



**Aquaculture Stewardship Council
Full Assessment Report – Salmon Standard v1.0
Public Draft Redacted Version
Client: Marine Harvest (Scotland)
Loch Greshornish salmon farm
September 2014**



Contents	Page
1. Details of FCI contacts	2
2. Audit team names	2
3. Client company overview	3
4. Background on the Applicant Farm	3
5. Scope of Audit	5
6. Stakeholders	5
7. Audit Plan	5
8. Notice of Variation Requests	7
9. Summary of audit	10
10. Non-conformance summary and corrective action plans	10
11. Evaluation Results by Principle / Section (1-8)	16
12. Determination of the start of Chain of Custody	26
13. Review and consideration of stakeholder input	27
14. Compliance statement and certification decision	27
15. Appendix 1 – Acronyms and Abbreviations	28

Note – Redactions removing confidential or sensitive information are marked xxxx

1. Details of FCI contacts

General inquiries should be directed to:	
<p>Matthew James Aquaculture Technical Manager</p> <p>Tel: +44 (0)1463 223039 E-mail: matthew.james@foodcertint.com</p>	<p>Food Certification International Ltd. Dochfour Business Centre Dochgarroch Inverness IV3 8GY Scotland UK</p>
<p>Paul Macintyre Aquaculture Director</p> <p>Tel: +44 (0)1463 223039 E-mail: paul.macintyre@foodcertint.com</p>	<p>Food Certification International Ltd. Dochfour Business Centre Dochgarroch Inverness IV3 8GY Scotland UK</p>

2. Audit Team names

The audit team selected for the assessment audit at Marine Harvest Loch Greshornish was:

1. Matthew James – Lead Auditor

Matthew James is the Aquaculture Technical Manager for FCI and has worked within the Aquaculture industry for over thirty years in a number of operational, technical and support roles primarily associated with Atlantic salmon farming. He is Lead Auditor certified to ISO 14001 and has carried out over 170 audits in his time with FCI. Matthew is GlobalG.A.P Scheme Manager and also audits to a number of other standards including Code of Good Practice, Label Rouge, PGI, GAA BAP and Quality Trout UK.

2. Chris Findlay – Technical Auditor

Chris Findlay is an integral part of the Fish Vet Group team based in Inverness and has a wide range of experience in commercial salmon production, having been directly employed by salmon farms for over 20 years prior to joining the Fish Vet Group. Chris has been used by the ASC to deliver training in the ASC standards including the Salmon standard version under audit here. In addition, Chris has worked both in freshwater tank farms, seawater production and brood stock management, with particular expertise in the management of fish health within these systems. She has put systems in place that allowed the first salmon farming company to become certified against the RSPCA's welfare standard for farmed Atlantic salmon and been a member of the RSPCA Standards working group for farmed salmon since its inception. Chris has been responsible for installing Environmental Management Systems for salmon farms to ensure compliance with ISO 14001 standards.

3. Mihaela Lipiceanu – Social Lead Auditor

Mihaela brings a great deal of experience within the Social auditing role having been a SA8000 lead auditor since 2007 and completed over 400 audit days covering social schemes (SA8000 and BSCI). Her international experience in social schemes includes audits conducted in Israel, Italy, Greece, Czech Republic, Bulgaria, Brazil, the Serb Republic and Portugal. Her previous background in mechanical engineering includes work within agriculture, heavy industry, construction and waste management with reference to risk assessment and occupational health and safety legislative compliance.

3. Client Company Overview

Marine Harvest Scotland was formed in 1965 and following a number of mergers and acquisitions is now the largest aquaculture company in the UK. Some of the sites under Marine Harvest control have been used for farming Atlantic salmon since the 1970's.

The company employs more than 620 people and produces over 48,000 metric tonnes of farmed salmon. Around 125 people are employed at the Blar Mhor site in Fort William where the majority of salmon processing and administrative functions are based. There are 46 marine sites, grouped into three managed production areas, with smolts supplied from eight Marine Harvest freshwater sites. All feed is supplied by an approved feed supplier.

The main markets for Marine Harvest Scotland are the UK and France.

Marine Harvest Scotland has an ethos in helping build strong communities through significant sponsorships, donations and supports many community organizations.

The hatchery site at Lochailort uses recirculation technologies which have been adopted to reduce fresh water consumption by up to 95 percent. Another hatchery at Inchmore in Glen Moriston is being upgraded to a recirculation unit and construction work is due to start here in late 2015.

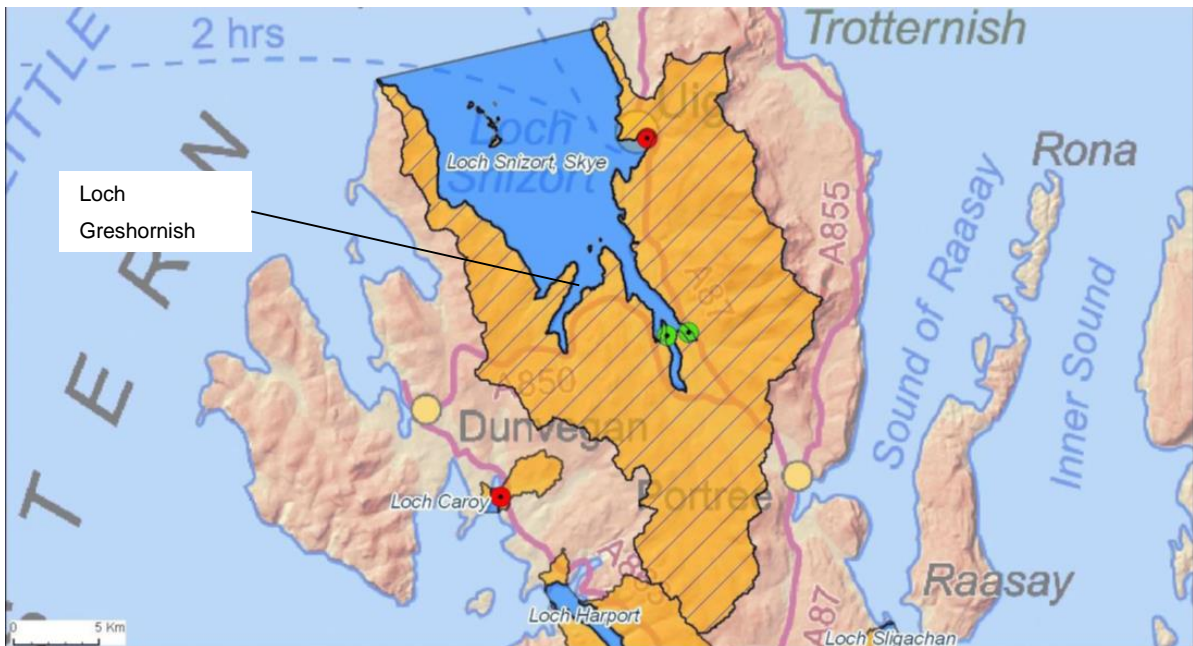
The most modern available techniques are used at Marine Harvest Scotland hatcheries, farm sites and harvesting and processing plants. The company is committed to achieving new certification under ASC, with its current sites already being certified to GlobalG.A.P, ISO 9001, ISO 14001 and Freedom Foods standards. The Blar Mhor processing plant is also certified under BRC (Grade A).

4. Background on the applicant farm

The sea water salmon farm at Greshornish is located within the inner reaches of Loch Snizort, set amongst the coastline of sea lochs, islands and headlands of the Isle of Skye. The loch extends eight km in length, has a maximum depth of forty-nine metres. Smolts originated from the freshwater Recirculation Unit at Lochailort and were stocked into Greshornish in the winter of 2013.

The farm was established in 1988 and currently comprises twelve 100m circular pens and the shore base is situated approximately 5 miles North-West of Edinbane and less than twenty miles from Portree, the main town on the Isle of Skye.

Figure 1 – Location of Loch Greshornish salmon farm



5. Scope of audit

Reference, Standard and Guide	ASC Salmon Standard V1.0 June 2010 Audit Manual, ASC Salmon Standard V1.0
Scheme Documents	ASC Certification and Accreditation Requirements V1.0
Audit scope	Production of Atlantic salmon (<i>Salmo salar</i>) at Marine Harvest (Scotland) Loch Greshornish farm
Receiving water body	Loch Greshornish into Loch Snizort

6. Stakeholders

Notice of Audit as required by the ASC Farm Certification and Accreditation Requirements Version 1.0 was announced by FCI through the ASC who published a public notice on their website to allow potential stakeholders to participate. In addition FCI approached a number of potential stakeholders through direct mailing at this time inviting comment and participation; responses were made as appropriate.

7. Audit plan

Marine Harvest had previously had a pre-assessment audit carried out at the Loch Linnhe site to test compliance against the standard and also a site visit to their feed supplier for the Greshornish site (Biomar) to ensure a comprehensive understanding of all of the feed related indicators.

Consequent to this Food Certification International was commissioned to carry out the full assessment audit of the Greshornish farm site Marine Harvest made information relating to the site available on their website to allow consideration of relevant information prior to the on-site audit taking place.

The site visit took place over two days (12th and 13th September) and consisted of Chris Findlay and Matthew James being present for both days with Mihaela Lipiceanu attending the site on the second day to conduct staff interviews after auditing the company's documentation and policies on the 12th at Marine Harvest's Blar Mhor offices in Fort William.

The majority of the time allotted was spent in the site offices with time on the second day dedicated to examining the sea site and confirming details of the working practices employed.

In addition to the auditors the following Marine Harvest personnel contributed to the audit process:

At site:

Nicola MacColl	Quality Systems Manager
Mike McLeish	Assistant Quality Systems Manager
Dave Cockerill	MHS Company Vet
Bill Wright	Greshornish Site Manager
Chris Read	Environmental Manager

Dougie Hunter Technical Services Manager

Ali MacLennan Area Health Manager

Site Personnel as interviewed.

At the Blar Mhor Offices:

Vicky Ferguson Human Resources Manager

Lynn MacFarlane Training/Human Resources Officer

8. Notice of Variation Requests

CAB Request – 1

1.1 Name of CAB	1.2 Date of Submission	1.3 CAB Contact Person	1.4 Email Address of CAB Contact Person
Food Certification International Ltd	02/07/14	Matthew James	matthew.james@foodcertint.com
1.5 ASC Document Reference			
<p><u>Criteria 2.5.2</u></p> <p>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</p> <p>Requirement: ≤ 40%</p> <p>Applicability: All, until June 13, 2015</p> <p><u>Criteria 2.5.1</u></p> <p>Indicator: Number of days in the production cycle when acoustic deterrent devices (ADDs) or acoustic harassment devices (AHDs) were used.</p> <p>Requirement: 0, within three years of the date of publication [28] of the SAD standard (i.e. full compliance by June 13, 2015)</p> <p>Indicator Compliance Criteria 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.</p> <p>Information note ADDs should only be used whilst taking into account the potential affects they may have on other wildlife, in particular cetaceans, which may have a migration route nearby.</p>			
1.6 Background (Provide full explanation of the issue)			
<p>The aquaculture industry in Scotland is regulated through a variety of different legislative processes and it is widely recognised that these are some of the most stringent of any farmed salmon producing country. There are four key permissions and licences which need to be obtained to operate a fish farm in the marine environment. One of these is 'planning permission' which is granted by the relevant local authority. In order to gain this permission each farm application is evaluated through the Environmental Impact Assessment process. This is a formal procedure whereby statutory and non-statutory consultees assess the application according to their statutory requirement or their stakeholder interest. One aspect of this is the potential impact or effects on any wildlife which may interact with the fish farm and thus of key consideration are seals and cetaceans. During this assessment details such local seal haul out sites and size of seal populations are identified, as is the farms proximity to any known cetacean routes. A key focus is on mitigating any potential interactions between the fish farm and these species.</p> <p>The respective competent authority responsible for protecting seals and cetaceans in Scotland is Scottish Natural Heritage (SNH). When assessing fish farm applications they are chiefly concerned with ensuring the local seal populations are not affected by any developments and that there is no adverse impact on cetaceans using the same water bodies. The main concern from any fish farm operator is reducing seal predation on contained fish stocks and the requisite welfare implications for these stocks under the farmer's duty of care. However fish farm operators also recognise that any potential adverse effects on cetacean populations are also considered.</p> <p>Along with improvement in net and weighting designs a key measure for mitigating these conflicting issues in Scotland has been the use of Acoustic Deterrent Devices (ADDs). They effectively deter any predating seal away from the fish farm avoiding the need to take actions of last resort such as dispatching predating pinnipeds. This policy on ADD use has been supported by SNH where it is recognised that an increased level of interaction between local seal populations and a fish farm development is likely. Conversely where it is deemed that interaction between seals and the fish farm is limited SNH have recommended that ADDs are not deployed. These recommendations are</p>			

considered by the relevant local authority before the decision to grant planning permission for a fish farm is made.

See Appendix 1, this includes the farm approval by SNH for use of ADDs, and the decision tree process for the last resort of dispatching predating pinnipeds.

In addition to the formal licensing procedures all MHS farms are also certified to the RSPCA Welfare standards for Farmed Atlantic Salmon. The standard is focused on the welfare of the animals under duty of care of the farmer but also deals with the interactions of marine mammals.

The relevant points which deal with this issue within the standard are outlined below:

- 1) H.P 6.2 “the producer must use all reasonable non-lethal methods of control to protect fish from other animals.”
- 2) H.P 6.10 “Any site that is recognised as having a high risk of attack or has suffered an attack must have a working ADD in place.”

Marine Harvest state:

“Although this is integral to Marine Harvest’s seal deterrent practices we are aware of the latest research and developments in this area including the use of sensor activated ADDs, advances in netting materials, and improved cage weighting technology. We are also investigating and evaluating new ADDs as they are developed. ADD manufacturers are aware of the sensitivity of their equipment regarding cetaceans and so are looking to develop “more friendly” systems. All ADDs should not be treated the same”.

“MHS have also helped to advance some of the knowledge gaps in this area by sponsoring research with the Hebridean Whale and Dolphin Trust. We are also members of the Salmon Aquaculture and Seals Working Group which is an organisation working towards the reduction of the requirement to dispatch pinnipeds. The other group members consist of; Freedom Food, RSPCA, International Animal Rescue, Seal Protection Action Group, Sainsbury’s, Scottish Salmon Company, SNH, Marine Scotland, Humane Society International UK, and Scottish Salmon Producers Organisation”.

“To further advance our control measures MHS will implement a management policy for ADD deployment. In it we will aim to improve focus of farmers on other mitigation methods such as; new and stronger net materials, net design incorporating seal blinds, regular mortality removal, net weighting systems, reporting, and larger and fewer pens on farms. We have an obligation to the welfare of the stock in our care, and ADDs are an important tool in reducing fish mortalities and ultimately the last resort of dispatching predating pinnipeds. Indeed the number of seals that have been dispatched at MHS farms has significantly reduced in recent years from a total of 35 in 2011 to our current year to date figure in 2014 of two. A major part of this is down to the responsible measures Marine Harvest, the industry and key stakeholders have put in place”.

1.7 Recommended Action/Decision

To allow a derogation on the use of ADDs for Marine Harvest (Scotland) Ltd.

Approval received for request one on 29th August 2014

CAB Request – 2

1.1 Name of CAB	1.2 Date of Submission	1.3 CAB Contact Person	1.4 Email Address of CAB Contact Person
Food Certification International	15/07/14	Matthew James	matthew.james@foodcertint.com
1.5 ASC Document Reference			
Criteria 5.3.1 and 5.3.2.			
1.6 Background (Provide full explanation of the issue)			
<p>Bio-assay analyses are not carried out routinely during sea lice treatments due to the high variability obtained in results.</p> <p>It is Marine Harvest (Scotland) policy to use a multifactorial strategy against parasites. This involves using multiple medicinal products, encourage rotation of these products, and implementing the use of cleaner fish. Lice counts pre- and post- treatments are available to ASC and auditors. Whenever resistance is proved, alternative treatments would be considered.</p>			
1.7 Recommended Action/Decision			
<p>Success of anti-parasitic treatments is checked carrying out parasite counts before and after treatments, allowing the detection of resistance when a good clearance is not achieved. The number of fish checked during these counts is large enough to be representative of the farms' population.</p> <p>When it comes to anti-bacterial treatments, antibiotic sensitivity tests are carried out routinely, even when good efficacy was achieved in previous treatments.</p> <p>Therefore sections 5.3.1 and 5.3.2 should be reinterpreted when it comes to anti-parasitic treatments.</p>			

CAB Request – 3

1.1 Name of CAB	1.2 Date of Submission	1.3 CAB Contact Person	1.4 Email Address of CAB Contact Person
Food Certification International	14/07/14	Matthew James	Matthew.James@foodcertint.com
1.5 ASC Document Reference			
Section 8.13.a and 8.13.b. footnote 165.			
1.6 Background (Provide full explanation of the issue)			
<p>Currently there are no known diseases that originate in Scottish freshwaters that could represent a significant risk for fish once transferred into the sea. Besides, all Marine Harvest (Scotland) sea water sites are stocked with Scottish smolts coming from Marine Harvest (Scotland) farms. Therefore, their health status is well known to Marine Harvest at the time of transfer, and the smolts do not pose a risk of introducing new disease.</p>			
1.7 Recommended Action/Decision			
<p>Keep a good record of fish health all across the freshwater cycle and especially before transfer to sea. These records are accessible to auditors, and make clear that smolts are in good health prior to being transferred to sea.</p> <p>As a result of what was mentioned above, section 8.13.a. and 8.13.b. would require revision.</p>			

Approval received for requests two and three on 26th August 2014

9. Summary of audit

The audit process involved three auditors with two (lead auditor Matthew James and technical auditor Chris Findlay) attending the site for two days, covering the first five Principles and the non-social related aspects of section eight (This involved document review, staff discussions and a visit to the sea site to confirm some working practices). The SA8000 auditor (Mihaela Lipiceanu) covered Principles six and seven (and relevant parts of section 8) by attending the central offices in Fort William to conduct a combination of document reviews and staff interviews on the first audit day and then attended the site for the second day to carry out site staff interviews. The audit findings were then summarised in a closing meeting with the attending Marine Harvest Staff.

The evaluation of Marine Harvest Scotland's Loch Greshornish site demonstrated a good overall level of compliance to the ASC salmon standard version 1.0.

During the audit process one major non-conformance and twenty four minor non-conformances were identified.

The major non-conformance related to the on farm lice levels of 0.1 mature female lice per farmed fish being exceeded during the period April to June. As Marine Harvest have proposed a corrective action that will correct this non-conformance when the indicator next becomes relevant (April 2015) this effectively clears the non-conformance and removes the potential bar to certification that would arise if a major non-conformance were still open.

Of the minor non-conformances identified the root cause analyses and the corrective actions put in place to correct these non-conformances were deemed acceptable and will be confirmed at the surveillance audit (the non-conformance summary table covers these corrective actions) according to certification rules.

10. Non-compliance summary and corrective action plan

Number	Indicator / Criteria	Level	Detail	Root Cause Analysis	Corrective Action Summary
1	3.1.7 c	Major	Maximum on-farm lice levels of 0.1 mature female lice per farmed fish exceeded during the period April to June.	Expectation that the requirement related to gravid female lice numbers rather than adult female lice (including non-gravid females).	The corrective action is that ASC lice "thresholds" will now be highlighted in the weekly lice graphs already generated so that any action that may become necessary can be taken as soon as possible to ensure compliance.
1	1.1.1 c	Minor	I. Work required by electrical engineer surveyor from survey in xxxx has not been carried out.	The root cause was determined to be the lack of commitment from the appropriate contractor to schedule the remedial work required.	The corrective action is to get the work completed and signed off. Timescale due to the WHS implications is limited to three months from date of audit, to be confirmed by email once completed to FCI and at also at the surveillance audit.

Number	Indicator / Criteria	Level	Detail	Root Cause Analysis	Corrective Action Summary
			II. SCMS Discs are not displayed on the vessels as required by legislation.	Root cause was determined to be that the site manager felt that it was (due to the lack of a wheel house on the smaller vessels) difficult to prevent the paper discs from becoming illegible over time due to the exposure to the weather conditions.	The corrective action is to display the licences (with an appropriate degree of protection and suitably affixed) on the vessels; this will be reviewed at the surveillance audit.
2	2.2.4b	Minor	Hach test kit methodology used for monitoring seawater nitrogen and phosphorous levels at the farm and at reference stations. Results of monitoring have not been validated through duplicate sampling to an independent laboratory.	Root cause was determined to be delay in identifying an appropriate certified laboratory.	The corrective action is to put in place a procedure to ensure the independent analysis takes place at an appropriate certified laboratory in the timeframe required. This will be reviewed at the surveillance audit.
3	3.1.3a	Minor	A maximum 'Sea lice Load' has not been established for the Greshornish Farm and the Management Area.	Root cause was determined to be a delay in completing the calculation.	The appropriate data exists on the farm to complete the calculation. Corrective action will be reviewed at the surveillance audit.
4	3.1.3 d	Minor	Information on lice load must be submitted to ASC.	Lice load calculation had not been completed.	The corrective action is to put in place a procedure that includes submission of lice load to the ASC.
5	3.1.4 d,e	Minor	Lice count data was not publicly available within the 7 day time frame specified.	Root cause was determined to be indecision on where the lice count data would be published .	The corrective action will determine a location where lice count data will be published within the 7 day time frame.

Number	Indicator / Criteria	Level	Detail	Root Cause Analysis	Corrective Action Summary
6	3.1.6 b,c,d,e	Minor	Participation in monitoring of sea lice levels required on out-migrating salmonid juveniles. Evidence required of the methodology applied and that the results are publicly available within 8 weeks and submitted to ASC.	Root cause was absence of monitoring of sea lice levels on out migrating salmonid juveniles.	The corrective action will be to participate in or establish a monitoring protocol for sea lice levels on out migrating salmonid juveniles that meets the requirements of Appendix III-1. The time frame for completion of this corrective action will be determined by the period of out migration. Procedures will be required to demonstrate that results are publicly available within the timeframe and submitted to ASC.
7	3.1.7 d	Minor	Evidence required that setting of maximum on farm lice levels during the sensitive period and lice load are reviewed in respect of the prevalence of lice on wild stocks.	Root cause was absence of monitoring of sea lice levels on out migrating salmonid juveniles.	The corrective action will be to demonstrate that maximum on farm lice levels and lice load are reviewed and set in respect of the prevalence of lice monitored on wild stocks.
8	3.4.3 e	Minor	Transparency of stock numbers is not clear. Procedures include the removal of xxxx of delivered smolts from the stock record with the justification cited by the company being the difficulty of accurately assessing the mortalities immediately post-transfer. This contradicts the accuracy reported on the freshwater counting procedures.	Root cause was the adjustment of smolt input figures by xxxx.	The corrective action will be to investigate the accuracy of the freshwater counting procedures and utilise the freshwater count figures in a manner that allows compliance with the criteria.

Number	Indicator / Criteria	Level	Detail	Root Cause Analysis	Corrective Action Summary
9	3.4.4 b	Minor	Escape prevention plans do not document the net mesh size used on site as required.	The root cause was determined to be insufficient awareness of the detailed ASC standard requirements.	The corrective action is that appropriate management team members are to determine the corresponding fish input size and net mesh size to be included in either the company Net Policy or within the Containment Plan itself.
10	4.2.1 b,c,d	Minor	Incorrect calculation of FFDRm (inclusion of trimmings from by-products). Incorrect calculation of FFDRo (using Biological FCR rather than the required eFCR).	Root cause was determined to be error in application.	The corrective action is to apply the criteria as required for future calculations. This will be reviewed at the surveillance audit.
11	4.5.1 a	Minor	No waste policy available at audit covering cage waste disposal.	Root cause was determined to be oversight, assumed to be covered in the accumulated documentation.	The corrective action is to provide a copy of the relevant policy on site. This will be reviewed at the surveillance audit.
12	4.7.2 b	Minor	No effluent treatment licence available at audit for xxxx.	Root cause was determined to be oversight, assumed to be covered in the accumulated documentation.	The corrective action is to provide a copy of the relevant SEPA licence information on site. This will be reviewed at the surveillance audit.
13	5.1.1b	Minor	Evidence required that the Health Plan has been reviewed and approved by the farm's vet.	The root cause is that there was no evidence that the vet had approved the Health Plan.	The corrective action is to put procedures in place to provide evidence that the Health Plan has been approved by the vet.
14	5.1.4a	Minor	Evidence required of Fish Vet Group's competency to provide histopathology services.	The root cause was determined to be oversight, the Fish Vet Group had a long history of supply of histopathology services to the farm.	The corrective action is to assess Fish Vet Group's histopathology services department using the farm's approved supplier procedures.

Number	Indicator / Criteria	Level	Detail	Root Cause Analysis	Corrective Action Summary
15	5.1.7c	Minor	Staff were not familiar at interview with the targets contained within the farm's mortality reduction program.	The root cause was determined to be a training issue.	The corrective action is to provide staff with information on the farm's target for mortality reduction and how it will be achieved.
16	5.2.4b	Minor	Management of withholding period for xxxx. The treatment records contained two different withholding periods for the same medication event, xxxx.	The root cause was determined to be error in entering the data into the stock control program. The appropriate information had been provided within the Veterinary Instructions.	The corrective action is to adjust the withdrawal period for xxxx use.
17	5.2.11b	Minor	Procedure to inform buyers of therapeutants and treatments used does not cover all medicines. Only the most recently used sea lice medicine is declared. A cross-check of records of medicine use for buyers of fish harvested on xxxx did not include the use of xxxx.	The root cause was determined to be a training issue.	The corrective action is that the new xxxx software xxxx will be implemented by the end of this year. Treatment sheets from this system will contain all the medicines used on farm.
18	6.1.2 a	Minor	The employment contract doesn't explicitly state the worker's right of freedom of association (6.1.2 a).	The root cause was determined to be insufficient awareness of the detailed ASC standard requirements.	The corrective action is to revise the employment contract to state explicitly the worker's right of freedom of association. The responsible personnel will be made aware of this requirement.

Number	Indicator / Criteria	Level	Detail	Root Cause Analysis	Corrective Action Summary
19	6.1.3b, 6.4.1d, 6.7.2a, 6.9.2a, 6.12.1 a,b,d	Minor	The company does not have a written policy commitment to respect all social requirements (see audit findings for details).	The root cause was determined to be insufficient awareness of the detailed ASC standard requirements.	The corrective action for a written policy commitment to be issued by management to respect all specified social requirements. The policy will be made available for all internal and external interested parties.
20	6.4.1d	Minor	There is no evidence of the training of managers and supervisors regarding diversity and non-discrimination.	The root cause was determined to be insufficient awareness of the detailed ASC standard requirements.	The corrective action is to organize a training program for all managers and supervisors with diversity and non-discrimination topics.
21	6.10.	Minor	The legal requirement with regard to the maximum number of days worked consecutively is not respected. There are employees who have worked more than 14 days without any rest days.	The root cause was determined to be insufficient human resources available to cover continuous work program.	The corrective action is for management to allocate sufficient personnel resources to respect the work time legal requirements.
22	8.4g	Minor	Total Phosphorus released to environment per metric tonne of smolts produced exceeds the limit of 5 Kg per tonne.	The root cause was determined to be that this indicator was not thought to be relevant due to the discharge to sea.	The fact that LARU discharges to sea is expected to mitigate this minor non-conformance. Confirm that the correct parameters have been used for the calculation.
23	8.11b	Minor	Evidence required that the Health Plan has been reviewed and approved by the farm's vet.	The root cause is that there was no evidence that the vet had approved the Health Plan.	The corrective action is to put procedures in place to provide evidence that the Health Plan has been approved by the vet, as with 5.1.1.b.

Number	Indicator / Criteria	Level	Detail	Root Cause Analysis	Corrective Action Summary
24	8.19.	Minor	Policies required by clause 6.1, 6.4 and 6.9, and the declaration of compliance from the smolt suppliers are not available at the farm.	The root cause was determined to be insufficient awareness of the detailed ASC standard requirements.	The corrective action is to require from smolt suppliers the policies and the declaration of compliance stated as according to ASC standard requirements.
	3.1.3 b 3.1.3 c	Obs	No annual review of lice load for the area incorporating data from monitoring results on wild stocks.	The root cause was determined to be a lack of available figures for comparative purposes.	Feedback from the monitoring of wild salmon will be included in the lice load figures produced by the farm once these figures become available.
	6.8.	Obs	Communication with workers representatives is not included in chapter C12 of the Employee Handbook.	The root cause was determined to be insufficient identification of all the means available for employees to communicate their social responsibility concerns.	The corrective action is identification of all the means available for employees to communicate their social responsibility concerns in chapter C12 of the Employee Handbook.

11. Evaluation Results by Section (1-8)

PRINCIPLE 1: Compliance with all Applicable Laws and Local Regulations

This Principle is intended to ensure that all farms aiming to be certified against the ASC Salmon Standard standards meet their legal obligations as a baseline requirement. Adhering to the law will ensure that producers meet the basic environmental and social requirements and the minimal structures, such as legitimate land tenure rights, on which the effectiveness of the requirements will stand.

Documentation relating to applicable land and water use laws was reviewed, specifically land rental contracts, SEPA licencing for water use (CAR / L/ xxxx for water use issued by SEPA dated 15th May 2013, Increasing maximum biomass held at any time from xxxx tonnes to xxxx tonnes) and Crown Estate lease IN5-34-7, Dated 1.8.10 for a new cage configuration of 12 x 100m circumference cages and supporting equipment. It is noted that the planning requirements make no reference to any lighting or noise requirements. Mortalities are brought ashore in sealed containers and incinerated (licence covering this activity was seen to be in place).

With reference to the criteria requiring that the farm does not conflict with national preservation areas a Scottish National Heritage website link to the "Acrib, Isay and Dunvegan" SAC is indicated and a statement within the Highland Council planning application determines that "the proposal will not adversely affect the integrity of the site". The SAC referred to relates to a population of Harbour Seals (*Phoca vitulina*). No other SACs were considered by SNH to be potentially affected by the planning proposal.

Company registration and stated compliance with tax laws was supported by appropriate documentation. Vicki Ferguson, MH (Scotland) HR Manager has responsibility for compliance with UK legislation and MH Group HR Manager xxxx has responsibility for EU legislation that applies. MH (Scotland) is audited by 'Investors in People' project reference xxxx, 5th December 2013. The Company Handbook is currently going through the process of being updated, no concerns were highlighted as arising from inspection of this document.

Discharge laws and regulations are overseen by SEPA at the MH Greshornish site. One single benthic reading gave a seabed borderline result, giving in section (5.1) a single minor breach, overall listing of 'Good' in the SEPA report (see principle 2). Legislation covering treatments and appropriate recording of said treatments was found to be compliant.

One minor non-conformance was raised relating to this principle and covered two points:

- i. Work required by electrical engineer surveyor following an inspection survey for insurance purposes in xxxx has not been carried out to date. The root cause of this was found to be the lack of commitment from the appropriate contractor to schedule the remedial work required, the corrective action is to get the work completed and signed off. Timescale due to the WHS implications is limited to three months from date of audit, to be confirmed by email to FCI once completed and at the surveillance audit.
- ii. SCMS Licence Discs are not displayed on the vessels as required by legislation. These licences are retained in the site office at present and are confirmed as all being in date, however legislation requires that they are displayed on the vessels. Root cause was determined to be that the site manager felt that it was (due to the lack of a wheel house on the smaller vessels) difficult to prevent the paper discs from becoming illegible over time due to the exposure to the weather conditions. Corrective action is to display the licences (with an appropriate degree of protection and suitably affixed); this will be reviewed at the surveillance audit.

PRINCIPLE 2: Benthic biodiversity and benthic effects

This principle covers the potential impacts from salmon farms on natural habitat, local biodiversity and ecosystem function. Specifically, the key impact areas of benthic impacts, siting, effects of chemical inputs and effects of nutrient loading are addressed.

Documentation relating to existing benthic data for the site defines sediment type as 'soft', consequently redox potential was selected as the indicator rather than Sulphide concentration. A site specific AZE (AZE validated through regulatory self-monitoring, results are submitted to SEPA for assessment) has been defined for Greshornish using AutoDepomod. Survey work was carried out on the 15th of January 2013 and a Modelling report with subsequent sample analysis, "Fish Farm Consent Modelling, Greshornish 2013" was completed by xxxx. Marine Harvest provided a map of the farm demonstrating the boundary of the AZE; all samples taken were found to be compliant with the selected indicator but additional benthic samples will be required to be taken to meet the ASC requirements when the Greshornish farm reaches peak biomass (estimated to be November / December 2014). This will be confirmed at the surveillance audit.

ITI scores (from data gathered in January 2013) recorded at sampling stations AZE -10m; AZE and AZE +10m as required ranged between xxxx; again peak biomass sampling will be required to confirm compliance with ASC requirements.

Water quality checks were confirmed and procedure observed on site for taking DO readings at 5 meters, all recorded readings including those observed at audit were seen to be well in excess of 70% DO with average submitted weekly average values of xxxx.

One minor non-conformity was identified relating to criteria 2.2.4 in that for the Hach test kit methodology used for monitoring seawater levels of total nitrogen, ammonia, nitrates, orthophosphates and total phosphorous at the farm; the results of monitoring have not been validated through duplicate sampling analysis by an independent certified laboratory. Root cause of the non-conformity was determined to be delay in identifying an appropriate certified laboratory, the corrective action is to put in place a procedure to ensure the independent analysis takes place in the timeframe required.

The standard requires that feed is tested for fines on farm as a method of determining potential nutrient release into the environment. The Greshornish site was found to have a quarterly testing schedule in

place, the most recent test for xxxx yielded xxxx% fines (sampled in June). The sieve used was of 2mm mesh size which is deemed appropriate to the requirement.

With respect to "interaction with critical or sensitive habitats or species" the company's Environmental Statement dated 2009 is stated to have been fully assessed during the planning process and to be sufficient to allow planning permission to be granted. Comment extracted from Highland Council Document dated 8th January 2010 reads "In this case the appropriate assessment is informed by an initial appraisal carried out by SNH, subsequent advice from the Sea Mammal Research Unit and additional submissions from the applicant."

SNH subsequently confirmed the farm is sufficiently far away from the nearest SAC (see principle 1, 1.1.1 d.) that it will not directly affect the seal habitats within the site or cause disturbance to seals within the site or alter the distribution of seals within the site. However, in light of a possible potential need to dispatch seals further mitigation was requested to address potential impacts to the population of seals that use the site. A potential biological removal calculation was carried out by St Andrew's University Sea Mammal Research Unit. As a result of this work, MHS are only permitted to dispatch a maximum of xxxx a year if deemed necessary. This commitment was considered sufficient by SNH and the LPA to mitigate a potential significant impact to the SAC and consequently allow the authorisation of Greshornish Salmon Farm.

It is noted that whilst ADDs are recorded as having been in use from xxxx % of days stocked, the ASC has approved a Request for Variance from this indicator (see section on Requests for Variance) as the use of ADDs has been included in the company's planning permissions and considered by SNH and the SMRU as an acceptable method of seal control.

Consequent to this the requirement for the farm to have 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 in place is determined not to be applicable.

With respect to predator control the site has xxxx ADD Hydrophones mapped as located on the inside margin of each cage unit, installed by an xxxx Technician and deemed to be appropriate. xxxx remaining 'xxxx' units remain in place for consideration of further use if needed. All cage units have well tensioned top nets to prevent bird access, correct tensioning and supporting "hamster wheels" minimise the chances of entanglement. Seal derived mortalities xxxx to date) and bird derived mortalities (xxxx) are logged in the xxxx system. No otter or mink losses are recorded and are stated to be unlikely to occur due to the distance of the cages from land. The site manager states no predator mortalities have occurred on site this cycle, mortality records would be kept should any such events occur. The indicator relating to IUCN red list species is deemed to be compliant, IUCN red list species would be monitored by SEPA and no such species are highlighted in the SNH report within the local area surrounding the farm, consequently no list is maintained. The company undertakes to periodically check that the current position has not changed.

PRINCIPLE 3: Protect the Health and Integrity of Wild Populations.

This principle covers the potential impacts from salmon farms on the health and integrity of local wild Salmonid populations, in this case Atlantic salmon (*Salmo salar*) and Sea Trout (*Salmo trutta*). It requires the farming company under assessment to demonstrate a commitment to collaborate with NGOs, academics and governments on areas of mutually agreed research to measure possible impacts on wild stocks. In the case of Marine Harvest this commitment is evidenced by records of discussion between Skye District Salmon Fishery Board (SDSFB), Skye Fisheries Trust (SFT) and Marine Harvest in 2012, regarding re-location of Greshornish site. More recent evidence of a project in development between SDSFB, SFT and Marine Harvest regarding establishing a baseline for wild salmonid stock numbers and lice monitoring (19 June 2014) covering the Isle of Skye surrounding waters. Marine Harvest has given a commitment to enable access to relevant farm data during the course of the study.

Greshornish farm is recognised to exist in Marine Scotland designated 'Disease Management Area 12A' (equivalent to SSPO's Code of Good Practice Management Area M-24). No other marine salmonid farms are currently (or in the future are likely to be) located within the area. Irrespective of this Marine Harvest Greshornish have drawn up an FMAg dated 9 July 2014 to cover the requirement of the relevant indicator.

A total of one major and seven minor non-conformances were identified during the audit for this principle, of the minors five related to sea lice related indicators, one related to counting procedure and one to lack of recorded provision of net mesh size specification.

Two of the non-conformances relate to (3.1.3a) the calculation and (3.1.3d) reporting of a maximum lice load determined for the farm. As this is the only farm in the ABM the calculated figure will be the same for both. Minor non-conformances were raised against both of these indicators.

The single major non-conformance raised during the audit relates to the levels of mature female lice detected during the defined 'sensitive' period relating to wild salmonid migration. There were instances where the counts for adult female lice exceeded the indicated threshold of 0.1 mature female lice per fish. Marine harvest indicated that their determination of this indicator as related to mature gravid female lice as it is these lice that are determined to be the threat to out-migrating salmonid stocks and any required treatments relate to this policy. A request for variance is being considered for submission to the ASC to change the definition of this requirement to relate to gravid mature female lice as MH veterinary staff consider this to be more meaningful, in the mean-time MH undertake to highlight ASC lice "thresholds" in weekly lice graphs, allowing any necessary action to be taken as soon as indicators exceed the required levels.

Whilst Marine Harvest commits to carrying out two lice counts per week when water temperatures exceed xxx degrees centigrade (and one per week below this temperature) and records show that this is carried out there is a requirement within the standard to make public the results of any counts within seven days of the count being carried out and also to keep records of when and where these figures are available to the public. A minor non-conformance was raised against this indicator (3.1.4).

A further minor non-conformance (3.1.6) was raised as monitoring data on wild out-migrating salmonids was not available at the time of audit as required and as it was not available it could not consequently be made publically available (limited generic information for the period April – June 2014 is included in a report published by the SSPO). Marine harvest did demonstrate awareness of the sensitive period required as the period between 1st February and 30th June, the period recognised throughout Scotland by the Code of Good Practice for Scottish Finfish Aquaculture and also that the river Snizort, a major wild salmon river on Skye, is within the 50 km range referenced within the ASC Standard. It is noted that the development project previously mentioned in development between SDSFB, SFT and Marine Harvest regarding establishing a baseline for wild salmonid stock numbers and lice monitoring (19 June 2014) covering the Isle of Skye surrounding waters will assist in providing such data.

A minor non-conformance (3.1.7) was raised as a 'maximum sea lice load' figure has not been determined for the farm and consequently no data has been submitted to the ASC, however the data for lice counts on the farm is comprehensive and Marine Harvest have undertaken as a corrective action to provide this information by the 29th of September. It was also observed that subsequent surveillance audits will be expected to demonstrate compliance with annual reviews of lice loading incorporating evidence from monitoring of local wild fish populations.

The indicators relating to criterion 3.2 were deemed to be non-applicable as the species farmed (*Salmo salar*) is native to the farming area.

With respect to the potential introduction of transgenic species, evidence was provided that stocks were produced from Marine Harvest's own fresh water facility at Lochailort. All eggs reared there were supplied by xxxx, an external supplier, a copy of whose statement regarding not using any transgenic stock was provided along with Marine Harvest's similar statement.

No escapes were recorded in the xxxx database for Greshornish. A search of data held on Aquaculture Scotland's website, http://aquaculture.scotland.gov.uk/data/fish_escapes.aspx, also confirmed no escapes were recorded for Greshornish. Monitoring for possible escapes is covered by diver checks of nets and net deployment checks (records exist from 2010 covering these inspections). Camera systems in cages used mainly for feed control can also provide back-up checks. As a part of the criterion covering escapes the counting systems used by the farm were investigated. The initial input counts are provided by the freshwater supply site and evidence of the specification of the counter used (the 'xxxx') was supplied along with a servicing and calibration record (the equipment was serviced on 15 April 2014, includes full service and calibration with fish check, in addition automatic re-calibration of the counter occurs at the start of each use. The manufacturers specification states >98% accuracy and stock figures generated would appear to bear this out. Due to the audit timing it was not possible to confirm this directly at audit. The overall accuracy of counts and stock levels are confirmed through input numbers being cross checked with delivery figures from freshwater site, Marine Scotland movement records and

transportation records. Counts are carried out if stocks are graded, mortality records are kept for each unit and when pens are cleared harvest counts are returned from the processing factory and the figures used as final stock reconciliation.

EUL calculated on the most recently completed production cycle provided evidence that the farm collected appropriate data, however here is not yet a system in place to publically disclose the calculation of EUL at the end of the production cycle (this is required at the end of the production cycle and will be confirmed at the surveillance audit).

Transparency of stock figures is not clear. Marine Harvest routinely makes a xxxx adjustment of smolt input figures on delivery to the sea sites. This adjustment equated to an unexplained 'gain' of xxxx fish at harvest on the previously completed cycle, and consequently this figure (xxxx% of total stock recorded input) is out-with the 2% 'margin of error' allowed within the specification of the counting equipment though in real terms shows a value within the requirement. As a consequence a minor non-conformance was raised for this indicator (3.4.3 e), root cause determined to be the adjustment of smolt input figures by xxxx% (the justification cited by the company being the difficulty of accurately assessing the mortalities immediately post-transfer) and the corrective action will be to investigate the accuracy of the freshwater counting procedures and utilise the freshwater count figures in a manner that allows compliance with the criteria. With regard to the indicator requiring an Escape Prevention Plan, documents were provided that included a site specific 'Greshornish Containment Plan'; Marine Harvest's Policy on Nets and Moorings and Marine Scotland's Guidelines 'What to do in the event of fish escape'. These documents covered net strength testing, net traceability, pen specification, predator management plans and risk management consideration. Records provided confirmed that staff had been trained in this respect and staff interviews on site confirmed understanding of the training received. A net trace was carried out on the net tagged as No xxxx, deployed in Pen xxxx. A full history of previous deployment, date of manufacture, strength testing, repair and treatment history was provided.

One minor non-conformance was raised here as the documents did not specifically cover the specification of net mesh size to be used on the site.

PRINCIPLE 4: Use Resources in an Environmentally Efficient and Responsible Manner

This principle covers the farms direct and indirect energy use along with the use of natural resource in the form of the ingredients used in production of feed fed to the stock. The principle also covers the efficiency of use of resource and traceability and responsible sourcing of ingredients used.

Marine Harvest Scotland's Greshornish site exclusively use xxxx to supply specific feeds formulated to an agreed recipe for each size of pellet produced. A number of independent audits of the feed company take place throughout the year and documentation confirming this was seen during the audit process and confirms that xxxx meets ASC requirements. This is achieved using a "mass-balance" method as approved by method #2 of the ASC standard for integrated feed production companies such as xxxx. In this method, feed producers show that the balance of all ingredients (by both amount and type) used during a given feed production period meets ASC requirements.

Marine Harvest state that they work with their feed suppliers, retailers and the International Fishmeal and Fish Oil Organisation (IFFO) to ensure that the fish used in meal and oil is responsibly sourced. Compliance with either the Global Standard and Certification Programme for the Responsible Supply of Fishmeal and Fish Oil (IFFO RS) or MSC Chain of Custody was confirmed through examination of trace back of fish meal and fish oil used via the Fish Source Website from random ingredient checks. Specific Batch number checks were carried out and confirmed the traceability of specific ingredients added to the 1% (by weight) limit.

With particular reference to the purchase of non-marine raw materials xxxx has provided statements that the company does not buy Soya sourced from the Amazon Biome and also that the company supports the use of a responsible standard to source soya. xxxx states they supply fish feed which is non-GM with a maximum GM tolerance of 0.9% adventitious contamination which is in line with EU regulation 1830/2003, test results from xxxx (Certificate No. xxxx) gave an actual value of xxxx% . All raw materials are sourced as Non-GM from xxxx approved suppliers, where the same maximum tolerance of 0.9% applies. For feed where vegetable oils are included, these are stated to be extracted from plants of non-GM status.

One minor non-conformity was raised in section 4.2.1 relating to the feed company statement relating to the exclusion of fish oil originating from trimmings in the calculation for FFDRm (correct calculation would result in a better margin of compliance) and a further error was noted and included in the non-

conformity because for the FFDRo FCR figure provided (Marine Harvest determined to use option #1 here rather than the EPA/ DHA calculation) the bFCR rather than the eFCR was calculated (The net effect of this was minimal and the feed was still found to be compliant when the correct information was used, a calculation was done on site at audit: NA Fish Oil Calculation = xxxx, SA Fish Oil Calculation = xxxx, Combined FFDRo Score = xxxx (SAD Target is <2.95). Having been highlighted, root cause in both instances was determined to be error in application and the corrective action is to apply the criteria as required for future calculations; this will be reviewed at the surveillance audit.

For the criterion 'non-biological waste from production' Marine Harvest provided comprehensive policy documentation and processes checked during the audit process were found to be compliant with the exception of the minor non-conformity noted below. A commitment to recycling was noted including bulk feed bags and waste oils by contractors along with paper, glass and tins collected by the local council. When the pen nets are determined by testing to be not fit to redeploy they are sent to licenced landfill via an approved contractor.

One minor non-conformity was raised in section 4.5.1 relating to the fact that no waste policy was made available at audit covering cage waste disposal. This policy is stated to exist, root cause of the non-conformity is that it was thought to be covered in the company's general waste policy and corrective action is that this specific policy will be made available at site for future reference; this will be reviewed at the surveillance audit.

For the criterion 'Energy consumption and greenhouse gas emissions on farms' Marine Harvest provided comprehensive data split down into appropriate headings and scopes giving values calculated from October 2011 through to March 2013 (last completed cycle) of total energy consumed of xxxx KJ equating to xxxx KJ per metric tonne of Salmon produced equivalent to xxxx kgs CO₂ / per metric tonne of Salmon produced with a total of xxxx metric tonnes of Salmon recorded as produced last production cycle.

One minor non-conformity was raised against the criterion 'Non-therapeutic chemical inputs'; whilst Marine harvest provided a statement signed off by xxxx (nets and Moorings Manager) dated 9th July 2014 stating "nets in use at Greshornish site for this input have not been treated with anti-foulant of any kind" which is accepted, the licence covering effluent treatment for the xxxx was not available for inspection at audit. Root cause was determined to be that Marine Harvest representatives had not considered that this would be required, the corrective action is that a copy of this licence document is retained on site for future inspections and updated as appropriate; this will be reviewed at the surveillance audit.

PRINCIPLE 5: Manage Disease and Parasites in an Environmentally Responsible Manner

This principle covers fish health management and disease prevention and control including reference to environmentally related factors.

A fish health management plan that incorporates the required components related to identification and monitoring of fish disease and parasites was found to be in place and noted to be reviewed and updated accordingly (dated 10th July 2014, reviewed by site manager and area health manager), however a minor non-conformance was raised as this plan had not been recorded as having been reviewed and approved by a company vet as required by the standard (the members of the company's health team senior vet D Cockerill, vet xxxx and area health manager A. MacLennan are listed as being responsible for the site and their competence supported by evidence supplied at audit of D Cockerill and xxxx membership of the Royal College of Veterinary Surgeons. A MacLennan (the area health manager) has more than 20 years' experience farming fish with Marine Harvest and has completed training in fish disease, fish welfare and plankton monitoring (certificates supplied).

Mortality removal and analysis criteria were found to be compliant with mortality records confirming that the removal of dead fish by airlift was carried out at least five times per week. Dead fish are routinely disposed of through incineration at the shore base (licence sighted). Mortality for the input to date is recorded as xxxx, and evidence was supplied of cause of death where analysis was required as being determined by a company vet. Detailed records of mortality date and cause were examined at audit in the xxxx database maintained on site, required information was confirmed to have been submitted to ASC as required; document reference 'Greshornish Transparency Checklist.xls'

Losses in the current production cycle to date are listed at xxxx with significant losses to xxxx Fish Vet Group were used for disease diagnostic services as needed. A minor non-conformance was raised as there was no evidence provided of the Fish Vet Group's competency to provide histopathology services as required by the standard.

A farm specific mortality reduction program (within Vet Health Plan) has been set up as required and has an end of cycle target of less than xxxx% mortality as a percentage of stock input to non-transfer related causes. More frequent gill health monitoring coupled with frequent mortality removal are the actions associated with the plan however at audit a minor non-conformance was raised as at interview staff on site were not familiar with the targets within the mortality reduction plan.

Appropriately detailed medicine records, including use of xxxx were supplied to cover the most recently completed production cycle (October 2011 to March 2013). An Eligibility List supplied by MH corporate and issued July 2013 covers therapeutants, including antibiotics and chemicals which are specifically permitted to be used by the site and by definition excludes all others.

One minor non-conformance was raised as Prescription xxxx (covering use of xxxx against xxxx infection) defines the withholding period as xxxx degree days; the relevant xxxx records for same medicine treatment show two withholding periods, xxxx and xxxx degree days. It is noted that no food safety issues might arise due to this point as a longer withdrawal period was erroneously included, also that use of xxxx in February 2014 and residue testing in June 2014 demonstrated residues below MRL as required. Quantities used were confirmed by prescription record (xxxx) and PMFs xxxx which agreed with the total quantity of medicine recorded as fed to the stock on xxxx. The current WHO list is available on site (Critically Important Antimicrobials - 3rd Revision, 2011) and confirmed that xxxx (treatment used) is not listed in this report as 'critically important'.

A minor non-conformance was raised against the indicator " Presence of documents demonstrating that the farm has provided buyers of its salmon a list of all therapeutants used in production" as a cross check of the information supplied to fish buyers on fish collected for harvest on 27 February 2013 did not include the use of xxxx used as an anaesthetic during lice counts and gill health checks. Current procedure also does not include all medicines used in production. The procedure informs the buyer only of the most recently used sea lice medicine, not all sea lice medicines used on the stock since input. As the current PTI score for the site is zero a demonstration of how to calculate the cumulative parasiticide treatment index (PTI) score for the most recent production cycle based on GSI spreadsheet calculator was done by xxxx for the Greshornish site staff.

No bioassays have been carried out to date as indicated by 5.3.1, note that a 'Request for Variance' on this point has been submitted and approved incorporating a statement that success of anti-parasitic treatments is checked carrying out parasite counts before and after treatments, allowing the detection of resistance should a good clearance not be achieved. The number of fish checked during these counts is large enough to be representative of the farm's population. It is also noted that the mortality event in July was identified as due to AGD, not an unidentifiable transmissible agent or virus so consequently there was no requirement to implement actions stated for the relevant indicators.

A current version of the OIE Aquatic Animal Health Code was found to be available via computer through the Sharepoint site. A document titled 'Marine Harvest Scotland Notifiable Diseases Procedure', covers the procedures in place to ensure compliance with Aquatic Animal Health (Scotland) Regulations and consequently ensure that farm practices remain consistent with the OIE Aquatic Animal Health Code. No OIE notifiable diseases have been confirmed during the specified time period ('during the current production cycle or the two previous production cycles') and this was confirmed by cross reference with the Aquaculture Scotland database.

PRINCIPLE 6: Develop and Operate Farms in a Socially Responsible Manner

This principle aims to address any potential negative social impacts related to farm development and operation, including labour concerns.

Interviews with the workers confirmed that they are free to form organizations or join unions to protect their rights if they wish. Workers felt there was good communication with the management which led to a good working environment and felt there was no need to be part of a union. Seventeen workers' representatives are recorded across the Marine Harvest (Scotland) sites; Representative xxxx) was interviewed with regard to the indicators in this section as were a number of site staff. There was

documentary evidence and evidence given at interview that workers are free and able to bargain collectively.

With reference to the child labour indicator it is stated in the procedure code xxxx dated 12.08.2014 - MHS young person's employment Policy that persons that are below the age of 16 will not be employed, the youngest MHS Greshornish employee is over 17 years old born on xxxx employed on xxxx when over seventeen (There are copies of the employees' documents in the personnel files held at the central office at Blar Mhor, Fort William, examination of these supports the policy declaration noted above). It was confirmed at interview that the employee had received the Job description and tasks are allocated according OH&S risk assessment. The employee is mentored and trained by xxxx to ensure he understands the job requirements.

Contracts are clearly stated and understood by employees. Contracts do not lead to workers being indebted (Demonstrated by Contract for employee no. xxxx, dated 20.05.2011) and the auditor had no concerns that forced, bonded or compulsory labour occurs on the site.

With reference to recorded incidences of discrimination none were noted for this site.

It was determined that with reference to worker health and safety Marine Harvest has documented practices, procedures (including emergency response procedures) and policies to protect employees from workplace hazards and to minimize risk of accident or injury including xxxx dated March 2013, OH&S Policy, and xxxx dated July 2014 - Fire safety Policy. All MHS employees are required to attend a 'xxxx' course that includes training on how to identify hazards and how to report them.

Staff awareness was demonstrated by testimony given during interviews and appropriate training records were provided covering job requirements and equipment use. Evidence that accidents and health and safety related violations are recorded and corrective actions are taken when necessary was provided, accident record no. xxxx demonstrated that the appropriate corrective action had been established and was recorded as having been carried out.

With respect to diving on site Marine Harvest were shown to maintain evidence of diver certification for each person involved in diving operations. The records provided for contractor xxxx included xxxx no. xxxx dated 15.03.2013 First aid at work no. xxxx valid until 25.02.2016, Medical Examination and assessment of diver no. xxxx dated 10.01.2014 for xxxx.

It is noted that MHS is compliant in all aspects of the indicators relating to wages, the 'living wage' for the UK has been determined as 7.65 GBP per hour and the minimum wage paid in within MHS is recorded as xxxx GBP per hour, this also comfortably exceeds the calculated 'basic needs' wage. It was observed that a premium rate is paid for overtime, this was observed within records, for example overtime paid at xxxx% of basic rate for employee no xxxx - xxxx h overtime generates xxxx GBP which equates to xxxx GBP per hour - contractual hourly rate xxxx GBP per hour. All MH Greshornish employees have been given contracts as checked during the audit process.

MHS was found to support staff training and education through inspection of training records and the "Training and Development policy dated July 2014" MHS has been seen to support for example food safety training, accountancy and English language courses for the foreign national employees where relevant (though not all these courses specifically apply at Greshornish). Records of trainings for each employee were seen (e.g. xxxx) evidencing MHS's robust attitude to staff training.

Four minor non-conformances were raised for this section. Two of these relate to specific omissions in documentation (employee contract and policy):

- i. The employment contract doesn't explicitly state the worker's right of freedom of association.
- ii. The company does not have a written policy commitment to respect all social requirements listed by the ASC (see audit findings for details)

In real terms the auditor felt that there were no concerns that any of the areas covered by the omitted clauses were non-conforming, none the less the standard requires that these clauses are included as detailed.

The third minor non-conformance raised is that there is no evidence of the training of managers and supervisors specifically with regard to diversity and non-discrimination. It was noted that code of conduct training is carried out, all personnel deemed appropriate have to pass an online test for which they receive a certificate (e.g. xxxx), however this test does not currently cover the issues of diversity and non-discrimination.

The fourth minor non-conformance raised in principle 6 related to working hours practices in that the legal requirement with regard to the maximum number of days worked consecutively is not respected. There are employees that have worked more than 14 days without any rest days, e.g. Employee no. – xxxx days worked continuously in July 2014. It is noted that at interview the employee concerned actively wanted to work the overtime and stated there was no pressure on him to do so from management. He stated that ‘xxxx

The corrective action for this non-conformance is for management to allocate sufficient personnel resources to respect the work time legal requirements.

PRINCIPLE 7: Be a Good Neighbour and Conscientious Citizen

This principle aims to address any broader off-site potential social impacts associated with salmon production, including interactions with local communities.

The MHS Greshornish site was found to be compliant with all indicators within this principle. Some site staff live in the local community and as such are involved with local social activities and impacts. Site staff have participated in the community council meeting on 12.05.2014. They have received the agenda for the next meeting and have made a commitment to attend it. Should any conflicts or complaints arise the MHS company policy xxxx dated 21.07.2014 provides a mechanism to deal with any such issues.

The farm has a system for posting notifications at the farm during periods of therapeutic treatment, signs were seen during the audit process and the site manager states these would be deployed as and when required and any health related implications would be advised during future meetings with the local Community Council as and when relevant.

It was determined at audit that as the farm does not operate in indigenous territories or in proximity to indigenous or aboriginal people this indicator is not applicable at Greshornish.

The audit process confirms that the farm's activity is seen not to affect the access to any vital resources for the community. The farm helped to install and supports maintenance of a pontoon off the site which allows access to the water adjacent to the site area. In addition the farm has in the past provided assistance to local boat owners when requested.

Section 8: Requirements for suppliers of smolt

This section aims to cover documentation from its smolt suppliers to demonstrate compliance with the requirements indicated. These focus on the impacts that are most relevant for smolt facilities, specific requirements are applied according to the production system used.

All stock received at Loch Greshornish for the most recent input originated from the Lochailort Recirculation Unit (LARU) which is a closed system land based production facility that discharges into seawater. Site stocking dates were from the xxxx December 2013 via the wellboats xxxx and xxxx, which are closed system recirculation vessels. Transfers were signed off on 23rd June, sign off by Marine Scotland Inspector xxxx.

No requirement to monitor discharge has been imposed by SEPA to this point so no information is available, discharge is to sea and the volume discharge figure is low (xxxx permitted abstraction of xxxx / day) due to the site's applied working practices. Evidence of an assessment of the farm's potential impacts on biodiversity and nearby ecosystems provided by way of an Aquatic Ecological Scoping Report commissioned xxxx dated 1 November 2010 as part of the application process. An Environmental Statement (2010) for Lochailort recirculation unit was also provided at audit.

With reference to the requirement to calculate total phosphorus released per ton of smolt produced the auditor confirmed the methodology used was correct, the total biomass grown over a 12 month period was xxxx kg of which Q4 (site stock type) is xxxx% (i.e. xxxx kgs), the calculation of total phosphorus released was made using a “mass balance” approach as indicated, however:

A minor non-conformance was raised (8.4g) as the calculation of phosphorous (xxxx per kg) determined to be released into the water body per kg of smolt produced slightly exceeds the 5 g/kg target value stated in the standard (g/kg is equivalent to the kg/Mt indicator specified by ASC).

It was noted that no escapes were reported or suspected since the unit was stocked. The likelihood of escapes occurring is minimal due to the enclosed nature of the site and the applied working practices however the site has a contingency plan in place.

With respect to counting accuracy at the unit xxxx scanners are used, service records sighted at audit for xxxx channel scanners, serial number xxxx dated 15th April 2014, and number –xxxx dated 19th March 2013.

An energy use assessment verifying the energy consumption at the smolt production facility was made available, records are in place from June 2013 to May 2104 as evidenced by the 'LARU Energy and GHG document' updated August 13th 2014, sighted during audit. Production information is available for June 2013 to December production of smolts from the LARU however as figures were not recorded back to 2012 information on the whole production cycle were not available.

A site specific VHP was provided for Lochailort Re-circulation Unit (LARU), the plan had been reviewed in January 2014 and updated in May 2014 and included a list of significant diseases which might occur for farmed salmon within this region. Document 'Farmed Salmon Diseases of Significant Risk in Scotland', August 2014. The VHP also included details of the vaccinations received by fish transferred to Greshornish (against xxxx). Evidence was provided at audit that the fish destined for Greshornish were screened for disease through histopathology testing and bacteriology sampling. Additional samples for viral testing were taken with further analysis requirements dependent on the results of the histopathology. Samples were taken on 18 November and results confirmed that there was no evidence of the diseases tested for. There was no recorded use of antibiotics, the prescribing vet team also demonstrated awareness of the requirement to use only antimicrobials not listed as critically important by the WHO documentation (should the need for antibiotic use arise) detailed previously.

A minor non-compliance was raised (8.11 b) as there was no evidence that the Health Plan has been reviewed and approved by the farm's vet.

Evidence of compliance with the OIE Aquatic Animal Health Code was demonstrated by provision of the document 'OIE Compliance Statement'. The statement has been signed off by the Unit's Manager xxxx and Vet xxxx. In addition the document 'Marine Harvest Scotland Notifiable Diseases Procedure', covers the procedures in place to ensure both freshwater and seawater sites are compliant with Aquatic Animal Health (Scotland) Regulations.

A minor non-conformance was raised for 8.19: As the smolt suppliers are part of MH (Scotland) they have the same policies as the audited farm. The previously identified policy requirements relating to 6.1 - 6.12 are not included so the non-conformance is repeated here, also the declaration of compliance from the smolt suppliers is not listed.

Evidence that that farms engage in regular consultation and engagement with community representatives and organizations is supported by communications observed including a letter on file - Letter no/14 .07.2014 - Arisaig Community Council.

All stock received at Loch Greshornish for the most recent input originated from the Lochailort Recirculation Unit (LARU) which is a closed system land based production facility that discharges into seawater, consequently indicators 8.24 through to 8.35 are not applicable.

12. Determination of the start of Chain of Custody

We confirm that salmon included in the scope of this audit and originating from the MHS Greshornish farm may enter further certified chains and are eligible to carry the ASC Label.

This determination is based on the consideration of the following:

12.1 Tracking, tracing and segregation-systems within the aquaculture operation.

Traceability experiments at Greshornish found comprehensive fish transfer records (FTRs) enabling smolt and ova origin for each batch of smolt to be easily determined. On-farm records in to the electronic "xxxx" database enabled tracking of incoming batches including smolt number, size and allocation to individually numbered pens. Movement of stock between individual pens are maintained up to the point the fish are transferred out at harvest. For the current cycle Smolts were received from Marine Harvest Scotland's on-shore hatchery at Lochailort, with ova having been imported by Lochailort from the

Norwegian companies' xxxx and xxxx. Consignments of ova were accompanied by appropriate health documentation and included detail of brood stock parents.

12.2 Use of trans-shipment

Marine Harvest contract wellboat vessels to transfer fish live to the point of slaughter. The contract includes procedures for loading and the requirement to identify and keep separate the fish in each well. The bulk of harvests are from single pens but on occasions wells may contain fish from two different pens. Whatever the pen origin the fish are effectively identified in transit and at discharge to the slaughter operation.

Fish transferred for harvest are accompanied by electronic fish batch records (e-FBRs), these e-FBRs detail the information given in 8.1 above and as appropriate include detail on medicine and treatment applications and their withdrawal periods.

12.3 Eligible operators and point(s) of landing

Live fish from Greshornish are landed to the MHS owned and operated slaughter operation in Mallaig. At Mallaig the fish are stunned, bled then transported in ice to the MHS Blar Mhor packing operation. The transport to Blar Mhor is done by an approved contracted haulier in food safe bulk road tankers; these tankers have individual identification.

On arrival at Blar Mhor each delivery is identified by origin using e-FBR records and fish transport delivery documentation before discharge and gutting / packing commences.

12.4 The opportunity of substitution of certified with non-certified product within the unit of certification.

Opportunities for substitution whether accidental or deliberate are very low. Individual batches of fish are run through Mallaig in sequence, details of the cargo, farm and pen number are passed to the tanker driver and also sent ahead to the Blar Mhor operation as part of the e-FBR data capture process. After discharge at Blar Mhor each batch is run sequentially by time through the process lines. Process and packing lines are cleared before new batches are run and according to established SOPs.

At Blar Mhor fish are packed into labelled polystyrene boxes or sealed plastic tubs, then labelled according to UK and EU law. The information printed on the box label is programmable and varies by customer, but at minimum includes a MHS farm code, the harvest date and a unique serial number that is issued by the "xxxx" electronic weigh / labelling system. Additionally each box label is assigned a "xxxx" code that is used by Marine Harvest globally to identify farm origin.

MHS operate and manage a "customer eligibility list" linked to the e-FBR records that determines whether a batch of fish is eligible for specific customers. This may be for Label Rouge, GlobalG.A.P or retailer customers depending on diets fed or fish size etc. The Blar Mhor packing operation is certified to BRC Grade A which lends confidence in their arrangement for managing of traceability and the separation of identity preserved products.

As a large multisite company MHS produces salmon for a number of countries and markets and has by necessity the controls and systems to identify the status of stock at all stages of production, harvest and process.

12.5 Point from which Chain of Custody-certification is required.

Chain of Custody certification will commence from the point the live fish are discharged from the wellboat for slaughter, gutting and packing. Currently this is the **Mallaig Harvest station and associated Blar Mhor gutting and packing operation.**

13. Review and consideration of Stakeholder input

Limited stakeholder input was received, the only questions being put forward were from Ian Michie of Young's Seafood who asked " how the information in Appendix VI is going to be made publicly available" and " what the maximum sea lice load is for the site and how it has been set". Appendix VI relates to 'Transparency of Farm-Level Performance Data' as specified in the ASC Salmon Standard version 1.0 from which the audit checklist for the assessment was derived, this can be found on the ASC website.

Both of these questions relate to indicators where minor non-conformances were raised, the issue is being discussed at a group level within Marine Harvest to present a solution appropriate to the whole group's farms and it is anticipated that these will be answered within two to three months of the audit date.

14. Compliance statement and certification decision

Food Certification International determines that all the requirements of the standard are sufficiently met and (at this draft stage) recommends certification of Marine Harvest Scotland's Loch Greshornish farm to the ASC Salmon standard Version 1.0 with satisfactory corrective actions being put in place to close the outstanding Non-conformances listed in the report (Section 10 above).

Appendix 1 – Acronyms used

ABM	Area Based Management
ADD	Acoustic Deterrent Device
AMA	Area Management Agreement
AMBI	AZTI Marine Biotic Index
ASC	Aquaculture Stewardship Council
ASI	Accreditation Services International
AZE	Allowable Zone of Effect
AZTI	Basque language acronym of “Technological Institute of Fisheries Services”
BAP	Best Aquaculture Practices
bFCR	Biological Food Conversion Rate
BMP	Best Management Practices
BOD	Biochemical oxygen demand
BQI	Benthic Quality Index
CAB	Conformity Assessment Body
CoC	Chain of Custody
CoGP	Code of Good Practice
DHA	Docosahexaenoic Acid (Omega 3)
DNA	Deoxyribonucleic Acids
DO	Dissolved Oxygen
eFCR	Economic Food Conversion Rate
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EPA	Eicosapentaenoic Acid (Omega 3)
EUL	Estimated Unexplained Losses
FCI	Food Certification International
FCR	Food Conversion Rate
FFDRo	Fish Oil Forage Fish Dependency Ratio
FFDRm	Fishmeal Forage Fish Dependency Ratio
FIP	Fisheries Improvement Project
FM	Fish meal
FMA	Farm Management Area
FMAg	Farm Management Agreement
FO	Fish oil
GGAP	GlobalG.A.P
GHG	Green House Gas
GMO	Genetically Modified Organism
GWP	Global Warming Potential
IFFO RS	International Fishmeal and Fish Oil Organisation - Responsible Supply
ISEAL	International Social and Environmental Accreditation and Labelling Alliance
ISO	International Organization for Standardization
ITI	Infaunal Trophic Index
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unregulated and Unreported
Kj	Kilojoules
Kg	Kilogram
LPA	Local Planning Authority
LARU	Lochailort Recirculation Unit
MMSI	Maritime Mobile Service Identity (Radio ID)
MRL	Maximum Residue Limit
MSC	Marine Stewardship Council
MT	Metric Tonne
NA	North Atlantic
N/C	Non-conformance
OH&S	Occupational Health and Safety
OIE	Office International des Epizooties (World Organization for Animal Health)
PGI	Protected Geographic Indicator
PMF	Prescription for Medicated Feedstuffs
PPE	Personal Protective Equipment

QA	Quality Assurance
RTRS	Roundtable for Responsible Soy
SA	South Atlantic
SAD	Salmon Aquaculture Dialogue
SCMS	Society of Consulting Marine (engineers & ship) Surveyors (vessel licencing)
SDSFB	Skye District Salmon Fishery Board
SEPA	Scottish Environmental Protection Authority
SFT	Skye Fisheries Trust
SOP	Standard Operating Procedure
SRAC	Sustainability Report Advisory Committee
SSPO	Scottish Salmon Producers Organisation
VHP	Veterinary Health Plan
WDP	Waste Disposal Plan
WHS	Workplace Health and Safety
WHO	World health Organization
WIP	Wildlife Interaction Plan

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