **Requirement:** Yes **Applicability:** All	a. Maintain records of visits by the designated veterinarian [96] and fish health managers [97]. If schedule cannot be met, a risk assessment must be provided.	A. Review documentary evidence of site visits to confirm a minimum number of visits as outlined in 5.1.2. Or review risk assessment.	**x**				The health unit maintain record of all health visits on a database. This records site records, comments, number if fish examined and tests done. External lab results are linked to the results. The last visit carried out to Monday Rock was July 12th to 15th for gill assessment.
		b. Maintain a current list of personnel who are employed as the farm's designated veterinarian(s) [96] and fish health manager(s) [97].	B. Confirm visits in 5.1.2a were performed by the farm's designated health professionals.	**x**				Diane Morrison, DVM, Fish health and food safety director. There are two other Fish Health Technicians employed and their initials appear on the database.
		c. Maintain records of the qualifications of persons identified in 5.1.2b.	C. Review evidence for qualifications of the farm's health professionals.	**x**				Diane Morrison, DVM. Checked qualifications for Diane who has been a vet since 1992. The other two fish technicians have BSC.
Footnote	[96] 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	[97] 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	a. Maintain records of mortality removals to show that dead fish are removed regularly and disposed of in a responsible manner.	A. Review records of mortality removals to confirm completeness and accuracy. Cross-check against 5.1.4 and calculations of escapes and unexplained loss.	**x**				There is a Mortality Collection and disposal procedure for Marine sites SW 124. This procedure cover classification, records and disease outbreak. Mortality records were reviewed on site during the visit.

	Requirement: 100% [98] **Applicability:** All	b. Collect documentation to show that disposal methods are in line with practices recommended by fish health managers and/or relevant legal authorities.	B. Review client submission. Inspect the farm's system for mortality removals and disposals during the on-site audit.	**x**				Disposal is via a sealed mortality bin located away from the site. When it's full it's brought ashore to the Coal harbour landing facility where the mort's are trucked to a company called Foenix Forest technology and is used for a product called Seasoil. Receipt from the company dated 1/10/15. Invoice number 7264. 23 totes from Coal harbour attached.
		c. For any exceptional mortality event where dead fish were not collected for post-mortem analysis, keep a written justification.	C. Review the farm's justification for any exceptional mortality event where dead fish were not collected for post-mortem analysis (this situation should be a rare occurrence).	**x**				There was a number of mortality events during a freshwater treatment. The licence description of a mass mortality event was not reached.
Footnote	[98] 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	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.						

	Requirement: 100% [99] **Applicability:** All	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 [96], fish health manager [97]); - cause of mortality (specify disease or pathogen) where known; and - classification as 'unexplained' when cause of mortality is unknown (see 5.1.6).	A. Review records of mortalities to verify completeness and to confirm that post-mortem analyses were done by qualified individuals or labs.	**x**				The mortality records on the farm was reviewed along with the protocols for assigning cause of mortality. Daily mort checks are carried out using uplifts. All the staff have been trained in assigning reasons for mortality. Unknown reasons or assigning disease must be referred to the fish health team. Mort sheets have all required information.
		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.	B. Review records to confirm the farm had post-mortem analysis done for each mortality event and that a statistically relevant number of fish were analysed from each mortality event.	**x**				30 fish are generally sampled for fish health. In July 12th to 15th there was 200 fish analysed for general gill health
		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).	C. Review records to confirm that any inconclusive on-site diagnoses were sent to an off-site laboratory for further testing.	**x**				The off site lab used is only when unknown mortalities need to be assessed. The lab is situated in Campbell river. Third party labs can also be used such as centre for aquatic health sciences in Campbell river.
		d. Using results from 5.1.3a-c, classify each mortality event and keep a record of those classifications.	D. Review mortality events to confirm the farm's classification was consistent with results from post-mortem analyses. Where cause was not determined verify that classification was plausible given available info.	**x**				The only event logged as significant was some gill issues which killed 4.81%. All analysis of total mortality is logged in Aqua farmer. The next highest mortality listed was without diagnosis at 2.75% but he fish were severely decomposed.

		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).	E. Review evidence to confirm compliance with requirements.	x				There is the fish health database recording mortalities and the Vet controls access to it. The cage by cage information can be accessed.
		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).	F. Confirm that client has submitted data from post-mortem analyses and cause and number of mortalities to ASC (Appendix VI).	x				Data has been submitted
Footnote	[99] If on-site diagnosis is inconclusive, this standard requires off-site laboratory diagnosis. A qualified professional must conduct all diagnosis. One hundred percent of mortality events shall receive a post-mortem analysis, not necessarily every fish. A statistically relevant number of fish from the mortality event shall be analysed.							
5.1.5	**Indicator**: Maximum viral disease-related mortality [100] on farm during the most recent production cycle **Requirement:** ≤ 10% **Applicability:** All	a. Calculate the total number of mortalities that were diagnosed (see 5.1.4) as being related to viral disease.	A. Review and confirm the calculated number of viral disease-related mortalities.	x				There have been no viral mortalities in the current cycle.
		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.	B. Verify that the sum of confirmed viral disease-related mortalities plus unspecified & unexplained mortalities is ≤ 10% of the total number of fish produced during the most recent production cycle.	x				There were 0 virals and 3.82% unexplained to date. In the previous production cycle there was a total of 3.81%.
		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).	C. Confirm that client has submitted data on mortality to ASC (Appendix VI).	x				This data has been submitted.
Footnote	[100] 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.	A. Review, confirm, and document whether 5.1.6 is applicable to the client. If applicable, proceed to 5.1.6B.	**x**				The total mortality was greater than 6%
		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.	B. Review and confirm that ≤ 40% of total mortalities were from unexplained causes for each of the two previous production cycles	**x**				The total mortality for unexplained was 3.78% for the previous cycle.
		c. Submit data on maximum unexplained mortality to ASC as per Appendix VI for each production cycle.	C. Confirm that client has submitted data on unexplained mortality to ASC (Appendix VI).	**x**				This has been submitted.
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.	A. Confirm that the farm used mortalities records to assemble a detailed dataset on mortality rates which covers the required timeframe (see 5.1.4).	**x**				The company uses a spreadsheet to recorded monthly mortalities in both percentage terms for count and Biomass. Done on an overall company basis based on historical information and how each site has produced in the past. Updated regularly in real time. This is done company wide and per site.
		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.	B. Review program to confirm that targets for mortality reduction are reasonable and based on historical data.	**x**				There is a companywide reduction plan and targets set for the production. The current target set for 2015 is for 91% survival. This is up from 2011 when the target set was 86%. Disease is not the biggest cause of morts but Plankton is. The plan indicates that that plankton mitigation measures and monitoring are taking place.
		c. Ensure that farm management communicates with the veterinarian, fish health manager, and staff about annual targets and	C. Interview workers to confirm their understanding of mortalities recording, classification, and annual targets for reduction (see also 5.1.1, 5.1.3).	**x**				Plans are broken down to their KPIs on each site. There are Weekly tactical meetings for the staff on the site. There are bonuses set for each site depending on criteria such as survival.

		planned actions to meet targets.						
Criterion 5.2 Therapeutic treatments [101]								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
Footnote	[101] 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 [102] 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	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; - mt of fish treated; - the WHO classification of antibiotics (also see note under 5.2.8); and - the supplier of the chemical or therapeutant.	A. Review records of chemical and therapeutant use. Verify accuracy through cross-check with purchase orders and sales records, inventories, documentation from feed manufacturer for any in-feed treatment, and veterinary records.	**x**				There was a list of all chemicals and therepeutans used, available in the onsite records. Records are well maintained and include the date used and the quantity used. Vetinarian sanction and prescriptions were also recorded. Aqua farmer also has the same records and these are available on site. The site supervisor records these records on the drug treatment log. The same person then enters the details into Aqua farmer which then becomes the official record for the site. Prescriptions are also recorded in the Fish health data base by the fish health group. These records are subject to DFO un announced inspection.

	Requirement: Yes **Applicability:** All	b. If not already available, assemble records of chemical and therapeutant use to address all points in 5.2.1a for the previous two production cycles. For first audits, available records must cover one full production cycle immediately prior to the current cycle.	B. Confirm that farm has detailed records for chemical and therapeutant use that covers the previous two production cycles.	**x**				Records were inspected and cover the previous production cycle. This is the sites first audit.
		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).	C. Confirm that client has submitted therapeutant information to ASC (Appendix VI).	**x**				Has been submitted as one florenfenicol and one SLICE treatment.
Footnote	[102] 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 [103] in any of the primary salmon producing or importing countries [104] **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 [104].	A. Review list and supporting evidence. If ASC has agreed to maintain a list of relevant therapeutants, farm can demonstrate that they have this list.	**x**				Marine Harvest International has a list of all relevant companies that shows an extensive list of countries and their allowable and unallowable contaminants drugs and microbiology and statutory limits for fish for all these growing areas. This data base is updated when a country changes its limits by anybody in the Marine Harvest family that has the current information. Every possible worldwide therapeutant is listed. Marine Harvest Canada also have a medicine positive list showing drugs allowable however in the case of Tribrissen even though it's allowed MHC no longer uses it for the US market. Even though there is a positive list it does not mean that the treatments are used. There are declarations that were revised in 2013 stating that the company will not purchase or use prohibited chemicals or therapeutants.
		b. Maintain records of voluntary and/or mandatory chemical residue testing conducted or commissioned by the farm from the prior and current production cycles.	B. Verify records.	**x**				Following the use and a therapeutant the Aqua farmer system locks in place the withdrawal time. Logged on the prescriptions. Maxam in Vancouver carry out residue testing for each site prior to harvest. They are accredited to Standards Council of Canada no. 117. Preharvest test from Monday Rock January 2014 from

								Maxam. Ref B410773. Testing is mandatory from CFIA.
		-	C. Cross-check records of therapeutant use (5.2.1a) against the list of banned therapeutants to verify compliance with requirements.	**x**				Checked use logs and the therepeutans are on the approved list.
Footnote	[103] "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	[104] 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 [96] for definition of veterinarian).	A. Review documentary evidence (on-farm records, veterinary records, and prescriptions) to confirm all therapeutants were prescribed by a qualified individual. See [96] for definition of veterinarian.	**x**				The farm has the original prescription located in the drug record file on site as required by its DFO operating licence.
		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.	B. Cross-check with results from chemical residue testing provided under 5.2.2b.	**x**				Records are kept on site and on Aqua farmer 15/030 reference for the SLICE prescription.
5.2.4	**Indicator**: Compliance with all withholding periods after treatments	a. Incorporate withholding periods into the farm's fish health management plan (see 5.1.1a).	A. Review the farm's fish health management plan to confirm inclusion of withholding periods and interview farm staff to verify implementation.	**x**				Referenced in section 2.10.1. SOP Document SW 123.

	Requirement: Yes **Applicability:** All	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.	B. Review documentation for completeness and accuracy. Compare to records of therapeutant use (5.2.1a).	**x**				Health Canada website lists all drugs allowed for use in the culture of fish for food and includes details of withdrawal periods. http://www.hc-sc.gc.ca/dhp-mps/vet/legislation/pol/aquaculture_anim-eng.php
		c. Show compliance with all withholding periods by providing treatment records (see 5.2.1a) and harvest dates for the most recent production cycle.	C. Review documentary evidence and, if applicable, results from chemical residue testing (5.2.2b), to confirm legal withholding periods were met for the most recent production cycle and harvest.	**x**				Last treatment for previous production was February for SLICE. Harvest date was completed in July 17th 2014
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.	A. Review the farm's calculations to verify that the PTI score was calculated correctly and that the scores are accurate. Cross-check with records of parasiticide use.	**x**				The calculation took into account all therapeutant use.
		b. Provide the auditor with access to records showing how the farm calculated the PTI score.	B. Verify that the farm level cumulative PTI score ≤ 13.	**x**				The PTI is currently 3.2.
		c. Submit data on farm level cumulative PTI score to ASC as per Appendix VI for each production cycle.	C. Confirm that client has submitted data on cumulative PTI score to ASC (Appendix VI).	**x**				These were submitted.
5.2.6	**Indicator**: For farms with a cumulative PTI ≥ 6 in the most recent production cycle,	Note: Indicator 5.2.6 does not take effect until June 13, 2017. Nonetheless farms should start collecting data on parasiticide load beforehand in case farms have to demonstrate compliance with Indicator 5.2.6 at some point in the future using data from the two previous production cycles.						

	demonstration that parasiticide load [105] is at least 15% less that of the average of the two previous production cycles **Requirement:** Yes, within five years of the publication of the SAD standard (i.e. by June 13, 2017) **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.	A. Review farm's cumulative PTI score to determine if Indicator 5.2.6 is applicable.				**x**	PTI is below 6 and not into effect until 2017.
		b. Using results from 5.2.5 and the weight of fish treated (kg), calculate parasiticide load in the most recent production cycle [105].	B. Review the farm's calculation of parasiticide load to verify accuracy.				**x**	PTI is below 6 and not into effect until 2017.
		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.	C. Review farm's calculations to verify that parasiticide load for the most recent production cycle is at least 15% less than that of the two previous cycles.				**x**	PTI is below 6 and not into effect until 2017.
		d. As applicable, submit data to ASC on parasiticide load for the most recent production cycle and the two previous production cycles (Appendix VI).	D. Confirm that client has submitted data on parasiticide load to ASC (Appendix VI) as applicable.				**x**	PTI is below 6 and not into effect until 2017.
Footnote	[105] 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 [106] **Requirement:** None **Applicability:** All	a. Maintain records for all purchases of antibiotics (invoices, prescriptions) for the current and prior production cycles.	A. Review purchase records and calculate total amount procured by client. Inspect storage areas to verify quantities on-site.	**x**				Prescriptions available and reviewed onsite as required by DFO and licencing.
		b. Maintain a detailed log of all medication-related events (see also 5.2.1a and 5.2.3)	B. Review log of medication events to verify that the quantity of antibiotic applied by the client does not suggest prophylactic use.	**x**				Logs are present. Treatments can be observed on the Aqua farmer program and on the fish health files.

		c. Calculate the total amount (g) and treatments (#) of antibiotics used during the current and prior production cycles (see also 5.2.9).	C. Verify that the total amount of antibiotics used in the current production cycle is equal to the total amount prescribed.	x				There has been only one treatment of antibiotic at this site. Dated January 2015.
Footnote	[106] 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 [107]) **Requirement:** None [108] **Applicability:** All	Note 1: Farms have the option to certify only a portion of the fish or farm site when WHO-listed [107] 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 107] 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 [107].	A. Confirm that the farm has the current copy of the WHO list of antibiotics.	x				The company uses the WHO website on critically important antimicrobials for human medicine. Checked florfenicol use and it's classed as highly important and not of critical importance.
		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.	B. During the on-site audit, verify that no antibiotics listed as "critically important" have been used on the farm through cross-check of records for 5.2.1 and 5.2.7.	x				No critically important antibiotics used in the current production cycle.
		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.	C. Make note of the farm's antibiotic usage and do not schedule an on-site audit until the client provides additional information as specified in 5.2.8d.				x	No critically important antibiotics used.

		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.	D. Review the farm's exemption request and supporting documents to verify that the farm can satisfactorily demonstrate traceability [108] to merit an exemption.				x	No critically important antibiotics used.
Footnote	[107] The third 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	[108] 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 [109] 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.	A. Review documents to confirm that the client maintains a record of all treatments of antibiotics. Cross-check against records of on-farm chemical & therapeutant use (5.2.1a), medication events (5.2.3a), and prescription records (5.2.3b).	x				Only one used.
		b. Calculate the total number of treatments of antibiotics over the most recent production cycle and supply a verifiable statement of this calculation.	B. Confirm that the client used ≤ 3 treatments of antibiotics over the most recent production cycle.	x				It is </= to 3.
Footnote	[109] A treatment is a single course medication given to address a specific disease issue and that may last a number of days.							
5.2.10	**Indicator**: If more than one antibiotic treatment is used in the most recent production cycle, demonstration that the antibiotic load [110] is at least 15% less that of the average of the two previous	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. Indicator 5.2.10 does not take effect until June 13, 2017. Nonetheless farms should start collecting data on antibiotic load beforehand in case farms have to demonstrate compliance with Indicator 5.2.10 at some point in the future using data from the two previous production cycles.						

	production cycles **Requirement:** Yes [111], within five years of the publication of the SAD standard (i.e. full compliance by June 13, 2017) **Applicability:** All	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.	A. Review results to confirm whether 5.2.10 is applicable to the client. Record the results and, if applicable, proceed to 5.2.10B.				**x**	Not applicable at this time. Farms first audit. But only one antibiotic used.
		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.	B. Review farm's calculations for accuracy and completeness of coverage. Cross-check against treatment records (5.2.1a).				**x**	Not relevant until June 2017.
		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.	C. Review evidence to verify that farm complies with requirement.				**x**	Not applicable at this time. Farms first audit.
		d. Submit data on antibiotic load to ASC as per Appendix VI (if applicable) for each production cycle.	D. Confirm that client has submitted data on antibiotic load to ASC (Appendix VI) as applicable.	**x**				Figures were submitted.
Footnote	[110] Antibiotic load = the sum of the total amount of active ingredient of antibiotics used (kg).							
Footnote	[111] 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 [112] of its salmon a list of all therapeutants used in production	a. Prepare a procedure which outlines how the farm provides buyers [112] of its salmon with a list of all therapeutants used in production (see 4.4.3b).	A. Review the farm's procedure and confirm implementation based on relevant documentary evidence (e.g. sales records, invoices).	**x**				Once per year (January) MHC supply their customers with a 'Suppliers Quality Assurance Certificate'. It mentions potential treatments and refers the reader to web links with the Canadian Food inspection agency for regulatory status. It lists the possible supply plants. A list of the primary customers is also attached for the audit. Updated January 2015.

	Requirement: Yes **Applicability:** All	b. Maintain records showing the farm has informed all buyers of its salmon about all therapeutants used in production.	B. Review sales records for completeness and cross-check against treatment records (5.2.1a) to verify that buyers were adequately informed about therapeutants used in production.	**x**				A list of the primary customers was provided for the audit. When sales of ASC product become available it will be possible to trace sales versus treatments as it is with all sales currently. On the bottom of the Suppliers QA certificate there is a statement from the Food Safety assurance technician to contact her if there are any questions. Her number and extension is included. There has been no customer requests for residue tests from MHC but MHC will provide them if required.
Footnote	[112] 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):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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.	A. Review farm records to confirm recording of all successive medicinal treatments.	**x**				Medicinal treatments other than Antibiotics are Emmamectin (Slice). The company has been doing trials on Hydrogen peroxide and there is permission to use H2O2 and two were carried out. All treatments are recorded in the treatment log. Following all treatments a bioassay is carried

								out. For this site was carried out on the 20 May 2015.
		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.	B. If applicable, review how the farm evaluates the observed effect of treatment against the expected effect of treatment.				**x**	No successive treatments.
		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.	C. Review farm records to confirm that bio-assays were done in every case where successive treatments did not produce the expected effect. Confirm that bio-assays were performed by a qualified independent laboratory.				**x**	There was only on Slice treatment and it was effective.
		d. Keep a record of all results arising from 5.3.1c.	D. Verify that farm maintains records from bio-assays (as applicable).				**x**	Records in place.
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.	A. Review evidence from bio-assay tests to determine whether Indicator 5.3.2 is applicable.	**x**				There is only one allowed lice treatment in BC and there is some testing of H2O2 taking place in an effort to reduce the use of SLICE in Quatsino Sound. .
		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.	B. If applicable, review records to verify that the farm either used an alternative treatment that is permitted in the area of operation or else harvested all fish on site.	**x**				There have been trial using Hydrogen peroxide as another Lice treatment as up to now only Slice has been allowed. Trials have been allowed by DFO and it's hoped that area permission will be forthcoming.
Criterion 5.4 Biosecurity management [113]								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**

Footnote	[113] 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 [114] **Requirement:** 100% [115] **Applicability:** All farms except as noted in [115]	a. Keep records of the start and end dates of periods when the site is fully fallow after harvest.	A. Review records and verify fallow periods by cross-checking during interviews with farm staff and community representatives.	**x**				The salmon were stocked in November 2014. They came from one hatchery Dalyrimple.
		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.	B. Review evidence to confirm there were no gaps in smolt inputs > 6 months. Inspect pens during the on-site audit to see if fish size (which may be variable) is consistent with the production of a single-year class.	**x**				Fish were inspected. The fish size on the farm correspond with the Aqua farmer reported size of 2.729kg.
		-	C. Verify that the available evidence shows that salmon on the site are from a single-year class.	**x**				Verified by inspection and by records kept in Aqua farmer.
Footnote	[114] 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	[115] 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, [116] the farm has: 1. Reported the issue to the ABM and to the	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 [116]. The accepted level of significance (for example, $p < 0.05$) should be agreed between farm and CAB.	A. Review evidence to confirm that the farm evaluated mortality events for statistically significant increases relative to background mortality rates (compare to farm's time-series dataset in 5.1.7a).	**x**				Numbers are reviewed by the Fish health group. First review is on the farm who within 24 hours must contact the fish health group and is logged on the site activity log. There have been no unexplained mortality events. There is a red and green system in place that assesses the mortality trends.

	appropriate regulatory authority 2. Increased monitoring and surveillance [117] on the farm and within the ABM 3. Promptly [118] made findings publicly available **Requirement:** Yes **Applicability:** All	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.	B. Determine if the farm suspected any unidentified transmissible agents associated with mortality events during the most recent production cycle. An abrupt increase in unexplained mortality should be cause for suspicion.	**x**				There were no large or unusual mortality events and all were diagnosed.
		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.	C. Confirm that the farm took the correct action based on results from 5.4.2a and 5.4.2b and whether 5.4.2d is applicable to the farm.				**x**	There was no statistically significant increase in mortality events at the site.
		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 [117] on the farm and within the ABM; and 3) Promptly (within one month) make findings publicly available.	D. If applicable, verify that the farm keeps records to show how each of the required steps was completed.				**x**	This is done only if the mortality falls into an event described as the following. 4000kg of mort's or more or 2% of the inventory in 24 hours or 10000kg or more or 5% or total fish in 5 days.
		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).	E. Confirm that client submits data to ASC (Appendix VI) about unidentified transmissible agents or unexplained increases in mortality as applicable.	**x**				Submitted but all mortality was identifiable and explained.
Footnote	[116] Increased mortality: A statistically significant increase over background rate on a monthly basis.							
Footnote	[117] Primary aim of monitoring and surveillance is to investigate whether a new or adapted disease is present in the area.							

Footnote	[118] Within one month.							
5.4.3	**Indicator**: Evidence of compliance [119] with the OIE Aquatic Animal Health Code [120] **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 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.	A. Verify that farm management is aware of practices described in the most current version of the code during interviews.	**x**				Appendix to the Fish Health Management plan Appendix 1 certification requirements Revised November 18th 2014 in order to incorporate the BAP standard requirements. A copy is available to the staff through the 'SharePoint'. This appendix includes link for OIE and refers to the Code.
		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.	B. Review farm policies and procedures to verify that the farm has documented how its practices are consistent with the OIE Aquatic Animal Health Code and Indicator 5.4.4.	**x**				The policies are constant as the FHMP is reviewed annually. The appendix will also be reviewed as and when there are changes to certification requirements.
		-	C. During the on-site inspection look for evidence that policies and procedures in 5.4.3a are implemented. Cross-check in interviews with staff.	**x**				Policies are implemented and the staff are well informed.

Footnote	[119] 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	[120] OIE 2011. Aquatic Animal Health Code. http://www.oie.int/index.php?id=171.							
5.4.4	**Indicator**: If an OIE-notifiable disease [121] 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 [122] 3. the farm and the ABM enhanced monitoring and conducted rigorous testing for the disease 4. the farm promptly [123] 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.	A. Review farm policies and procedures (see 5.4.3A) to verify that the farm has documented actions in response to an OIE-notifiable disease.	**x**				Notifiable diseases are immediately conveyed to the DFO and the CFIA who take control and determine the action.
		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.	B. Record whether there were any OIE-notifiable diseases confirmed on the farm during the current or two previous production cycles.	**x**				The CAB was informed that on the previous production cycle 159 fish were found to have had VHS.
		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 [122] 3) enhanced monitoring and conducted rigorous testing for the disease; and 4) promptly (within one month) made findings publicly available.	C. If applicable, review documentary evidence to verify the farm's response complied with the four actions required under Indicator 5.4.4.	**x**				There has been a variance request submitted to ASC as VHS is endemic in the area and DFO have not required culling the fish. This was allowed for other sites in BC and the variance number was 89 and 91.

		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).	D. Confirm that client submits data to ASC (Appendix VI) about any OIE-notifiable disease that was confirmed on the farm (as applicable).	**x**				Notified to ASC as being VHS endemic.
		-	E. If an OIE-notifiable disease was confirmed on the farm, verify that notifications were made to regulatory bodies required under law and the OIE Aquatic Animal Health Code (122).	**x**				DFO are aware that the VHS is endemic.
Footnote	[121] 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	[122] This is in addition to any notifications to regulatory bodies required under law and the OIE Aquatic Animal Health Code.							
Footnote	[123] 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 [124]								
		Compliance Criteria		**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
Footnote	[124] 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	a. Workers have the freedom to join any trade union, free of any form of interference from employers or competing organizations set up or backed by the employer. Farms shall prepare documentation to demonstrate to the auditor that domestic regulation fully meets these criteria.		**x**				There is a Code of Conduct, which is provided to all employees and they are tested to show they have understand 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 Canada recognizes the right of all workers and employees freely to form and join groups for the promotion and defence of

	Applicability: All						their occupational interests, including the right to engage in collective bargaining".
		b. Union representatives (or worker representatives) are chosen by workers without managerial interference. ILO specifically prohibits "acts which are designated to promote the establishment of worker organizations or to support worker organizations under the control or employers or employers' organizations."	**x**				see 6.1.1a and code of conduct section 5.3
		c. Trade union representatives (or worker representatives) have access to their members in the workplace at reasonable times on the premises.	**x**				see 6.1.1a and code of conduct section 5.3
		d. Be advised that workers and union representatives (if they exist) will be interviewed to confirm the above.	**x**				There is a Code of Conduct, which is provided to all employees and they are tested to show they have understand 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.
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	a. Employment contract explicitly states the worker's right of freedom of association.	**x**				The worker's right of freedom of association is Stated in the contract of employment and in 5.3 of the code of conduct.
		b. Employer communicates that workers are free to form organizations to advocate for and protect work rights (e.g. farm policies on Freedom of Association; see 6.12.1).	**x**				Employees sign and are tested on Code of Conduct. See 6.1.2a. Code of Conduct section 5.3 relates to this section.
		c. Be advised that workers will be interviewed to confirm the above.	**x**				There is a Code of Conduct, which is provided to all employees and they are tested to show they have understand 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.
6.1.3	**Indicator:** Evidence that workers are free and able to bargain collectively for their rights **Requirement:** Yes	a. Local trade union, or where none exists a reputable civil-society organization, confirms no outstanding cases against the farm site management for violations of employees' freedom of association and collective bargaining rights.	**x**				No outstanding cases against the farm site management for violations of employees' freedom of association and collective bargaining rights.
		b. Employer has explicitly communicated a commitment to ensure the collective bargaining rights of all workers.	**x**				Stated in code of conduct section 5.3 and confirmed by worker interviews

	Applicability: All	c. There is documentary evidence that workers are free and able to bargain collectively (e.g. collective bargaining agreements, meeting minutes, or complaint resolutions).	x				Stated in Marine Harvest Canada Code of Conduct which is signed by the employees.
Criterion 6.2 Child labour							
		Compliance Criteria	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
6.2.1	**Indicator:** Number of incidences of child [125] labour [126] **Requirement:** None **Applicability:** All except as noted in [125]	a. In most countries, the law states that minimum age for employment is 15 years. There are two possible exceptions: - in developing countries where the legal minimum age may be set to 14 years (see footnote 125); or - in countries where the legal minimum age is set higher than 15 years, in which case the legal minimum age of the country is followed. If the farm operates in a country where the legal minimum ages is not 15, then the employer shall maintain documentation attesting to this fact.	x				Ages of all workers are stored on Human Resources management system. There is no persons employed under the age of 15. Marine Harvest Canada state in section 5.4 of the code of conduct "Marine Harvest Canada is committed to the abolition of child labor, and all forms of forced or compulsory labor." "Marine Harvest Canada 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."
		b. Minimum age of permanent workers is 15 or older (except in countries as noted above).	x				Verified through Human Resources Management System
		c. Employer maintains age records for employees that are sufficient to demonstrate compliance.	x				Identification is held on file for all farm employees and is signed and verified by senior Management
Footnote	[125] 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	[126] 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 [127] that are protected [128] **Requirement:** 100% **Applicability:** All	a. Young workers are appropriately identified in company policies & training programs, and job descriptions are available for all young workers at the site.	x				There is policy stating the rules on employing young workers. The Marine Harvest Canada code of conduct section 5.4 sets out the main rules. Young workers risk assessment is carried out and displayed within the working areas. All young workers are assessed prior to employment
		b. All young workers (from age 15 to less than 18) are identified and their ages are confirmed with copies of IDs.				x	No young worker at the facilities

		c. Daily records of working hours (i.e. timesheets) are available for all young workers.				x	No young worker at the facilities
		d. For young workers, the combined daily transportation time and school time and work time does not exceed 10 hours.				x	No young worker at the facilities
		e. Young workers are not exposed to hazards [129] and do not perform hazardous work [130]. Work on floating cages in poor weather conditions shall be considered hazardous.				x	No young worker at the facilities
		f. Be advised that the site will be inspected and young workers will be interviewed to confirm compliance.				x	No young worker present on the day of the site inspection. The site was inspected with young workers in mind. Controlled documentation and risk assessment was available on site.
Footnote	[127] Young Worker: Any worker between the age of a child, as defined above, and under the age of 18.						
Footnote	[128] 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	[129] 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	[130] 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	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
6.3.1	**Indicator:** Number of incidences of forced, [131] bonded [132] or compulsory labour **Requirement:** None **Applicability:** All	a. Contracts are clearly stated and understood by employees. Contracts do not lead to workers being indebted (i.e. no 'pay to work' schemes through labour contractors or training credit programs).	x				All employees are provided with a contracts of employment. Confirmed within employee interviews that employees received a copy of the contract of employment. All contracts have been signed by workers
		b. Employees are free to leave workplace and manage their own time.	x				Through worker interviews and documentation checks it was confirmed that all working hours are conducted on a voluntary basis.
		c. Employer does not withhold employee's original identity documents.	x				The facility does not withhold employee's original identity documents.

		d. Employer does not withhold any part of workers' salaries, benefits, property or documents in order to oblige them to continue working for employer.	x				The facility does not withhold any part of workers' salaries, benefits, property or documents in order to oblige them to continue working for employer.
		e. Employees are not to be obligated to stay in job to repay debt.	x				Employer does not withhold any part of workers' salaries, benefits, property or documents in order to oblige them to continue working for employer. This was confirmed within employee interviews.
		f. Maintain payroll records and be advised that workers will be interviewed to confirm the above.	x				No employees are repaying debt. Confirmed in worker interviews.
Footnote	[131] 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	[132] 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 [133]							
		Compliance Criteria	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
Footnote	[133] 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 [134] and proactive anti-discrimination policies, procedures and practices **Requirement:** Yes **Applicability:** All	a. Employer has written anti-discrimination policy in place, 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.	x				Stated in Marine Harvest Canada Code of conduct section 5.2 & 6.1. The anti-discrimination policy that is in place, states 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.
		b. Employer has clear and transparent company procedures that outline how to raise, file, and respond to discrimination complaints.	x				Discrimination complaints are dealt with through the grievance procedures. Grievance procedures are communicated to all workers and with the HR Policy.
		c. Employer respects the principle of equal pay for equal work and equal access to job opportunities, promotions and raises.	x				Confirmed through overall documentation review.

		d. All managers and supervisors receive training on diversity and non-discrimination. All personnel receive non-discrimination training. Internal or external training acceptable if proven effective.	x				All mangers have been trained in equality and diversity. This is part of the code of conduct training and recorded on their own training programme called DATS.
Footnote	[134] 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	a. Employer maintains a record of all discrimination complaints. These records do not show evidence for discrimination.	x				Facility has a process to record of all discrimination complaints. To date there has not been any complaints. There is no evidence of discrimination.
		b. Be advised that worker testimonies will be used to confirm that the company does not interfere with the rights of personnel to observe tenets or practices, or to meet needs related to race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation or any other condition that may give rise to discrimination.	x				Workers 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.
Criterion 6.5 Work environment health and safety							
		Compliance Criteria	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
6.5.1	**Indicator:** Percentage of workers trained in health and safety practices, procedures [135] and policies on a yearly basis **Requirement:** 100% **Applicability:** All	a. Employer has documented practices, procedures (including emergency response procedures) and policies to protect employees from workplace hazards and to minimize risk of accident or injury. The information shall be available to employees.	x				The facility has established goof procedures and policies to protect employees. No unsafe hazards were noted during the tour. The farm has introduce clearly defined processes to ensure safety is the first priority.
		b. Employees know and understand emergency response procedures.	x				Employees have been trained for emergency response procedures. The training has been recorded and displayed on the employee notice boards.
		c. Employer conducts health and safety training for all employees on a regular basis (once a year and immediately for all new employees), including training on potential hazards and risk minimization, Occupational Safety and Health (OSH) and effective use of PPE.	x				Health and safety training is carried by an external company every year. Other Health and Safety training is provided and recorded on the Marine Harvest Canada DATS database.
Footnote	[135] Health and safety training shall include emergency response procedures and practices.						
6.5.2	**Indicator:** Evidence that workers use Personal Protective Equipment (PPE)	a. Employer maintains a list of all health and safety hazards (e.g. chemicals).	x				Full list is available with the health and safety standards documentation and is also held on the desk top of all computers which are in the farm administration office.

	effectively **Requirement:** Yes **Applicability:** All	b. Employer provides workers with PPE that is appropriate to known health and safety hazards.	x				All workers are provided with the appropriate PPE.
		c. Employees receive annual training in the proper use of PPE (see 6.5.1c). For workers who participated in the initial training(s) previously an annual refreshment training may suffice, unless new PPE has been put to use.	x				All employees are trained in the correct use of PPE. The PPE training is provided and recorded on the Marine Harvest Canada DATS systems. Also noted that PPE was discussed in a companywide health and safety presentation.
		d. Be advised that workers will be interviewed to confirm the above.	x				Worker confirmed within interview process.
6.5.3	**Indicator:** Presence of a health and safety risk assessment and evidence of preventive actions taken **Requirement:** Yes **Applicability:** All	a. Employer makes regular assessments of hazards and risks in the workplace. Risk assessments are reviewed and updated at least annually (see also 6.5.1a).	x				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.
		b. Employees are trained in how to identify and prevent known hazards and risks (see also 6.5.1c).	x				Risk assessments are used to identify the risk and employees are trained against the risk assessments. All of the task are also documented within the online training systems. Each workers progress on the training can be seen on the DATS database systems.
		c. Health and safety procedures are adapted based on results from risk assessments (above) and changes are implemented to help prevent accidents.	x				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.
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	a. Employer records all health- and safety-related accidents.	x				Facility records all health- and safety-related accidents. Accidents are investigated by the Health and Safety manager. Monitoring systems have been implemented to review year on year results.
		b. Employer maintains complete documentation for all occupational health and safety violations and investigations.	x				Facility has systems to maintain documentation for all occupational health and safety violations and investigations.
		c. Employer implements corrective action plans in response to any accidents that occur. Plans are documented and they include an analysis of root cause, actions to address root cause, actions to remediate, and actions to prevent future accidents of similar nature.	x				See 6.5.4 a

		d. Employees working in departments where accidents have occurred can explain what analysis has been done and what steps were taken or improvements made.	x				Employees stated within the interview process that accidents were investigated and steps were taken and improvements made if required.
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	a. Employer maintains documentation to confirm that all personnel are provided sufficient insurance to cover costs related to occupational accidents or injuries (if not covered under national law). Equal insurance coverage must include temporary, migrant or foreign workers. Written contract of employer responsibility to cover accident costs is acceptable evidence in place of insurance.	x				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.
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.					
		a. Employer keeps records of farm diving operations and a list of all personnel involved. In case an external service provider was hired, a statement that provider conformed to all relevant criteria must be made available to the auditor by this provider.	x				Employer keeps records of farm diving operation. All external divers are given full details on the operations that are required.
		b. Employer maintains evidence of diver certification (e.g. copies of certificates) for each person involved in diving operations. Divers shall be certified through an accredited national or international organization for diver certification.	x				All diving certification was provided. All divers have the required accreditations. Yearly checks are certification is made by Marine Harvest Canada.
Criterion 6.6 Wages							
		Compliance Criteria	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
6.6.1	**Indicator:** The percentage of workers whose basic wage [136] (before overtime and	a. Employer keeps documents to show the legal minimum wage in the country of operation. If there is no legal minimum wage in the country, the employer keeps documents to show the industry-standard minimum wage.	x				Wages are recorded on an electronic accounting system and verified. All wages paid are in line or above minimum wage requirements.

	bonuses) is below the minimum wage [137] **Requirement:** 0 (None) **Applicability:** All	b. Employer's records (e.g. payroll) confirm that worker's wages for a standard work week (≤ 48 hours) always meet or exceed the legal minimum wage. If there is no legal minimum wage, the employer's records must show how the current wage meets or exceeds industry standard. If wages are based on piece-rate or pay-per-production, the employer's records must show how workers can reasonably attain (within regular working hours) wages that meet or exceed the legal minimum wage.	x				See 6.6.1 a
		c. Maintain documentary evidence (e.g. payroll, timesheets, punch cards, production records, and/or utility records) and be advised that workers will be interviewed to confirm the above.	x				See 6.6.1 a
Footnote	[136] Basic wage: The wages paid for a standard working week (no more than 48 hours).						
Footnote	[137] 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 [138] **Requirement:** Yes **Applicability:** All	a. Proof of employer engagement with workers and their representative organizations, and the use of cost of living assessments from credible sources to assess basic needs wages. Includes review of any national basic needs wage recommendations from credible sources such as national universities or government.	x				MHC use Hays group to assist with setting pay levels and carry out here 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 $17.00.
		b. Employer has calculated the basic needs wage for farm workers and has compared it to the basic (i.e. current) wage for their farm workers.	x				See 6.6.2 a
		c. Employer demonstrates how they have taken steps toward paying a basic needs wage to their workers.	x				See 6.6.2 a
Footnote	[138] 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 [139] **Requirement:** Yes	a. Wages and benefits are clearly articulated to workers and documented in contracts.	x				Wages and benefits are document prior to the point of employment. Wages have also been detailed in the Company Policy which all staff have access to.
		b. The method for setting wages is clearly stated and understood by workers.	x				See 6.6.3 a

	Applicability: All	c. Employer renders wages and benefits in a way that is convenient for the worker (e.g. cash, check, or electronic payment methods). Workers do not have to travel to collect benefits nor do they receive promissory notes, coupons or merchandise in lieu of payment.	x				Worker are paid monthly by electronic bank transfer.
		d. Be advised that workers will be interviewed to confirm the above.	x				Workers confirmed within interview process that information was available and electronic transfer payments are made.
Footnote	[139] Payments shall be rendered to workers in a convenient manner.						
Criterion 6.7 Contracts (labour) including subcontracting							
		Compliance Criteria	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
6.7.1	**Indicator:** Percentage of workers who have contracts [141] **Requirement:** 100% **Applicability:** All	a. Employer maintains a record of all employment contracts.	x				All employees are provided with a contract of employment and a copy of the contract was available on the personnel files. The personnel file is electronic and is well maintained.
		b. There is no evidence for labour-only contracting relationships or false apprenticeship schemes.	x				There was no evidence of Labor only contracts.
		c. Be advised that workers will be interviewed to confirm the above.	x				This was confirmed by Worker interviews.
Footnote	[141] 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	a. Farm has a policy to ensure that all companies contracted to provide supplies or services (e.g. divers, cleaning, maintenance) have socially responsible practices and policies.	x				The Code of Conduct states within clauses 1.2 that Contractors must comply with the Code of Conduct, which has includes all social responsible practices and policies.
		b. Producing company has criteria for evaluating its suppliers and contractors. The company keeps a list of approved suppliers and contractors.	x				There is supplier/contract approval process which is used to compile an approved list of suppliers/contractors. Risk, performance are included as part of the process.

	Applicability: All	c. Producing company keeps records of communications with suppliers and subcontractors that relate to compliance with 6.7.2.	x				There are records of communications with contractors.
Criterion 6.8 Conflict resolution							
		Compliance Criteria	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
6.8.1	**Indicator:** Evidence of worker access to effective, fair and confidential grievance procedures **Requirement:** Yes **Applicability:** All	a. Employer has a clear labour conflict resolution policy for the presentation, treatment, and resolution of worker grievances in a confidential manner.	x				There is a complaint procedure detailed in the HR Policy which explains the reporting procedure including bullying and harassment and confidentiality policy.
		b. Workers are familiar with the company's labour conflict policies and procedures. There is evidence that workers have fair access.	x				All employees have access to policies through the intranet. This was confirmed through employee interviews.
		c. Maintain documentary evidence (e.g. complaint or grievance filings, minutes from review meetings) and be advised that workers will be interviewed to confirm the above.	x				Written warnings are held on file.
6.8.2	**Indicator:** Percentage of grievances handled that are addressed [142] within a 90-day timeframe **Requirement:** 100% **Applicability:** All	a. Employer maintains a record of all grievances, complaints and labour conflicts that are raised.	x				A record of grievances is held by the HR director.
		b. Employer keeps a record of follow-up (i.e. corrective actions) and timeframe in which grievances are addressed.	x				As stated above.
		c. Maintain documentary evidence and be advised that workers will be interviewed to confirm that grievances are addressed within a 90-day timeframe.	x				None of the workers interviewed had any grievances so unable to confirm. As stated above company policy is to respond to each stage of the process in 14 days.
Footnote	[142] Addressed: Acknowledged and received, moving through the company's process for grievances, corrective action taken when necessary.						
Criterion 6.9 Disciplinary practices							
		Compliance criteria	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
6.9.1	**Indicator:** Incidences of excessive or abusive disciplinary actions **Requirement:** None **Applicability:** All	a. Employer does not use threatening, humiliating or punishing disciplinary practices that negatively impact a worker's physical and mental health or dignity.	x				Facility does not use threatening, humiliating or punishing disciplinary practices that negatively impact a worker's physical and mental health or dignity.
		b. Allegations of corporeal punishment, mental abuse [144], physical coercion, or verbal abuse will be investigated by auditors.	x				No evidence or allegations during the audit.

		c. Be advised that workers will be interviewed to confirm there is no evidence for excessive or abusive disciplinary actions.	x				Workers interviews confirmed no issues with excessive or abusive actions.
Footnote	[144] 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 [143] **Requirement:** Yes **Applicability:** All	a. Employer has written policy for disciplinary action which explicitly states that its aim is to improve the worker [143].	x				The company has written policy disciplinary action but that "explicitly" states to improve the worker. The company does have performance management policy so this should be noted alongside the disciplinary policy.
		b. Maintain documentary evidence (e.g. worker evaluation reports) and be advised that workers will be interviewed to confirm that the disciplinary action policy is fair and effective.	x				None of the workers had been involved with a disciplinary procedure but confirmed workers are regularly evaluated and reviewed.
Footnote	[143] 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	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
6.10.1	**Indicator:** Incidences, violations or abuse of working hours and overtime laws [145] **Requirement:** None **Applicability:** All	Note: Working hours, night work and rest periods for workers in agriculture should be in accordance with national laws and regulations or collective agreements (e.g. The Safety and Health in Agriculture Convention, 2001). Additional information can be found on the website of the International Labour Organization (www.ilo.org).					
		a. Employer has documentation showing the legal requirements for working hours and overtime in the region where the farm operates. If local legislation allows workers to exceed internationally accepted recommendations (48 regular hours, 12 hours overtime) then requirements of the international standards apply.	x				Company holds document for Employment Standards Act for BC for working regulations.
		b. Records (e.g. time sheets and payroll) show that farm workers do not exceed the number of working hours allowed under the law.	x				Records on Time Solutions system show that workers are not exceeding working hours allowed.
		c. If an employer requires employees to work shifts at the farm (e.g. 10 days on and six days off), the employer compensates workers with an equivalent time off in the calendar month and there is evidence that employees have agreed to this schedule (e.g. in the hiring contract).	x				8 days on 6 days off. The working shift is 10 hour days. All staff live on site and have agreed to this schedule.

		d. Be advised that workers will be interviewed to confirm there is no abuse of working hours and overtime laws.	x				Workers confirmed that there is no abuse of working hours or overtime laws.
Footnote	[145] 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 [146], paid at a premium rate and restricted to exceptional circumstances **Requirement:** Yes **Applicability:** All except as noted in [146]	a. Payment records (e.g. payslips) show that workers are paid a premium rate for overtime hours.	x				Workers are paid premium rate for overtime hours they are paid 150% for the first 2 hours and 200% for any hours worked after that.
		b. Overtime is limited and occurs in exceptional circumstances as evidenced by farm records (e.g. production records, time sheets, and other records of working hours).	x				Dayforce by Ceridian HCM confirmed that overtime is infrequent.
		c. Be advised that workers will be interviewed to confirm that all overtime is voluntary except where there is a collective bargaining agreement which specifically allows for compulsory overtime.	x				Workers confirmed that overtime is rare and is voluntary.
Footnote	[146] Compulsory overtime is permitted if previously agreed to under a collective bargaining agreement.						
Footnote	[147] 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	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
6.11.1	**Indicator:** Evidence that the company encourages and sometimes supports education initiatives for all workers (e.g., courses, certificates and degrees) **Requirement:** Yes **Applicability:** All	a. Company has written policies related to continuing education of workers. Company provides incentives (e.g. subsidies for tuition or textbooks, time off prior to exams, flexibility in work schedule) that encourage workers to participate in educational initiatives. Note that such offers may be contingent on workers committing to stay with the company for a pre-arranged time.	x				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 bad education assistance programs.
		b. Employer maintains records of worker participation in educational opportunities as evidenced by course documentation (e.g. list of courses, curricula, certificates, degrees).	x				All training records are maintained on the DATS system.
		c. Be advised that workers will be interviewed to confirm that educational initiatives are encouraged and supported by the company.	x				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.
Criterion 6.12 Corporate policies for social responsibility							

		Compliance criteria	Conforms	Major	Minor	N/A	Comments
6.12.1	**Indicator:** Demonstration of company-level [148] policies in line with the standards under 6.1 to 6.11 above **Requirement:** Yes **Applicability:** All	a. Company-level policies are in line with all social and labour requirements presented in 6.1 through 6.11.	x				The Code of Conduct Policy and also the HR Policy are in line with all social and labor requirements.
		b. Company-level policies (see 6.12.1a) are approved by the company headquarters in the region where the site applying for certification is located.	x				Corporate policy is approved by the Senior Management Team in Campbell River.
		c. The scope of corporate policies (see 6.12.1a) covers all company operations relating to salmonid production in the region (i.e. all smolt production facilities, grow-out facilities and processing plants).	x				The scope of all corporate policies cover all company operations.
		d. The site that is applying for certification provides auditors with access to all company-level policies and procedures as are needed to verify compliance with 6.12.1a (above).	x				All documentation was provided.
Footnote	[148] 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	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
7.1.1	**Indicator:** Evidence of regular and meaningful [149] consultation and engagement with community representatives and organizations **Requirement:** Yes **Applicability:** All	a. The farm pro-actively arranges for consultations with the local community at least twice every year (bi-annually).	x				There is a community engagement letter it is an invitation sent to 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.
		b. Consultations are meaningful. OPTIONAL: the farm may choose to use participatory Social Impact Assessment (pSIA) or an equivalent method for consultations.	x				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.
		c. Consultations include participation by representatives from the local community who were asked to contribute to the agenda.	x				See 7.1.1b

		d. Consultations include communication about, or discussion of, the potential health risks of therapeutic treatments (see Indicator 7.1.3).	x				See 7.1.1b
		e. Maintain records and documentary evidence (e.g. meeting agenda, minutes, report) to demonstrate that consultations comply with the above.	x				The community engagement letter states the agenda. Notes are taken during the meeting and follow up emails are sent out to stakeholders.
		f. Be advised that representatives from the local community and organizations may be interviewed to confirm the above.	x				MHC were aware only one response has been received from the local community but no other details have been provided.
Footnote	[149] 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 [150] policy and mechanism for the presentation, treatment and resolution of complaints by community stakeholders and organizations **Requirement:** Yes **Applicability:** All	a. Farm policy provides a mechanism for presentation, treatment and resolution of complaints lodged by stakeholders, community members, and organizations.	x				MHC have a policy Doc#5/FW905 External Complaint resolution.
		b. The farm follows its policy for handling stakeholder complaints as evidenced by farm documentation (e.g. follow-up communications with stakeholders, reports to stakeholder describing corrective actions).	x				All external complaints are logged by Public Affairs Director Ian Roberts. Log details whom raised the compliant and what it is and then details what is carried out until closed off.
		c. The farm's mechanism for handling complaints is effective based on resolution of stakeholder complaints (e.g. follow-up correspondence from stakeholders).	x				The company policy is all complaints are passed to the communications manager and then forwarded to senior management should it be required.
		d. Be advised that representatives from the local community, including complainants where applicable, may be interviewed to confirm the above.	x				see 7.1.1f
Footnote	[150] 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 [151] at the farm during times of therapeutic treatments and has, as part of consultation	a. Farm has a system for posting notifications at the farm during periods of therapeutic treatment. (use of anaesthetic baths is not regarded a therapeutant)	x				Notices are posted on the site if Therapeutic Treatments are being carried out. Last notice to be posted was in 20th April 2015 for an EB treatment. Photographic evidence was provided.
		b. Notices (above) are posted where they will be visible to affected stakeholders (e.g. posted on waterways for fishermen who pass by the farm).	x				Notices are posted on the side of cages so there can be seen by anyone entering the site.

	with communities under 7.1.1, communicated about potential health risks from treatments **Requirement:** Yes **Applicability:** All	c. Farm communicates about the potential health risks from treatments during community consultations (see 7.1.1)	x				This has been communicated in the engagement letter as detailed 7.1.1b
		d. Be advised that members of the local community may be interviewed to confirm the above.	x				see 7.1.1f
Footnote	[151] 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	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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	a. Documentary evidence establishes that the farm does or does not operate in an indigenous territory (to include farms that operate in proximity to indigenous or aboriginal people [152]). If not then the requirements of 7.2.1 do not apply.	x				MHC are operating in some indigenous territories and have several agreements (IBA) in place with FN.
		b. Farm management demonstrates an understanding of relevant local and/or national laws and regulations that pertain to consultations with indigenous groups.	x				The agreements demonstrate that MHC are aware of Local/national laws and regulations for each FN.

	Applicability: All farms that operate in indigenous territories or in proximity to indigenous or aboriginal people [152]	c. As required by law in the jurisdiction: - farm consults with indigenous groups and retains documentary evidence (e.g. meeting minutes, summaries) to show how the process complies with 7.2.1b; OR - farm confirms that government-to-government consultation occurred and obtains documentary evidence.	x				There is a spreadsheet detailing agreements with each FN. There is also a log sheet that records all meetings/calls and communication.
		d. Be advised that representatives from indigenous groups may be interviewed to confirm the above.	x				FN indigenous group was represented on the tour of the farm. Interviews were held but no negative feedback was provided.
7.2.2	**Indicator:** Evidence that the farm has undertaken proactive consultation with indigenous communities **Requirement:** Yes [152] **Applicability:** All farms that operate in indigenous territories or in proximity to indigenous or aboriginal people [152]	a. See results of 7.2.1a (above) to determine whether the requirements of 7.2.2 apply to the farm.	x				As detailed in 7.2.1
		b. Be advised that representatives from indigenous communities may be interviewed to confirm that the farm has undertaken proactive consultations.	x				see 7.2.1d
Footnote	[152] 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 [153] to establish a protocol agreement, with indigenous communities **Requirement:** Yes **Applicability:** All farms that operate in	a. See results of 7.2.1a (above) to determine whether the requirements of 7.2.3 apply to the farm.	x				As detailed in 7.2.1
		b. Maintain evidence to show that the farm has either: 1) reached a protocol agreement with the indigenous community and this fact is documented; or 2) continued engagement in an active process [153] to reach a protocol agreement with the indigenous community.	x				There are agreements in place as detailed in 7.2.1a and continuous engagements as detailed 7.2.1c

	indigenous territories or in proximity to indigenous or aboriginal people [152]	c. Be advised that representatives from indigenous communities may be interviewed to confirm either 7.2.3b1 or b2 (above) as applicable.	x				see 7.2.1d
Footnote	[153] 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	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
7.3.1	**Indicator:** Changes undertaken restricting access to vital community resources [154] without community approval **Requirement:** None **Applicability:** All	a. Resources that are vital [155] to the community have been documented and are known by the farm (i.e. through the assessment process required under Indicator 7.3.2).	x				As detailed in CEAA screening report MHC do not have exclusive use of the location the farms are located in.
		b. The farm seeks and obtains community approval before undertaking changes that restrict access to vital community resources. Approvals are documented.	x				There is no restriction of access and report notes has no issues with the use of the location.
		c. Be advised that representatives from the community may be interviewed to confirm that the farm has not restricted access to vital resources without prior community approval.	x				see 7.2.1d
Footnote	[154] 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	a. There is a documented assessment of the farm's impact upon access to resources. Can be completed as part of community consultations under 7.1.1.	x				The CEAA report for the site includes consultation with FN, local community and government. It is noted in the report that FN have no issues with license application.
		b. Be advised that representatives from the community may be interviewed to generally corroborate the accuracy of conclusions presented in 7.3.2a.	x				see 7.2.1d

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).								
Footnote	[155] 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):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
8.1	**Indicator**: Compliance with local and national regulations on water use and discharge, specifically providing permits related to water quality **Requirement:** Yes **Applicability:** All Smolt Producers	a. Identify all of the farm's smolt suppliers. For each supplier, identify the type of smolt production system used (e.g. open, semi or closed systems) and submit this information to ASC (Appendix VI).	A. Review the farm's list of smolt suppliers. Confirm that the client submitted to ASC information on the type of production system used by smolt suppliers (Appendix VI).	**x**				The one hatchery concerned at this site is Dalrymple. It's a full re-circ hatchery.
		b. Where legal authorisation related to water quality are required, obtain copies of smolt suppliers' permits.	B. Verify that client obtains copies of legal authorisation from smolt suppliers (if applicable).	**x**				The federal aquaculture permit is dated from June 2015 to June 2024.Licence number AQFW 112571 2015. Provincial licence number is PR083 valid until 30/6/17. Waste permit number PE07802.
		c. Obtain records from smolt suppliers showing monitoring and compliance with discharge laws, regulations, and permit requirements as required.	C. Verify that farm obtains records from smolt suppliers to show compliance with discharge laws, regulations, and permit requirements.	**x**				Monthly monitoring takes place for the water parameters. Results submitted monthly to ministry of Environment. Samples are taken and analysed by Maxim.
		-	D. Verify that farm keeps records to show how smolt suppliers comply with regulations on discharge and applicable permitting requirements related to water quality.	**x**				Records date back to 2009. The hatchery is owned by MHC. There are letters on file from the ministry of environment stating that there has been no enforcement on breaches as MHC have a good record exercising due diligence.

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.	A. Verify farm obtains declaration from smolt suppliers.				**x**	The hatchery is owned by Marine Harvest Canada and therefore these metrics are covered under principle 6 and 7.
		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)	B. Verify that farm obtains inspection records from suppliers (as applicable).				**x**	The hatchery is owned by Marine Harvest Canada and therefore these metrics are covered under principle 6 and 7.
Standards related to Principle 2								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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.	A. Review the assessment to confirm that it complies with all components outlined in Appendix I-3.	**x**				Biodiversity impact assessment for the hatchery was drawn up in November 2014.
		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.	B. Review declaration.	**x**				There are a series of recommendations at the end of the report mainly to do with the effluent discharge and its affect. Work is ongoing and the farm is being turned into 100% re-circulation.

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:** 5 kg/mt of fish produced over a 12-month period; within three years of publication of the SAD standards, 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 5 kg/mt for the first three years from date of publication of the ASC Salmon Standard (i.e. from June 13, 2012 until June 12, 2015), dropping to 4 kg/mt thereafter. 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 of 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.	A. Verify that farm has records for feeds used by smolt suppliers over the relevant time period.	**x**				Skretting declare that the P in feed is 1.6 to 1.7 in Nutra XP and 1.4 in Nutra RC.
		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).	B. Verify that farm has records showing that smolt supplier determined phosphorus content in feeds.	**x**				5.33 tons pf P in feed.
		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.	C. Confirm that calculations are done according to Appendix VIII-1.	**x**				Total biomass for the 2014 year class was 519.15 tons
		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.	D. Verify that farm obtained from the smolt supplier all records needed to calculate the amount of biomass produced during the past 12 months.	**x**				2.23 tons of P in fish.

		e. Calculate the amount of phosphorus in fish biomass produced (result from 8.4d) using the formula in Appendix VIII-1.	E. Confirm that calculations are done according to Appendix VIII-1.	x				Total P removed in sludge was 11.08 tons. Sludge removed by Able and ready. Receipt 5/12/14 invoice number 15114.
		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.	F. As applicable, verify farm has records showing that smolt supplier determined the amount of phosphorus removed from the system as sludge.	x				The figure was -0.02 tons.
		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.	G. Review calculations to confirm that the farm's smolt supplier(s) do not exceed requirements for release of phosphorus.	x				Skretting declare that the P in feed is 1.6 to 1.7 in Nutra XP and 1.4 in Nutra RC.
Standards related to Principle 3								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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 [156] of the SAD standards **Requirement:** Yes [157] **Applicability:** All Smolt Producers except as noted in [157]	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.	A. Verify that the farm has evidence that their smolt suppliers do not produce non-native species. If the farm can show that smolt suppliers produce only native species, then Indicator 8.5 does not apply.				x	Non-native Atlantic salmon are farmed.
		b. Provide the farm with documentary evidence that the non-native species was widely commercially produced in the area before publication of the SAD Standard. (See definition of area under 3.2.1).	B. If applicable, verify the farm has evidence from smolt suppliers confirming when the non-native species was first brought into wide commercial production in the area where production is occurring now.	x				DFO website shows that introductions occurred in 1985 from Scotland.
		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.	C. Review evidence to confirm that smolt suppliers use only 100% sterile fish.				x	Evidence provided in the form of the information on the DFO website showing egg importations. First listed as 1985 from Scotland.

		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.	D. Review evidence that the farm's smolt suppliers comply with each point raised in 8.5d.				**x**	Evidence provided.
		e. Retain evidence as described in 8.5a-d necessary to show compliance of each facility supplying smolt to the farm.	E. Verify that farm retains evidence of compliance by all smolt suppliers.				**x**	Atlantic salmon are farmed.
Footnote	[156] Publication: Refers to the date when the final standards and accompanying guidelines are completed and made publicly available. This definition of publication applies throughout this document.							
Footnote	[157] 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 [158] in the most recent production cycle **Requirement:** 300 fish [159] **Applicability:** All Smolt Producers except as noted in [159]	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.	A. Review the farm's records for escape monitoring by the smolt supplier to confirm completeness and accuracy of information.	**x**				There are no escapes reported. The system is a full re-cirq with grids and screens in place. The hatchery is land based and a full re-cirq system.
		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.	B. Review the farm's calculation and confirm that the smolt supplier complied with the requirement.	**x**				There have been no escapes reported.

		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 [159]).	C. Confirm that the farm informs their smolt suppliers that they must maintain records for escape monitoring for > 10 years.	x				The suppliers are all Marine Harvest Canada facilities. All monitoring records are submitted to DFO who keep them indefinitely and are available on their website.
		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 [159]. 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.	D. Review the farm's request for a rare exception to the Standard for an escape event at the smolt production site. Confirm no prior exceptional events were documented during the previous 10 years, or since the date of the start of the production cycle during which the farm first applied for certification. An example of an exceptional event is vandalisation of the farm. Events that are not considered exceptional include failures in moorings due to bad weather and boat traffic incidents due to poor marking of the smolt production facility.				x	There have been no reported escapes from any of the hatcheries. They all have reporting conditions with their PAR licences the same as the marine sites.
Footnote	[158] Farms shall report all escapes; the total aggregated number of escapees per production cycle must be less than 300 fish.							
Footnote	[159] 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 [160] 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.	A. Confirm that the farm keeps records of counting accuracy for the counting technology or method used on site at stocking and harvest.	x				Vaki automatic counters are used with a reported accuracy of +/- 2%. The smolts are counted 3 times at vaccination, Loading for transfer and then by the well boat into the pens. There is a new Smolt inventory control SOP for hatchery sites Document FW269.

	Applicability: All Smolt Producers	B. Review records to verify that accuracy of the smolt supplier's counting technology or counting method is ≥ 98%.	B. Verify that farm has records showing that the accuracy of the smolt supplier's counting technology or counting method is ≥ 98%.	**x**				There is a document for the 2014 year class for smolt stocking numbers from all hatcheries to all seas sites. The total number on the book in the hatcheries was 8918477 and the stock number into the sites following well boat count was 8891252. A difference of 27225 fish. This is <1%.
Footnote	[160] 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):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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.	A. Confirm that the farm has relevant policies on file from each smolt supplier and review those policies to verify the farm's suppliers are in compliance with the requirement.	**x**				The hatcheries are part of Marine Harvest Canada. The feed bags, pallets and plastic are all sent back to the feed company. There is a waste management plan in place for MHC. The policy also covers the sea. S/FW963. There is a declaration on Environmental and biodiversity policy dated 7th May 2015 and signed by the Managing director of MHC stating that there is commitment to environmental certification programs such as ASC.
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	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.	A. Verify that the farm obtains records for energy consumption from smolt suppliers.	**x**				All records of fuel and electricity use is recorded for each of the facilities. These records make up part of the reporting into MH on global use of energy.
		b. Confirm that the smolt supplier calculates total energy consumption in kilojoules (kj) during the last year.	B. Verify that the farm has reviewed the supplier's calculations for completeness and accuracy.	**x**				11,172,357,208 Ki.
		c. Obtain records to show the smolt supplier calculated the total weight of fish in metric tons (mt) produced during the last year.	C. Verify that the farm has supplier records for total weight of fish produced during the last year.	**x**				For all MHC sites FW or SW feed use and fish growth is recorded on the Aqua farmer centralised database management system.

	Applicability: All Smolt Producers	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.	D. Verify that the farm has records to show that the smolt supplier's calculations are complete and accurate.	**x**				TheKJ/MT=21,520,616
		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.	E. Verify that the farm has evidence that its smolt supplier(s) has undergone an energy use assessment verifying the supplier's energy consumption.	**x**				Energy use assessment is conducted companywide for MHC.
8.10	**Indicator**: Records of greenhouse gas (GHG [161]) emissions [162] 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.	A. Verify that the farm obtains records of GHG emissions from smolt suppliers.	**x**				GHG's are recorded for each of the facilities.
		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.	B. Verify that the farm confirms that calculations by smolt suppliers are done annually and in compliance with Appendix V-1.	**x**				1244120 CO2 Equivalents.
		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.	C. Verify that the farm has records from smolt suppliers for all emissions factors used and their sources.	**x**				All emission factors are available.
		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.	D. Verify that the farm has records from smolt suppliers for all GWPs used and their sources.	**x**				The formula came from Marine Harvests Scottish office and the source came from the Scottish Department of energy and climate change within DEFRA.

		e. Obtain evidence to show that the smolt supplier has undergone a GHG assessment in compliance with requirements Appendix V-1 at least annually.	E. Verify that the farm has evidence that smolt suppliers undergo a GHG assessment annually and that the methods used are in compliance with requirements of Appendix V-1.	**x**				Annual assessment and method was reviewed.
Footnote	[161] 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	[162] 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):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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.	A. Verify that the farm obtains copies of fish health management plans from smolt suppliers.	**x**				The fish health management plan is the same as the FHMP used on the seawater sites for MHC.
		b. Keep documentary evidence to show that the smolt supplier's health plans were approved by the supplier's designated veterinarian.	B. Verify that farm has evidence that supplier's fish health management plan was approved by designated veterinarian.	**x**				The vetinarian Diane Morrison covers all the MHC operations.
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 [163] **Requirement:** 100%	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.	A. Review list and the supporting analysis.	**x**				The list of diseases are available in the Fish health management plan.
		b. Maintain a list of diseases for which effective vaccines exist for the region, developed by the farm veterinarian and supported by scientific evidence.	B. Review list and the supporting analysis.	**x**				Vaccinating of viruses are not compulsory in Canada but the 3 companies in the BC area have agreed to vaccinate as part of the regional management plan.

	Applicability: All Smolt Producers	c. Obtain from the smolt supplier(s) a declaration detailing the vaccines the fish received.	C. Verify client has the list from the smolt supplier(s).	**x**				All fish are vaccinated with 2 injections with 3 vaccines. All smolts at this site were vaccinated against IHN, Furunculosis, BKD and Vibrio. The vaccine used is APEX-IHN, Rennogin and Forte micro.
		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.	D. Cross-check lists to verify that all required vaccines were received by all batches of smolt received by the farm during the current production cycle.	**x**				As all FW and SW sites belong to MHC all information is found on the Aqua farmer system.
Footnote	[163] 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 [164] 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 <u>to the smolt supplier</u> 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.	A. Review list. If auditor has questions about the list, request and review supporting analysis.	**x**				There is a fish health inspection report dated 24/8/14 and are tested for diseases such as VHS, BKD, IPN, ISA and bacterial diseases.

		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).	B. Verify records show that each smolt group was tested prior to entering the water at the farm (the grow-out site).	**x**				As the fish are moving from zone 3 to zone 2 the lab accession number was M14082605. Carried out by Kennebec River bio sciences.
Footnote	[164] 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.	A. Review records of chemical and therapeutant use for completeness and confirm the records were signed by a qualified veterinarian.	**x**				There has been no use of antibiotics in the hatcheries. Incoming water is disinfected with Ozone. All other chemical or therapeutant use is recorded on Aqua farmer for example MS222 used for anesthetizing fish. Formalin used to treat Fungus.
8.15	**Indicator**: Allowance for use of therapeutic treatments that include antibiotics or chemicals that are banned [165] in any of the primary salmon producing or	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	A. Verify list has been provided and is consistent with the list in 5.2.2a.	**x**				A full list is available.

	importing countries [166] **Requirement:** Yes **Applicability:** All Smolt Producers	importing countries listed in [166].						
		b. Inform smolt supplier that the treatments on the list cannot be used on fish sold to a farm with ASC certification.	B. Verify that the farm informed the smolt supplier.				**x**	The smolt supplier are also MHC facilities.
		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.	C. Review farm's comparison to verify accuracy.	**x**				Full records can be found on the Aqua farmer database.
Footnote	[165] "Banned" means proactively prohibited by a government entity because of concerns around the substance.							
Footnote	[166] 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).	A. Verify farm obtains treatment records from smolt supplier (See also 8.14A).	**x**				There have been no treatments in the freshwater units.
		b. Calculate the total number of treatments of antibiotics from their most recent production cycle.	B. Confirm that the smolt supplier used ≤ 3 treatments of antibiotics over the most recent production cycle.	**x**				There have been no treatments in the freshwater units.
8.17	**Indicator**: Allowance for use of antibiotics listed as critically important for human medicine by the WHO [167] **Requirement:** None [168]	a. Provide to smolt supplier(s) a current version of the WHO list of antimicrobials critically and highly important for human health [167].	A. Confirm that the farm provided smolt supplier with the current copy of the WHO list of antibiotics.	**x**				There have been no treatments in the freshwater units.
		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.	B. Verify that the farm informed the smolt supplier.	**x**				There have been no treatments in the freshwater units.

	Applicability: All Smolt Producers	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.	C. Review farm's comparison to verify accuracy.	**x**				There have been no treatments in the freshwater units.
Footnote	[167] 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	[168] 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 [169] with the OIE Aquatic Animal Health Code [170] **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).	A. Verify that farm has provided the smolt supplier with copies of (or access to) the OIE Aquatic Animal Health Code.	**x**				MHC own the hatcheries. MHC apply the national aquatic animal health plan and its available on the CFIA webpage at www.inspection.gc.ca
		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.	B. Confirm that the farm informed its smolt supplier(s) that any supplier to an ASC certified farm must show compliance with the OIE Aquatic Animal Health Code.				**x**	MHC are the smolt supplier.
		c. Obtain a declaration from the supplier stating their intent to comply with the OIE code and copies of the smolt supplier's policies and procedures that are relevant to demonstrate compliance with the OIE Aquatic Animal Health Code.	C. Review the smolt supplier's declaration and supporting policies and procedures to verify compliance with the OIE Aquatic Animal Health Code.				**x**	MHC are the smolt supplier.
Footnote	[169] 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	[170] 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):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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.	A. Verify that farm obtains copies of company-level policies and procedures from all of its smolt suppliers and a declaration of compliance.	**x**				The same polices apply as detailed in Principle 6 as it is the same company.
		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.	B. Review supplier documents provided by the farm to verify compliance of the smolt supplier's policies and procedures with labour requirements.	**x**				The same polices apply as detailed in Principle 6 as it is the same company.
Standards related to Principle 7								
		Compliance Criteria (Required Client Actions):	**Auditor Evaluation (Required CAB Actions):**	**Conforms**	**Major**	**Minor**	**N/A**	**Comments**
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.	A. Verify that farm obtains required information from each smolt supplier.	**x**				The same consultations as detailed in principle 7 (7.2.1a) as it is the same company and contact Ian Roberts Public Affairs Director.

		b. Review documentation from 8.20a to verify that the smolt supplier's consultations and community engagement complied with requirements.	B. Review evidence for compliance.	**x**				As detailed 8.20a
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.	A. Verify that farm obtains copies of supplier's complaints procedures from each of its smolt suppliers.	**x**				The same polices apply as detailed in Principle 7 as it is the same company.
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.	A. Review evidence to determine whether Indicator 8.22 is applicable to the farm's smolt supplier(s).	**x**				As detailed 8.20a
		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.	B. Verify that the smolt supplier complies with relevant requirements.	**x**				As detailed 8.20a

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.	A. Review evidence to determine whether Indicator 8.23 is applicable to the farm's smolt supplier(s).	**x**				As detailed in 7.2.1a & 8.20a
		b. Where relevant, obtain documentary evidence that smolt suppliers undertake proactive consultations with indigenous communities.	B. Review documentary evidence to confirm that the smolt supplier has undertaken proactive consultations.	**x**				As detailed in 7.2.1a & 8.20a
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.								

8.24	**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	**Scope of Exemption Allowed Under Indicator 8.24:** For the first audit, farms that were stocked prior to the publication of the standard on June 13, 2012 may request an exemption, applicable for that production cycle, to the requirement under 8.24. A farm that sourced smolt that were produced in an open system (net pen) in a water body with native salmonids may request this exemption if: 1. the farm was stocked prior to June 13, 2012; and 2. the farm demonstrates through supporting evidence (e.g. purchasing agreement) that they will source smolt from a semi-closed or closed production system for their next production cycle. If the CAB determines that the farm has fulfilled the above criteria, then an exemption may be granted and the farm may be awarded certification. However, no salmon products originating from a farm which utilizes this exemption shall be eligible to bear the ASC logo or otherwise claim to be an ASC-certified product until the farm can demonstrate that smolt were sourced in full compliance with Indicator 8.24. The CAB shall fully document the exemption in the audit report and explain how the farm has addressed any risks that may be associated with non-certified products entering into further certified chains of custody. Native: native to the area and with a history of naturally occurring and also if intentionally stocked for restorational purposes. Areas with a combination of wild native and enhanced native populations are included.						
		a. Obtain a declaration from the farm's smolt supplier stating whether the supplier operates in water bodies with native salmonids.	A. Verify that the farm obtains relevant declarations from its smolt supplier(s).	**x**				The cages 7 and 8 smolts originate from Georgie lake and they have been separate from input to the rest of the cages on Monday Rock. These 7 and 8 cage fish were reared in Lake cages and the company are aware that these fish are outside the ASC requirements. There has been no grading up to now nor will there be. The company wishes to allow the remaining cages to be certified while excluding 7+8 on this site . This is in line with a variance granted in Scotland for exactly the same reason. An appendix will further explain the decision in the final report.
		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.	B. Confirm that the farm obtains information on the water bodies in which its suppliers are operating net pens for smolt production.				**x**	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.

		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.	C. Review search results and cross-check against the other lines of evidence for salmonid distribution in the region (e.g. results from 3.1.5a).				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
8.25	**Indicator**: Allowance for producing or holding smolt in net pens in any water body **Requirement:** Permitted until five years from publication of the SAD standards (i.e full compliance by June 13, 2017) **Applicability:** All Smolt Producers Using Open Systems	a. Take steps to ensure that by June 13, 2017 the farm does not source smolt that was produced or held in net pens.	A. Prior to the effective date, confirm that the client understands the requirement of Indicator 8.25. After the effective date, confirm that the farm is in full compliance with the requirement.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
							x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
8.26	**Indicator**: Evidence that carrying capacity (assimilative capacity) of the freshwater body has been established by a reliable entity [171] within the past five years [172, 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	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.	A. Verify that the farm obtains copies of assimilative capacity assessments as are relevant to the water bodies in which its smolt supplier(s) operate.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		b. Identify which entity was responsible for conducting the assessment (8.26a) and obtain evidence for their reliability.	B. Verify that the assessment was done by a reliable entity (e.g. government body or academic institution).				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		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.	C. Verify that the assessment report is in compliance with requirements.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.

	Producers Using Open Systems	d. Review information to confirm that the total biomass in the water body is within the limits established in the assessment (8.26a).	D. Verify that the farm confirms that total biomass in the water body does not exceed carrying capacity.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		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.	E. Verify that the farm requests an updated assessment (< 2 years old) if there was a significant increase in nutrient inputs to the water body.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
Footnote	[171] E.g., Government body or academic institution.							
Footnote	[172] 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 [174] **Applicability:** All Smolt Producers Using Open Systems	**Instruction to Clients for Indicator 8.27 and 8.28 - Monitoring TP and DO in Receiving Water for Open Smolt Systems** Farms must confirm that any smolt supplier using an open (net-pen) system is also engaged in monitoring of water quality of receiving waters. Requirements for the supplier's water quality monitoring program are presented in detail in Appendix VIII-6 and only re-stated briefly here. Monitoring shall sample total phosphorus (TP) and dissolved oxygen (DO). TP is measured in water samples taken from a representative composite sample through the water column to a depth of the bottom of the cages. Samples are submitted to an accredited laboratory for analysis of TP to a method detection limit of < 0.002 mg/L. DO measurements will be taken at 50 centimetres from the bottom sediment. The required sampling regime is as follows: - all stations are identified with GPS coordinates on a map of the farm and/or available satellite imagery; - stations are at the limit of the farm management zone on each side of the farm, roughly 50 meters from the edge of enclosures; - the spatial arrangement of stations is shown in the table in Appendix VIII-6; - sampling is done at least quarterly (1X per 3 months) during periods without ice, including peak biomass; and - samples are also collected at two reference stations located ~ 1-2 km upcurrent and downcurrent from the farm. Note: Some flexibility on the exact location and method of sampling is allowed to avoid smolt suppliers needing to duplicate similar sampling for their local regulatory regime.						

		a. Obtain documentary evidence to show that smolt suppliers conducted water quality monitoring in compliance with the requirements of Appendix VIII-6.	A. Verify that the farm obtains copies of the smolt supplier's monitoring records (datasets, protocols, reports).				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		b. Obtain from smolt suppliers a map with GPS coordinates showing the sampling locations.	B. Review and confirm that the spatial arrangement of sampling stations complies with requirements of Appendix VIII-6.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		c. Obtain from smolt suppliers the TP monitoring results for the past 12 months and calculate the average value at each sampling station.	C. Review TP monitoring results.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		d. Compare results to the baseline TP concentration established below (see 8.29) or determined by a regulatory body.	D. Repeat comparison.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		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.	E. Verify that TP ≤ 20 ug/l in the receiving water body.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
Footnote	[173] This concentration is equivalent to the upper limit of the Mesotrophic Trophic Status classification as described in Appendix VIII-7.							
8.28	**Indicator**: Minimum percent oxygen saturation of water 50 centimetres above bottom sediment (at all oxygen monitoring locations described in Appendix VIII-6) **Requirement:** ≥ 50% **Applicability:** All Smolt	Note: see instructions for Indicator 8.27.						
		a. Obtain evidence that smolt supplier conducted water quality monitoring in compliance with the requirements (see 8.27a).	A. Verify as above (see 8.27A).				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		b. Obtain from smolt suppliers the DO monitoring results from all monitoring stations for the past 12 months.	B. Verify that farm has copies of supplier's DO monitoring results.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.

	Producers Using Open Systems	c. Review results (8.28b) to confirm that no values were below the minimum percent oxygen saturation.	C. Review the supplier's monitoring results to verify compliance with requirements.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
8.29	**Indicator**: Trophic status classification of water body remains unchanged from baseline (see Appendix VIII-7) **Requirement:** Yes **Applicability:** All Smolt Producers Using Open Systems	a. Obtain documentary evidence from the supplier stating the trophic status of water body if previously set by a regulator body (if applicable).	A. Verify that farm obtains evidence from suppliers (as applicable).				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		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.	B. Review how supplier determined trophic status (as applicable).				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		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.	C. Verify that the farm conducts a review of the supplier's results and conclusions regarding trophic status of the water body.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		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.	D. Review the farm's conclusion to verify compliance with the requirement.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
8.30	**Indicator**: Maximum allowed increase in total phosphorus concentration in lake from baseline (see Appendix VIII-7) **Requirement:** 25% **Applicability:** All Smolt	a. Determine the baseline value for TP concentration in the water body using results from either 8.29a or 8.29b as applicable.	A. Verify that farm has supplier's records for baseline TP concentrations in the water body.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
		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).	B. Repeat comparison.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.

	Producers Using Open Systems	c. Verify that the average observed TP concentration did not increase by more than 25% from baseline TP concentration.	C. Repeat calculation to verify compliance with the requirement.				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
8.31	**Indicator**: Allowance for use of aeration systems or other technological means to increase oxygen levels in the water body **Requirement:** None **Applicability:** All Smolt Producers Using Open Systems	a. Obtain a declaration from the farm's smolt supplier stating that the supplier does not use aeration systems or other technological means to increase oxygen levels in the water bodies where the supplier operates.	A. Verify that the farm obtains relevant declarations from its smolt supplier(s).				x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
							x	Other than the fish in cages 7 and 8 (which are being excluded from the certification process) The hatchery is land based that supply this site for the ASC cages 1 to 6 and 9 to 10.
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 [177]:								
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 [176]. 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	[176] 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)	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.	A. Verify that farm has records to show smolt suppliers conducted water quality monitoring at the required frequency and duration.	x				The sampling is carried out monthly.

	Requirement: Yes [177] **Applicability:** All Smolt Producers Using Semi-Closed or Closed Production Systems	b. Obtain water quality monitoring matrix from smolt suppliers and review for completeness.	B. Confirm that smolt supplier's water quality monitoring program covers sampling of all parameters given in Appendix VIII-2 (i.e. TP, TN, BOD, TSS).	**x**				Testing includes Total ammonia, BOD, Nitrate, Nitrite, Total phosphorus and TSS.
		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.	C. Confirm that client has submitted to ASC the smolt supplier's water quality monitoring matrix for the last 12 month period.	**x**				The data has been submitted to ASC.
Footnote	[177] See Appendix VI for transparency requirements for 8.32.							
8.33	**Indicator**: Minimum oxygen saturation in the outflow (methodology in Appendix VIII-2) **Requirement:** 60% [178,179] **Applicability:** All Smolt Producers Using Semi-Closed or Closed Production Systems	a. Obtain the water quality monitoring matrix from each smolt supplier (see 8.32b).	A. Verify that the farm obtains water quality monitoring records from its smolt supplier(s).	**x**				These results are available. The hatcheries provide oxygen to the growing tanks and monitor the oxygen levels at effluent. The hatchery is owned by Marine Harvest Canada.
		b. Review the results (8.33a) for percentage dissolved oxygen saturation in the effluent to confirm that no measurements fell below 60% saturation.	B. Review the supplier's monitoring results to verify compliance with requirements.			**x**		The oxygen levels in the effluent are not over 60%.
		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).	C. Verify that the farm obtained evidence for enhanced DO monitoring by the smolt supplier (as applicable).			**x**		The oxygen levels in the effluent are not over 60%.
Footnote	[178] 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	[179] 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	a. Obtain documentation from smolt supplier(s) showing the results of macro-invertebrate surveys.	A. Verify that the farm has documentation of macro-invertebrate benthic surveys from its smolt supplier(s).	**x**				Reports are available from a company called 'Biologica' who carried out the macro-invertebrate surveys on the relevant discharges. There has been no change in production and the survey has just been carried out and the results are awaited. There was no issue in 2014 and with no change in biomass there is none expected this year.

	the discharge (methodology in Appendix VIII-3) **Requirement:** Yes **Applicability:** All Smolt Producers Using Semi-Closed or Closed Production Systems	b. Review supplier documents (8.34a) to confirm that the surveys followed the prescribed methodology (Appendix VIII-3).	B. Review documents from the farm's smolt supplier to verify the surveys were conducted as required in Appendix III-3.	**x**				There prescribed methodologies were used by Biologica who are an independent environmental service provider.
		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.	C. Review documents to verify that survey results demonstrate compliance with requirements.	**x**				There was reference to benthic communities of important reference invertebrates such as tricoptera and ephemeroptera being present. The major conclusions showed that there was consistent abundances and high species richness both above and below the farm shown no sign of impact.
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.	A. Review the supplier's biosolids management plan for compliance with Appendix VIII-2.	**x**				Documented Bio solids Management Plan available. Revised September 2015.
		b. Obtain from smolt suppliers a process flow diagram (detailed in Appendix VIII-2) showing how the farm is dealing with biosolids responsibly.	B. Review the supplier's biosolids process flow diagram for compliance with Appendix VII-2.	**x**				There is a flow diagram and map of the sites showing input and waste streams and the sludge collection areas are identified.
		c. Obtain a declaration from smolt supplier stating that no biosolids were discharged into natural water bodies in the past 12 months.	C. Confirm that farm obtains declarations from smolt suppliers.	**x**				This declaration is in the Bio solids Management Plan.
		d. Obtain records from smolt suppliers showing monitoring of biosolid (sludge) cleaning maintenance, and disposal as described in Appendix VIII-2.	D. Review the farm's records from smolt suppliers to verify there is evidence of implementation of biosolids management as required in Appendix VIII-2.	**x**				The disposal of the bio solids are recorded including disposal method and dates of cleaning and disposal. The company who removes the sludge is Able and Ready Septic and Vortex drain Services, BC. Sludge from Marine Harvest Canada hatcheries was brought to Renewable resources (www.renuable.com) ltd in BC by Able and ready.

Appendix 2 Stakeholder Submissions

Brief joint report on Monday Rocks ASC first audit and Marsh Bay surveillance audit in relation to stakeholder interactions with the audit team.

Paul Casburn and Leon Reed. 9/11/15.

During the Monday Rocks full audit and the Marsh Bay Surveillance the auditors met with Jenna Stoner from Living Oceans. Items discussed included the following:

- Sea lice levels on the farm.
- Treatment numbers.
- Area based management.
- Availability to the public of farm metrics on the ASC dashboard..
- DFO and its reporting of farm supplied information.
- Interaction with predators.
- Reporting of lice levels on wild salmonids.
- Direct interaction between Living Oceans and Marine harvest.
- Stakeholder interactions in the future.

The meeting was very professional and useful. The audit team was able to bring queries back to the audit and put questions directly to Marine Harvest and this helped the audit being more comprehensive.

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

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

Date: March 30, 2016

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

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

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

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

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

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

a) Exclusion of harvest activities from initial audit

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

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

17.4.3.1 Record this determination in the audit report

17.4.3.2 Provide a justification for the alternative timing

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

b) Closure of major non-conformities within three months

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

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

i. Prior to certification being granted.

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

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

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

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

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

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

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

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

c) Age of Audit Data

The CAR 17.9.1.1 *Certification Decisions* requires

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

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

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

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

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

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

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

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

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

Elevated Lice Levels

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Failure to Observe Best Management Practices

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

b) Major Non-Conformity: Benthic Sampling

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

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

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

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

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

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

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

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

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

The report states under indicator 8.24a and page 23:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

General Observations on Audit Quality and Accuracy

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

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

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

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

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

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

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

Conclusion

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

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

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Karen G.Wristen
Executive Director
Living Oceans Society
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2000-355 Burrard St.
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BC V6C 2G8

Date: 14th April 2016

Ref: Stakeholder Comments made by Living Oceans (dated March 30, 2016) on behalf of David Suzuki Foundation, Ecology Action Centre, Pacific Coast Wild Salmon Society and Watershed Watch Salmon Society in response to Draft Audit report Marine Harvest Canada, Monday Rock.

Dear Karen

We write with reference to your Stakeholder Submission received on 30th March 2016 from Living Oceans Society on behalf of David Suzuki Foundation, Ecology Action Centre, Pacific Coast Wild Salmon Society and Watershed Watch Salmon Society in relation to the draft audit report of the Marine Harvest Canada Monday Rock Salmon Farm to the Aquaculture Stewardship Council (ASC) Salmon Standard Version 1.0. We have reviewed your comments and provide a written response to each of the items you have identified.

Regarding your concerns about audit quality and lack of data, we would like to confirm that the report you viewed is a draft report. The CR v1.0 requires that we publish a draft report within 20 days of site visit. This means that draft reports are not final reports and do not contain a CAB's determination on the outcome since as you point out, 3 months allowed for applicants to satisfactorily address a Major Non Conformance. However, all draft reports are now reviewed by ASC Technical Oversight for Quality and Consistency and this report has met ASC specifications. Also, out internal Technical Team review process ensures that a full review of the report is conducted prior to the final report being published. This combination provides greater assurance that competent audits have been conducted by ASC using qualified auditors and consistent with CR requirements.

Regarding your comments on the lack of decisions on the Variation Requests (VR's) in the draft report, as the report is a draft report and the timeline on the ASC process for deciding on VR's can vary depending on the nature of the VR, decisions on the VR's were not available at the time of posting of the draft report. However, these VR's are now closed and this information is available to the public on the ASC Website http://www.asc-aqua.org/upload/(140)_VR1_20150930_Marine%20Harvest%20Canada_Monday%20Rock%20Farm-Closed.pdf and http://www.asc-

aqua.org/upload/(141)_VR2_20160121_Marine%20Harvest%20Canada_Monday%20Rock%20Farm-Closed.pdf

I. **(a) Audit Timing in Relation to Harvesting.**

This is noted and it is now in the final report that observing Harvesting will be undertaken during one of the surveillance audits. As you have pointed out, under 17.4.3.1 and 17.4.3.2, this is a requirement to provide justification in the final report.

(b) Closure of Major Non Conformities within 3 months

The evidence for Major Non conformities was submitted within 3 months to SAI Global, which was before the draft report was published. This Major Non Conformity was subject to a VR with ASC and the timelines are unknown as to when decisions on VR's will be forthcoming.

(c) Age of Audit Data

This refers to data when submitted as evidence for non-conformances. It does not pertain to data used during the audit. There are numerous examples in the ASC Salmon Standard where data is required to show compliance with the standard, that is over 6 months old.

II. **(a) Major Non Conformity Sea Lice: Criterion 3.1.7c.**

This was subject to a VR and has now been accepted and approved by ASC.

(b) Major Non Conformity: Benthic sampling

This evidence was submitted prior to the three month deadline and was closed to the satisfaction of the Certification Committee.

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

Our ASC Audit Team is trained in ASC Standards by ASC. Our Auditors are experienced Aquaculture Auditors (well beyond the minimum requirements set out by ASC) and are trained and very experience in audit application.

It is understandable that one who is not involved in accredited certification may not entirely understand the auditing process; how an audit occurs; what an auditor reviews pre-audit, on site, the questions and responses received and post audit follow up. The site visit takes places over a few days but the entire audit takes many more days in preparation, review and report writing. So to explain each of the points that you have raised;

(a) Determining the Start of The Chain of Custody

The Certification Committee has reviewed the risk to Chain of Custody of the product and as the receiving facility is an ASC CoC Certified Facility the issues of chain of custody were addressed to the satisfaction of CAR 17.6 by the Certification Committee. The immediate movement of salmon from this site to the processing facility forms part of the Chain of Custody certification audit.

(b) Water Quality in and near the operation: Criterion 2.2.4a, b and c

As per the above explanation on I(c) for CAR 17.9.1.1, evidence being referred to here is in relation to evidence being supplied for non-conformance close out. This is not applicable to evidence used for auditing purposes. There are many examples in the ASC standard where data is required to show compliance where it is more than 6 months old.

(c) Area Based Management of Sea Lice

ABM of Sea Lice is an integral part of any Fish Health Management Plan and this aspect has been fully addressed by the Auditor and meets the requirements of the ASC Standard. This does not represent an absence or total breakdown of a system.

IV. Minor Non Conformities that should have been included in the audit

(a) Criterion 2.1.1 Redox potential or sulphide levels in sediment outside the AZE.

The Auditor has reviewed the historical values of the benthic sampling and the applicant has complied with the standard.

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

In this case ground truthing has been provided using the DEPOMOD modeling system and this will be clarified in the final report.

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

This was also verified by the Auditor on site and will be clarified in the final report.

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

This has been reviewed by the Certification Committee and whilst the paper does conclude that water quality can be considered "very good", this is now noted and this will be reviewed at the surveillance audit for additional details to support this claim.

A final certification outcome will be determined by the SAI Global Certification Committee for the ASC Program as per normal procedure and consistent with ISO accredited certification standards and ASI accreditation requirements. We respectfully, recognize your right to comment on ASC reports in accordance with ASC Certification Requirements v1.0. As a valued stakeholder, we will provide you with notification of the outcome and the report will be available on the ASC website.

Yours sincerely

Cormac O'Sullivan
Aquaculture Team Leader

Appendix 3 Variation Requests

SAI GLOBAL

ASC Form 1: Request for Interpretation or Variance

This form is for the submission of requests by CABs to the ASC to request interpretations of the ASC normative requirements and/or requests for variance from specific normative requirements.

I CAB Request

1.1 Name of CAB	1.2 Date of Submission	1.3 CAB Contact Person	1.4 Email Address of CAB Contact Person
SAI Global Assurances	18th September 2015	Bill Paterson	Bill.paterson@saiglobal.com

1.5 ASC Document Reference

ASC Salmon Standard Version 1 June 2012 Indicator 8.24

1.6 Background (Provide full explanation of the issue)

Indicator: Allowance for producing or holding smolt in net pens in water bodies with native salmonids

This application is on behalf of Marine Harvest Canada's (MHC's) Monday Rock site, located in Quatsino Sound on Vancouver Island. MHC seeks the variance on behalf of Monday Rock, but requests that this variance apply to all future ASC certification audits of MHC sites receiving fish from Georgie Lake and utilizing the same certification body. In cases where a different certification body is used, a separate variance will be submitted for that audit.

Basis for Variance

In Principle 5, 5.2.8, the ASC standard states the "allowance for the use of antibiotics listed as critically important for human medicine by the World Health Organization (WHO) – Allowance NONE." The guidance document goes on to state, in 109, that "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." Based on this statement, both ASC and non-ASC eligible fish may be held on the same farm, assuming traceability records are available.

The Monday Rock farm site currently holds fish in 9 pens; smolt in 8 of these pens come from Dalrymple, an ASC compliant recirculation hatchery. Fish in pen 8 were received as smolt from Georgie Lake, a Marine Harvest Canada operation on Vancouver Island. Wild salmonid populations are present in Georgie Lake, making these smolt non-compliant based on indicator 8.24.

Marine Harvest Canada requests a variance to be issued to allow for the certification of the fish at Monday Rock that were received from Dalrymple. Chain of custody can be shown based on shipping forms from the hatchery, available at audit, and through our AquaFarmer database (Appendix 1). Marine Harvest maintains MSC CoC through its processing facility.

As Marine Harvest can prove separation of stock, and the smolt grown at Georgie Lake have no environmental impact on the Monday Rock site, we request this variance be approved. A similar variance, regarding smolt from both lake and recirculation facilities, was granted to Marine Harvest

Scotland in 2014 (submitted to ASC 17/11/14 by Paul Macintyre, FCI).

1. 7 Recommended Action/Decision

Acceptance of the variance request based on similar accepted variance request for other Marine Harvest farm sites via another CAB

II ASC Determination

2.1 Status	2.2 Date of the ASC Determination
CLOSED	30/09/2015

2.3 ASC Determination on Variance Request

The ASC approves this request on indicator 8.24 for Marine Harvest Canada's Monday Rock site.

4 ASC Interpretation

The ASC Salmon Standard strongly encourages farms to mitigate negative impacts on the environment as much as can reasonably be expected from an aquaculture operation. Focused on the issue as raised in the VR, the specific section is Criterion 8.24.

Marine Harvest Canada is aware of the intent and needs of the ASC Salmon Standard. With the document provided and the shipping forms from the hatchery as evidence for a reliable and auditable traceability system, ASC is confident that the integrity of the ASC Salmon Standard, and the desired change to industry practises, is safe guarded. Therefore this VR is approved.

Appendix 1

Aquafarmer report for Monday Rock showing Dalrymple (DASM) as supplier of smolt for pens 1-7, 9-10 and Georgie Lake (GLSM) as supplier of smolt in pen 8.

marineharvest

Status

Site	MondayRock	Date	2015-08-13

Pen	Fish group	Origin	Species	Count	Avg. Weight (g)	Biomass	Density	Growth Model	Smolt Supplier	Vaccine	Last Treatment	Last Movement	Last Sample Date	Last Sample Weight	LCTD eFCR	LCTD % mort
MR - MR01	Smolt 4	Mowi	Atlantic Salmon Autumn	57 525	1 670	96 069	6.00	2015MHCanadaFCR115	DASM-DAL-Smolt	Apex-IHN Renogen/Forte Micro	2015-07-29	2014-11-27			1.05	0.00 %
MR - MR02	Smolt 4	Mowi	Atlantic Salmon Autumn	56 798	1 688	95 849	5.99	2015MHCanadaFCR115	DASM-DAL-Smolt	Apex-IHN Renogen/Forte Micro	2015-07-29	2014-11-27			1.06	0.00 %
MR - MR03	Smolt 4	Mowi	Atlantic Salmon Autumn	62 643	1 598	100 121	6.26	2015MHCanadaFCR115	DASM-DAL-Smolt	Apex-IHN Renogen/Forte Micro	2015-07-15	2014-11-27			1.05	0.00 %
MR - MR04	Smolt 4	Mowi	Atlantic Salmon Autumn	57 302	1 626	93 160	5.82	2015MHCanadaFCR115	DASM-DAL-Smolt	Apex-IHN Renogen/Forte Micro	2015-07-14	2014-11-24			1.05	0.00 %
MR - MR05	Smolt 4	Mowi	Atlantic Salmon Autumn	48 286	1 682	81 217	5.08	2015MHCanadaFCR115	DASM-DAL-Smolt	Apex-IHN Renogen/Forte Micro	2015-07-14	2014-11-24			1.05	0.00 %
MR - MR06	Smolt 4	Mowi	Atlantic Salmon Autumn	48 074	1 639	78 789	4.92	2015MHCanadaFCR115	DASM-DAL-Smolt	Apex-IHN Renogen/Forte Micro	2015-07-14	2014-11-24			1.05	0.00 %
MR - MR07	Smolt 4	Mixed	Atlantic Salmon Autumn	58 480	1 833	107 203	6.70	2015MHCanadaFCR116	DASM-DAL-Smolt	Apex-IHN Renogen/Forte Micro	2015-07-14	2014-11-26			1.07	0.00 %
MR - MR08	Smolt 2	Mixed	Atlantic Salmon Autumn	55 581	1 937	107 668	6.73	2015MHCanadaFCR115	GLSM-GL-Smolt	Apex-IHN Renogen/Forte Micro	2015-07-29	2014-11-06			1.07	0.00 %
MR - MR09	Smolt 4	Mowi	Atlantic Salmon Autumn	57 499	1 649	94 840	5.93	2015MHCanadaFCR115	DASM-DAL-Smolt	Apex-IHN Renogen/Forte Micro	2015-07-12	2014-11-26			1.05	0.00 %
MR - MR10	Smolt 4	Mowi	Atlantic Salmon Autumn	56 324	1 549	87 251	5.45	2015MHCanadaFCR115	DASM-DAL-Smolt	Apex-IHN Renogen/Forte Micro	2015-07-12	2014-11-27			1.05	0.00 %
Total				558 501	1 687	942 168										

ASC Form 1: Request for Interpretation or Variance

This form is for the submission of requests by CABs to the ASC to request interpretations of the ASC normative requirements and/or requests for variance from specific normative requirements.

I CAB Request

1.1 Name of CAB	1.2 Date of Submission	1.3 CAB Contact Person	1.4 Email Address of CAB Contact Person
SAI Global Assurances	21st January 2016	Jean Ragg	jean.ragg@saiglobal.com

1.5 ASC Document Reference

ASC Salmon Standard Version 1 June 2012 Criterion 3.1.7

Indicator: *In areas of wild salmonids, maximum on-farm lice levels during sensitive periods for wild fish.*
Requirement: 0.1 mature female lice per farmed fish

1.6 Background (Provide full explanation of the issue)

Many differences exist between Pacific British Columbia and other salmon farming regions globally, with respect to sea lice.
These differences, both environmental and regulatory, make meeting the ASC threshold of 0.1 mature female lice not only difficult but potentially causing long term negative consequences of treatment resistance build up in lice populations due to the narrow range of available active therapeutants in British Columbia.

ASC has recognized the need to adjust the threshold for British Columbia in the Operational Review, stating that "requiring Canada to comply with the Norwegian trigger…would simply inflate PTI scores unnecessarily" (p. 12). The Operational Review also notes that the limit of 0.1 mature females was set "in the absence of understanding the differences between regional epidemiology" of lice in what are very different ecosystems when compared to North East Atlantic (p. 17). The current ASC standard is based upon NE Atlantic and not Pacific British Columbia. Along with submissions via the BC Salmon Farmers Association to the operational review, this variance supplies information relevant to British Columbia vital to determining the appropriate level of lice acceptable for health of the environment.

The British Columbia salmon farming industry has been under intense pressure from environmental groups for many years to prove that lice are being managed effectively to protect the health of wild Pacific salmonid stocks. Many years of research has been undertaken by government, NGOs, industry and academics. Some of the leading sea lice researchers have summarized the data gathered throughout these research projects in Appendix 1 (to this VR and submitted as evidence along with a previous and accepted VR for MHC Doyle Fish Farm). The many years of research show that lice are being managed, and additional treatments could have irreversible harm on the environment. Rather than attempt to enforce a threshold developed in another country with very different circumstances, the ASC should review the regulatory levels for lice management (Appendix 2) in British Columbia specific to this VR.

Associated and Accepted VR's

ASC Form 1: Request for Interpretation or Variance

In December, 2015, a similar variance request (VR-88) was accepted by the ASC for Doyle Island farm site. This variance is being submitted to recognize that some operating areas (including Quatsino Sound, where Monday Rock is located) have been approved for use of hydrogen peroxide to treat sea lice. While this changes the detail of the variance, the local conditions (including lice and salmon species, proportion of wild to farmed fish, and other details explained in Appendix 1) remain the same.

Marine Harvest states that managing lice in accordance with the Pacific Aquaculture Regulation is the most effective way to ensure the health of farmed and wild salmonid populations.

There are many reasons to consider Pacific British Columbia separately from other operating areas in regards to sea lice management. While details and scientific evidence of each argument are laid out in Appendix 1, the key points are listed below.

Key Arguments:

Environmental Differences

- *L. salmonis* in BC are a different species from *L. salmonis* in Europe; BC is a sub-species and is less virulent.
- Wild salmon in Pacific BC belong to the genus *Oncorhynchus*, while European salmonids belong to the genus *Salmo*; Pacific BC species are more tolerant to sea lice.
- Sensitive period for wild salmonid outmigration is much longer in BC (March 1 – June 30) than other areas, requiring a greater number of treatments to keep the lice level low for this period
- Ratio of wild to farmed salmon in BC (approx. 1000:1) vastly different than that in Norway (approx. 1:1000)

Basis for lice threshold in BC

- Established in 2003 as a precautionary level
- Level acknowledged the lack of serious disease resulting from lice in BC, compared to other regions
- Set to reflect the large populations of wild salmon in BC, which carry large loads of lice and are known to greatly influence on-farm lice levels in the summer and fall months

Risks of over-treating

- In most BC production areas, SLICE is the only regulated treatment option
- Increasing the number of SLICE treatments is irresponsible, as it increases the chances that lice will become resistant, leaving the BC industry without effective treatment options
- Hydrogen peroxide has been approved for use in some production areas (including Quatsino, where Monday Rock is located). While this gives farmers an additional option and reduces reliance on SLICE, prudent use is still necessary to ensure resistance does not develop and standards should be developed to support the avoidance of resistance.
- Unnecessary treatments increases the amount of chemicals in the environment which may

have further negative impact and conflicts other clauses.

Contradiction within the ASC standard

- Additional treatments required to meet 0.1 threshold increase farm PTI, jeopardizing the farm's ability to meet Indicator 5.2.5. A commitment to meet 3.1.7 will mean failure to meet 5.2.5?
- This compounded by a far longer period of smolt outmigration for 5 Pacific salmon species, of at least 3 times the length of time compared to Norwegian Atlantic salmon smolt outmigration. This makes the PTI immensely challenging and arguably unworkable and compounds earlier statements of unnecessary treatments.

Conclusion

Sea lice have been effectively managed in BC for over 10 years. Current management, including frequent on farm sampling for lice, timely treatment, and prudent use of the treatment options available have allowed BC salmon farmers to keep their fish healthy while preserving the health of wild populations. Enforcing a European threshold in BC does not take into account the vast environmental differences between the regions. Adhering to these thresholds in BC would, at best, create concern, and at worst result in damage to the environment and resistant lice populations. For these reasons, we ask for a variance to Indicator 3.1.7.

Appendices

Refer to Appendix 1 attachment.

Appendix 2

Pacific Aquaculture Regulation Sea Lice Management Requirements

7.4 During the period from July 1 to February 28 inclusive, the licence holder cultivating Atlantic salmon and trout shall carry out a sea lice abundance assessment once every month, at a minimum, for fish held in containment structures for more than 30 days, and where the abundance threshold of three motile *Lepeophtheirus* spp. has been exceeded, the licence holder shall:
(a) increase monitoring to at least once every two weeks;
(b) initiate action within 30 calendar days to manage motile *Lepeophtheirus* spp. on Atlantic salmon and trout; and
(c) notify the Department as per section 8.1

8.3 From March 1 to June 30 inclusively, should the average sea lice abundance reach or exceed three motile *Lepeophtheirus* spp. per cultivated salmonid, the licence holder shall report to the Department within five calendar days of the discovery:
(a) the abundance results of the sea lice monitoring; and
(b) the actions and management response to be initiated within 15 calendar days of the discovery.

1. 7 Recommended Action/Decision

ASC Form 1: Request for Interpretation or Variance

It is recommended to accept the variation request on the basis that:

- the requirements of the local Pacific Aquaculture Regulation Sea Lice Management Requirements prescribe a sea lice management regime in synch with the local sea lice infestation characteristics and evidence demonstrates their effectiveness at not causing long-term detrimental effects on farmed and wild salmonid populations. Track record demonstrates suitability of the current thresholds used.
- that Marine Harvest Canada's intent was to meet the ASC standard but as in other sites, were not successful due to the same environmental and regulatory circumstances and which were recognised and accepted by variation request.
- Negative consequences may occur from overuse of a narrow range of active therapeutants to combat sea lice infestation. Other regions of the world have access to a broader range of active ingredients allowing for Integrated Pest Management principles to be readily adopted. MHC follows best practice in this regard which means judicial use of the available treatments and not overuse of the same products, where there are no proven benefits on either farmed or wild salmon populations.
- A variation request of near identical circumstances has been accepted based on the same evidence.

As such it is recommended that the ASC recognizes that regional interpretation of the objective/intent of protecting salmon outmigration from sea lice infestation from farmed salmon can be provided in other ways than a direct requirement to achieve the metric of 0.1 mature females per fish. Factors that are considered important in BC Canada include; an extended outmigration period for the range of Pacific salmon encountered; limited access to alternative treatment types causing greater farm and regulator interest in ensuring over-use of a single product is avoided to avoid resistance; that IPM is limited due to reliance on one treatment type; that legally ensuring safe trigger levels are established with a legal basis.

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

II ASC Determination

2.1 Status	2.2 Date of the ASC Determination
Closed	28 March 2016

2.3 ASC Determination on Variance Request
ASC grants this variance request for Marine Harvest Canada – Monday Rock Farm (single site).

4 ASC Interpretation
Canadian regulations differ from the ASC standard in that up to 3 mature female sea lice per fish are allowed before treatment is triggered. Only one chemical treatment is allowed. Marine Harvest Canada states that it was its intent of the farm to meet the ASC Standard - protection of wild salmonid populations during outmigration – and that the Pacific Aquaculture Regulation sea lice monitoring requirements, thresholds and management actions work best for Canadian environmental conditions.

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While it is not sufficient for a farm to only attempt to meet the intent of the ASC Salmon Standard, the data presented in this variance request clearly sets out the challenges linked to the variability in sea lice abundance and the need for the right conditions to be present before treatment can be successful. Both of these challenges are environmentally driven.

This information establishes that the farm took all available steps to be in compliance with the ASC Salmon Standard, and the ASC therefore approves this variance request.