

Aquaculture Stewardship Council

Salmon Standard

Final Assessment Report

Non-confidential issue

ASC Salmon Standard V1.0 June 2012

Marine Harvest Norway AS

Sandviksbodene 77, Bergen, Norway

Linesvika & Storstrompan Farm Cluster

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1. Executive Summary

Marine Harvest ASA is one of the largest seafood companies in the world, and the world's largest producer of Atlantic salmon. The company employs 10 200 people, and is represented in 22 countries. In 2013 the company had a turnover of NOK 19 billion. Marine Harvest is listed on the Oslo Stock Exchange (OSE) and the New York Stock Exchange (NYSE). Marine Harvest supplies healthy, delicious and sustainably farmed salmon and processed seafood to more than 50 markets worldwide. The company is present and trusted in all major salmon farming regions in the world. Estimated salmon production for 2014 is 405 000 tonnes worldwide. (Website). Marine Harvest Norway has 214 licences approved for salmon aquaculture on 125 sites in 50 municipalities. Marine harvest Norway employ 1349 employees and turns over 8.1b NOK. They produce 255,000 tons of head on gutted salmon and boast the 4 largest seafood factories in Norway. MHN have investments of 3 billion NOK and invest 70m NOK per annum in research and development. More information on Marine harvest worldwide can be found on <http://www.marineharvest.com/>

2. Scope

2.1 Standard

Aquaculture Stewardship Council Salomon Standard Version 1.0 June 2012

2.2 Species produced

Salmo salar (Atlantic Salmon)

2.3 Client Details

Company Name:	Marine Harvest Norway AS
Address:	Sandviksbodene 77
City/State:	Bergen
Province/Country:	Norway
Postal Code :	5035
Application Status:	Site Cluster
Farm :	Linesvika and Storstrompan (Farm location numbers 29996 and 13124 respectively)
Farm Activity:	On-growing production of Atlantic salmon in circular sea-cages, from smolt stage to harvest.
Receiving Water :	<p>The fish farm site Linesvika is in Nordland County (GPS-position in center of site: 66° 32.271' N 13° 19.510' !1)). The site Linesvika is placed south in the fjord Melfjord. It is approx. 60-250 meters deep under the site and a steep degree of sloping bottom to the west.</p> <p>The fish farm site Storstrompan is placed in R0d0y, Nordland County (GPS-position in center of site: 66° 32.686' N 13° 25.104' ç). The site Storstrompan is placed south in the fjord Melfjord. It is approx. 80-250 meters deep under the site and a steep degree of sloping bottom to the north.</p> <p>There are wild salmonids present naturally in this area, although rivers within a 50 km radius do not, to our knowledge, have status as salmon carrying waterways (Laksef0rende vassdrag).</p>

3. Audit Plan

3.1 Previous Audits

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

3.2 Auditors

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

3.3 Audit Plan

The audits of three Region Nord sites were conducted from the 1st to 6th December 2014 inclusive.

Days 1 -3 were office based and composed of an Opening Meeting and review of Principle 1, 2, 3 and 6 that included Regulations, Environmental Sustainability, Health Management, Wild populations, Social Accountability and Health & Safety ; and a review of Principles 4, 5, 7 and 8 that included the use of resources, disease management, interaction with local communities and Freshwater Production

Days 4-6 were site based, the visit to Linesvika & Storstrompan occurring on 6th December.

3.4 Staff Interviews

Attendee (Name, Surname)	Role/Organization	Opening meeting	Document review	Site visit	Closing meeting
Are Andreassen Moe	Environmental Coordinator	x	x	x	x
Frode Vik-Mo	Fish Health Manager Rn		x		
Gudmund Bye	Quality Manager Sea Production	x	x		
Tom Isaksen	Production Assistant		x		
Helen Crabtree Sørå	Human Resource Manager Rn	x	x		
Grim Sand Mathisen	Fish Health Manager Freshwater		x		
Gunn Mari Strømstad	Quality Manager Rn	x	x	x	x
Ann Kristin Aaker	Project Manager Helgeland Havbruksstasjon		x		
Catarina Martins	Group Manager Environment & Sustainability				x
Arnfinn Wennberg	Site Manager			x	
Paul Casburn	Technical Auditor	x	x	x	x
Leon Reed	Social Auditor	x	x	x	x

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.

3.5 Stakeholder Submissions

There are no stakeholder submissions to date.

4. Findings and Corrective Actions

No.	Clause in Standard	Detail of Major Non-Conformity	Corrective Action	CA Date	NC Status
1	6.2.2 b	Identification is not available for young workers to verify their ages	Identification is now available for the young worker that was at work. See attachment.	Completed	Closed
2	6.2.2 e	Risk assessments have not been carried out for young workers.	Risk assessment has been carried out for the young worker at the site.	Completed	Closed
3	6.5.1 a	<p>1. Electrical lock out procedures has not been established for the maintenance of equipment. No lock out system is available</p> <p>2. No robust checking process has been established for checking emergency lighting</p> <p>Additional health safety problems highlighted at the Linesvika barge</p> <p>1. Handrail completely missing from around the barge</p> <p>2. Old nets are being used as flooring on the main deck</p> <p>3. Water is leaking into the barge</p> <p>4. Batteries are all over the barge and are not controlled</p> <p>5. Engine bay is full of water and has oil leaking into the water</p> <p>6. No emergency lighting</p> <p>7. Guards missing from the silos motors</p> <p>8. No controls on fire extinguisher throughout</p> <p>9. Young person working this barge that is unsafe</p> <p>10. Risk assessments do not reflect the condition of the barge.</p> <p>11. Also important to note that this barge should be fully assessed to ensure it is fit for purpose.</p>	<p>1. Procedure for lock out of electrical maintenance of equipment is established. See attached document.</p> <p>2. There are no emergency lights, but signs that are fluorescent is placed over all doors. See attached pictures</p> <p>Barge at Linesvika: The barge has been removed from the site and replaced with another one from a site that was finished the feeding. This barge has been assessed and is fit for purpose. see attached pictures.</p>	Completed	Closed
4	6.10.1 a	Review of working hours found that workers are	Documentation from FHL, Human Resource	Completed	Closed

		working in excess of 48 hours on a regular basis. The shift pattern that is in operation means that employees are working 7 days in a row and 70 hours in a week for the first week of the shift pattern. Overtime is also carried out on top of the 70 hours. It is important to note that the shift averaged over the shift cycle is only 35 hours per week but is in breach of the average weekly working hours set out by the ILO	department in MHN and fellesforbundklubben		
No.	Clause in Standard	Detail of Minor Non-Conformity	Corrective Action	CA Date	NC Status
1	2.1.1 g	Submitted to ASC but the Linesvika figure is incorrect.	Submit the correct number to ASC.	June 2015	To be reviewed at first surveillance
2	2.1.2 e	The 2.5 reading in Linesvika is below the 3 as set by ASC. The reference station has a reading of 2.2. Both sites have sampled at peak biomass but the results are not yet available.	Submit the results to the CAB as soon as the results are available.	June 2015	To be reviewed at first surveillance
3	2.1.3 e	The wrong counts on macro faunal taxa were submitted to ASC.	Submit the corrected numbers to ASC.	June 2015	To be reviewed at first surveillance
4	2.5.5 a, b + c	There is currently no system in place to log lethal incidents on a public website.	Develop a system to log incidents on an easily accessible public website.	Within 1 year	To be reviewed at first surveillance
5	3.1.4 d	Lusedata.no is where the lice results are posted for the average for the management areas but not specific individual sites that are easily publicly available.	Develop a system to log lice counts on an easily accessible public website.	Within 1 year	To be reviewed at first surveillance
6	3.1.6 e	No information submitted to ASC on lice monitoring of wild fish.	Submit to ASC information on wild lice monitoring relative to the area (i.e. Lusdata)	June 2015	To be reviewed at first surveillance
7	4.1.1 c + f	MH feed factory does not have ASC approved traceability.	Complete the certification of the feed factory under GGAP or similar certification.	Within 1 year	To be reviewed at first surveillance
8	4.2.1 e	Marine Harvest North region has not submitted FFDRm to ASC.	Submit the FFDRm number to ASC.	June 2015	To be reviewed at first

					surveillance
9	4.2.2.f	Marine Harvest North region has not submitted FFDRo to ASC.	Submit the FFDRo number to ASC.	June 2015	To be reviewed at first surveillance
10	4.3.3 b	Not all the meal and oil sources have third party chain of custody.	The MH feed company sourced fish meal and oil need to insure these ingredients are sourced from suppliers with IFFO certification or similar schemes on sustainability.	Within 1 year	To be reviewed at first surveillance
11	4.6.1 e	Submitted the wrong calculation result to ASC.	Submit corrected calculation.	June 2015	To be reviewed at first surveillance
12	5.1.4 e	Farm records from original mortality sheets do not have enough detail.	MH has a mortality sheet for initial recording of mortalities on the farm. Not all the farm sites are using it in the same way. Neither are all the sites attributing a reason to the mortalities or in other words categorizing the mortalities. This leads to a gap in information that cannot be verified on the final submission of information onto Aquafarmer. The sites should have similar recording and categorizing of mortalities. This will be established by the fish health manger and the site protocols will be updated.	April 2015	To be reviewed at first surveillance
13	6.4.1 c	There is a direct conflict with the code of conduct and the contract of employment. The contract of employment states that "A contract of employment will terminate when an employee has reached normal retirement age. This under ethical standards is seen as age discrimination.			To be reviewed at first surveillance
14	7.1.1 a	The farm has pro-actively arranged consultations with the local community, however this has not been done bi-annually at this stage.	There will be made a plan for consults with the local communities so that we cover all areas twice during 2015.	March 2015	To be reviewed at first surveillance
15	8.4 g	The hatcheries exceed the 5kg/mt discharge of	Variance applied for on discharge to sea.	Done	To be reviewed at first

		phosphorus level. A variance request is applied for as the hatcheries all discharge into the Marine environment and not into freshwater.			surveillance
16	8.13 b	There is no disease testing immediately prior to transfer of smolts.	MH takes samples prior to sending the smolts to sea but does not test unless problems are discovered. The options are to apply for a variance, based on the Norwegian requirements or test the smolts as required.	April 2015	To be reviewed at first surveillance

5. Evaluation Summary

5.1 Principle 1: Comply With All Applicable National Laws and Local Regulations

Compliance with this principle is excellent. All applicable laws are available the Marine Harvest 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. Copies are maintained in the TQM system. All the documents have ID numbers. There are links within the documents to the law and permissions needed. The lease agreements has been provided for the farm the lease agreements are for Linesvika: NL0007, NL00010, RL0004, RRL0009 and for Storstrompan: NL0007, NL00010, NR0004 NR0009 NR00029

Internal audits are carried out to ensure compliance with national and local laws and regulations. The last audit date was carried on the 19/06/14 for both farms. Government grants the lease once it is confirmed that national preservation areas are not affected.

The companies ID number is 959352887. The company is audited externally for tax and financial accounts. The company is a public company on the Oslo and New York stock exchange. 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 is detailing all tax payments within in the annual report for the stock markets which it is associated with. MHN has a full accounts department that deals with this as the company is listed on 2 stock exchanges.

Arbeidsmjolovan (AML) - This Details all relevant national and local labour laws and regulations. There is no minimum wage and the minimum work age is 16. All national labour codes and laws applicable to farm are available on the Marine Harvest Human Resources management system. Human Resources management team reviews all codes and laws and updates as required. Inspections are not required in Norway

There are sediment samples taken during peak biomass that the results are posted on the government website www.fiskeridir.no. Sampling is carried out by a third party and to the MOM standard. This forms part of the approval process to issue lease agreement detailed 1.1.1. Ongoing sampling is carried out and grading matrix is issued by government of the production size that is allowed within the farmed area

Laws and regulations are covered by MOM B and MOM C sample programs for cage farms. See section 8 on freshwater conditions for hatcheries. All monitoring is located on the website www.fiskeridir.no and is strictly monitored. The discharge information is captured is the MOM reports. The authorities review discharge records.

5.2 Principle 2: Conserve Natural Habitat, Local Biodiversity and Ecosystem Function

Compliance with this principle was generally good however there were four minor non-conformances. Two of the NC's related to the wrong metric being submitted to ASC. There is also no system in place yet to log lethal incidents on a public website. Marine harvest are investigating how to do this most effectively. The forth minor was in relation to a sample previously taken for the Shannon weiner (not at peak biomass), where one reading at the Linesvika site was below 3 (2.5), however the reference station was also below the level set at 2.2.

Maps provided and clearly shows location of the sampling stations. The MOM C methods are used for the sampling. The MOM C sampling is a Norwegian standard NS 9410:2007. The site is all described as soft. Option 1 has been chosen.

The sites have had previous production. There are historical MOM C readings and submissions as part of their licence conditions. The MOM C sediment sampling and analysis is the same as per the ASC requirement. mV readings are recorded in the reports. The company's carrying out the mV readings are Helgeland Havbrukstasjon AS and Aqua Kompetance AS and they use mV recorders under the NS 9410:2007 standard. Analysed Aquaplan Niva have the accreditation for analysis. The results were below 1500 in the transitional zone: 49 and 246mV respectively. Submitted to ASC but the Linesvika submission is wrong but still well below the limit set.

Map has been prepared for each site and the sampling stations have been identified. Option 2 Shannon Weiner has been chosen. Sediments collected by Aqua Kompetanse AS and Helgeland Havbrukstasjon AS under Norwegian standards. The data provided shows results of 2.5 and 3.2. The 2.5 reading in Linesvika is below the 3 as set by ASC however the reference station has a reading of 2.2. Both sites have sampled at peak biomass but the results are not yet available. Documents are retained and posted on website. The company that carried out this analysis is Aqua Plan Niva in Tromso under the same MOM C Norwegian accreditation.

Appropriate grab sampling was carried out. Taxa were counted in each grab. The companies used was Aqua Kompetance AS and Helgeland Havbrukstasjon AS. The results are 4 + 4 highly abundant tax not pollution indicators. Documents are retained and posted on website. The company that carried out this analysis is Aqua Plan Niva in Tromso under the same MOM C Norwegian accreditation. The wrong data was submitted to ASC. The modelling / sampling system used in Norway is the MOM B and MOM C systems. These systems are accepted and developed by the competent authorities in Norway. MOM B and MOM C must be done carried out at time of peak Biomass. For each site there is at least one sampling from 2012 and has been accepted by the competent authorities and results are posted on website.

Linesvika never had an automatic sensor unlike Storstrompan. On that site a hand held unit a HACH HQ 40D was used. The Storstrompan site also has had some hand held readings as the sensor would have to be sent away for calibrating occasionally and then the hand held system would be used. Even at peak biomass levels do not fall below 70%. The lowest reading were 91.4% and 91.8%.

Automatic sensors are calibrated automatically and occasionally they are brought to the same depth to see if they are reporting the same temp. Hand held is sent away for calibration annually. They are also cleaned occasionally.

The CAB has been informed through documentation. Maps have been sent. Environmental department set classification. Can be found www.vannportalen.no have all the maps available. The water body name is the Melfjorden. The water is classified as good with no risk to the area under the risk assessment. The sites are located in a good water region.

For BOD the fish have been split from Storstrompan to Linesvika the number is 11420437.

Samples are taken from the silos when feed arrives and the samples are pooled for quarterly testing. If there is a suspected poor sample or suspected poor feed then it's taken again. Quarterly tests are documented and observed. No sieving machine is used. Tests are carried out and results are recorded. The result was <0.1%.

The site has MOM B impact assessment from carried out on all sites prior to a licence being granted. If the site is applying for more than 3000 ton production a MOM C test is carried out as well. These tests effectively are the reference sampling of a proposed site with risk assesment.2011 and 2014. All impacts are assessed under national legislation and sent to the Altinn database which all regulatory authorities have access to. The public also have access to these reports.

Action plan dated 27/5/14 for Marine harvest Norway. Goals include disease control, reduction of CO2. CO2 reduction is reported on annually as are all the goals set by the company from site to regional and the results are assimilated into the annual report on Marine harvest globally. The report for 2013 is online.

Map provided showing the location of both sites and the adjacent protected areas. No evidence to show that they are located in protected areas. The nearest protected area is the Saltfiellet-svartisen national park with a Glacier and its 7km away. Linesvika and Storstrompan registration numbers are 29996 and 13124 has a declaration on not being in a protected area. Signed by Are A Moe, Environmental co-ordinator 22/11/2014. Farm is not located in a protected area.

There are ADD devices on the two sites to restrict the nearby protected colony of seals in the nearby Norfjorden. Despite there being an ADD on the two sites there is a resident pilot whale that interacts on a daily basis with the site and was present during the audit. Not applicable until 2015. Bird nets and ADD's are listed as predator deterrents. Not applicable until 2015. There are ADD's present on a 2 day off and one day on cycle. Not applicable until 2015. 2 days off and one day on therefore <40%. On Storstrompan the number of days was 147 days which is 40%.

There are top nets in place on all the cages. There are also ADD's on these sites. Records are maintained. Bird nets and ADD prevent incidents happening. There have been no reports of bird entanglements.

The list is maintained and a report in 2014 was carried out identifying potential protected species within a 3km radius of the farms. Otters are listed as the only Mammal. Carried out by Aqua Kompetanse AS.

There is currently no system in place to log lethal incidents on a public website. Marine harvest is currently developing this. There were no red listed mortalities. If there was an incident the staff assesses the incident and fix the problem. This is clear following only one incident on each of the sites in the past production cycle. There is a procedure in place for dealing with lethal incidents on the TQM. ID 34070 and dated 30/9/14.

The steps taken are logged and documented on the incident sheet and in the farm diary.

5.3 Principle 3: Protect the Health and Genetic Integrity of Wild Populations

Compliance to this principle was good. There were two minor non-conformances related to not having information on lice numbers easily publically available and no information submitted to ASC on lice monitoring of wild fish despite MHN supporting research on wild lice investigations.

Minutes on file for meetings on ABM activities such as Lice treatments dated 28/11/14. For each of the management areas there is a hired independent disease and lice co-ordinator. This is a paid position and they report to the food and safety who are the food police in Norway. Plan includes Hydrogen peroxide and synchronous treatments and the same drugs. There is also a transport route in the ABM for well boats for harvesting. Various documents provided showing treatment plans, Defined areas and planning and a list of the sites and proposed treatment dates. This has been submitted. Fallowing period is compulsory under Norwegian licencing and has to be approved by the food authority and the Dept. of Fisheries.

There is an agreement between WWF Norway and Marine harvest ASA from 2012. The goals are Reduce environmental impact, support WWF Norway's marine conservation work and share a commitment towards measurable results. Also project on modelling currents with SINTEF.

The company has been heavily involved in supporting R+D projects over the years. There is a full section on R+D in the annual report. Inspected an ERA program looking at 'Environmental responses to Organic and inorganic effluent from Aquaculture. They will help any group such as SINTEF as mentioned, with backup. Students from BODO have been given access to sea lice counts and information. The company has a 70m NOK research budget and it communicates its research in the annual report publicly available.

Below 0.5 gravid femles per fish is the trigger level for the AMA. The level for MHN is 0.2 gravid females but young mobiles is also looked at. There is an annual review. Levels are set within the ABM by regional government. Documented testing for sea lice which includes mention of 0.5 limit of adult female lice per fish. From February to May 20 fish are sampled per cage and 5 cages making a total of 100 fish. Records of counts provided going back to 2010. Weekly lice checks for lice counts on all sites.

Weekly testing of 20 fish on half the cage numbers. So 5 cages and 20 fish equals 100 fish per week. Trained staff from the vet. Fish trapped using a box net. The fish are anesthetized and then lice is counted. Water is checked in the holding tank for any lice that have fallen off. Reports are placed on the Aquafarmer shared site. There are weekly national reports on lice numbers, actions treatments etc. Lusedata.no is where the lice results are posted for the average for the management areas but

not specific individual sites that are easily publicly available. MHN are currently working on how to publish data on weekly counts.

These weekly reports are put together by regional co-ordinators and a national co-ordinator, Ketil Rykhus, and is placed on a public website. The regional co-ordinator is Kristin Ottesen for Norland.

All salmon rivers in Norway are identified. There was national survey on wild stocking counts in 2007 carried out by the nature directorate. There is a web site from the environmental directorate that identifies each salmon river that is rated. The nearest important salmon river from the sites is over 70km and is called Ranavassdraget. The only salmonid species are Atlantic salmon and occasional sea trout. Critical times are determined by the authorities as the springtime for smolt migration and takes into account when the spring melt comes and there is a de-licing coordination prior to wild migrations. These vary depending on Ice melt and other factors and is set by the regional food safety authority in conjunction with the regional lice co-ordinators. For 2014 the periods were from 23 May to 5th June for the Skjerstfjorden.

CAB have been informed that wild salmonids do occur. Details of lice monitoring records go back to beginning of the farm. The company MH has helped the fishery owners on the Sausvassdraget River when there was a survey carried out by Helgeland Havbruksstasjon in 2012. The fish vets went and showed how to count and document sea lice levels on wild salmonids. CAB has been given good access to documentation. There are annual surveys and reports carried out by the institute of marine research and the veterinarian institute. The main one is the 'Lakselusinfeksjonen pa vill laksefisk langs norskekysten I 2014'. Results are posted on the lusdata.no website.

Nothing submitted to ASC on wild fish monitoring despite the fact that MHN co-operate on projects such as a wild salmon lice counting on the Sausvassdraget River looking at lice levels. The sensitive period is from 23rd May until 5th June. The highest individual count was 0.05 for Storstrompan. For Linesvika the fish were split from Storstrompan after the high risk period. No cleaner fish are used. Statement from 2011 showing that Marine Harvest Norway use the MOWI strain of fish describing MHN's breeding program and stating that the fish used are non transgenic. Aquagen fish area also used. Declaration from Aquagen dated 30/9/13.

All suppliers are using MOWI strain. On this site the fish are made up of Marine harvest hatcheries and an independent hatchery using eggs sourced from Aquagen who are non transgenic suppliers. Aquagen are approved by Freedom Food and GGAP.

Overall declaration on MH website specifying number of escapes per region worldwide. There has been no escapes in the most recent production cycle. MH goal is zero escapes. Declaration on this including fish number escapes over the years can be found on the web. Dated 26th April 2013. Top KPI in the annual report. Strong focus on strengthening this area. Data sheet for Marine Harvest Norway have recorded no escapes in the past year from any site in this area. The fisheries directorate are told the amount of fish that are stocked in the cages. Mortality numbers are reported as are harvest numbers. Any discrepancies in these numbers can be investigated but there has been no queries on numbers.

Records kept and maintained. Recorded first on site and then onto company database. There is evaluation for the previous production cycles do calculate unexplained losses. The current data will

be available once the harvest is finished. Marine harvest are investigating how best to make information more publicly available. All information on harvest is available in Norway under websites within various government departments.

Document from AQUASCAN on their counters being 98% accurate dated 25/11/14. Wing tech fish counter on the well boat for fish 1-20kg stated accuracy at +/- 2%. The hatcheries are Marine harvest owned and the fish are counted by the vaccination machine where the fish are fed into it by hand and the count is very accurate. For the supplier of smolts to this site the smolts are counted both in and out of the well boat. This means that the Wing tech counters are used. Carried out by the well boat when the wingtech machines are used and are calibrated on every intake and delivery.

There is a stated accuracy of the counting machine is $\geq 98\%$. Final assessment of this % variation on count cannot be established until harvest. National Escape prevention strategy: Established by the Ministry of Fisheries and Coastal Affairs on 16 August 2011 pursuant to the Act of 17 June 2005 No. 79. Amendments to the regulations in December 2011 and 2012. No's 1505 and 1282. All farms must comply. ID 27259 on the TQM of Marine harvest covers prevention planning.

Escapes are covered under national rules and audited by appropriate authorities. MHN also has farm escape prevention documents listed as ID 27259 on the TQM Version1. Approved 12/6/12. There are further documents relating to training also in the TQM such as escape notification form. There is crisis folder on each site and includes emergency numbers and what to do if. There is also escape kits that included gill nets and maps of the site that show the staff where to locate the nets in case of an escape. There is risk assessment in place for both sites. Staff regularly site down and review how to improve practices. Staff was interviewed.

5.4 Principle 4: Use Resources in an Environmentally Efficient and Responsible Manner

Compliance to this principle was generally good but there were five minor non-conformances mainly around the new Marine harvest feed producer just supplying feed for the first time this year to their farms. The newness of this facility means that not all certification, procedures and standards are in place but this is in hand and will be done shortly. The other 3 non-conformances were relating to the wrong information or an omission in sending information to ASC as required.

Each site has feed records showing date quantity and type of feed used. Skretting, Biomar and MH feed is used. Feed reports show that Feed supplier and MH food is used. Skretting Biomar were informed by way of e-mail with the ASC standard requirements attached. MH is owned by Marine harvest. Feed supplier has been audited to GGAP. Email on file confirming this.

Feed supplier has a declaration in answer to this question and has stated that the information is too much to provide. They assure MHN that Feed supplier has a tracking and tracing system. Feed supplier did supply a list of approved suppliers and a list of ingredients used. MH feed has a spreadsheet with all the suppliers and formulations used in its marine feeds. All calculations are included in this spreadsheet for the ASC requirements. Biomar have provided a report called an ECO Efficiency report dated May 2014. Lists all ingredients used. Trimmings are excluded from the calculation. The company uses the Aquafarmer system and the eFCR is calculated daily if necessary. The full EFCR will be calculated at final harvest.

Marine harvest has a policy on sustainable salmon feed dated May 2014. There is an e-mail dated 25/5/14 from Marine harvest to feed supplier with the sustainable salmon feed policy attached. MH feed have a group policy on Sustainable salmon feed and refers to IFFO RS and no IUU catch. Dated May 2014. Each species is scored. There is an e-mail from Feed supplier stating that the fish scores can vary. There is also a letter / certificate from DNV dated October 2014 stating that Feed supplier comply with the ASC standard. The MH Feed which is currently being used have scores on the overall feed manufacturing spreadsheet. Scores are included at time of signing of the contracts as the scores were compliant at the time. Biomar have provided a spreadsheet showing all the scores of meal and oil and the scores. All species used (6 species from 8 fisheries) have a score greater than 6.

Feed supplier the feed supplier confirms that they use best practice in sourcing meal and oil. Both options are recognised. MH feeds have a sourcing policy and try to purchase IFFO RS where possible. The factory has only been producing since June 2014 and is in the process of getting GGAP certification. Trimmings are also used from MSC fisheries such as Herring from the NE Atlantic. Biomar source more than 75% of its meal and oil from IFFO sources. Meal has not been sourced from a vulnerable source.

Feed suppliers has a full list of suppliers available. MH feeds have a spreadsheet with all suppliers' names, products, quantities and date supplied. Feed supplier have a general vendor policy in their internal quality procedures. Date approved 9/1/12. MH have a sustainable salmon feed group policy dated May 14. From November 2013 there is a Marine harvest position document on sustainable sources of non-marine raw materials in salmon feed. Signed by the Global manager and the Group manager. The policy in 4.4.2.a covers this. Sent to Skretting, Biomar and Marine harvest. Declaration from Skretting, Biomar and MH Feeds assuring non GMO certificates. There are no transgenics used.

Marine harvest Norway has a hazardous waste policy. Declaration on proper disposal. There is a waste plan developed for each site. Lists waste contractor. Declaration in the policy that the waste is disposed of properly. Descriptions include batteries, oils, lights plastics and the like. A full list is materials is in the farm policy. There is a waste plan for each site that lists a description of all waste including morts, cages, ropes and discarded old cages. All the waste is described as being re-cycled. No infractions. The nets and cages are taken back by the suppliers and recycled.

Report from Marine harvest showing fuel and energy use per ton of salmon production from 2007 to 2013, and including 2014 to date, for the area of the farms. Total Kilojoules is 6260459040. Tonnage has been calculated for Linesvika its 1982234 kg. Storstrompan its 5750025kg. Combined result is 1088770.7kj/mt. The company submitted the wrong calculation result. Risk assessment is carried out per site. Looking at land connected mains instead of Diesel. Results end up in the management review.

Nets are washed insitu. Copper nets have been used on these sites before but now the nets are coated with a wax in a trial on its use and effectiveness. There are no copper nets on these sites. Nets are washed insitu. However when the nets are changed due to mesh size increases the nets are sent for washing. Each net station is approved under Norwegian authorities. This net cleaning facility is called HG Notverksted.

5.5 Principle 5: Manage Disease and Parasites in an Environmentally Responsible Manner

Compliance to this principle was very good. There was only one minor non-conformance relating to on site records from original mortality sheets not having enough detail on this site.

The FHMP is reviewed as needed and updated as things change. There is a full team that covers the VHMP. It covers freshwater, broodstock and production. There are effectively levels of FHMP. One National and one regional and then a site specific plan. The farms regional veterinarian is Frode Vik-Mo and last reviewed the regional plan with the team of site vets in December 2013. The site vet is Ragnhild Hanche-Olsen. Internal records on spreadsheets of each visit and reason for visit.

Visitor log on each site for recording health visits. List of personnel available plus backups for holiday cover. The farm vets are listed in a company document together with their Health personnel number as allocated by the Food and drug administration. These numbers qualifications can be checked online at the state authorisation office by inputting their personal number. The website is www.hpr.sak.no. Frode Vik-Mo regional vet qualified in 2005. Ragnhild Hanche-Olsen site vet qualified in 2007. The site vet is contracted and works for HaVet AS.

Mort records are kept on the site and on the Aquafarmer system. The vet makes a report following every visit which also covers all the mortality from the period since the last visit.

Morts on the site are stored in specially designed tanks and are ensiled using peracetic acid lowering the pH below 4 to kill pathogens. This is a national licence condition. Once the bins are full a registered collector comes and pumps out the tanks. All sites in the area including non MHN farms are serviced by the same contractor. The waste goes to make biofuels. The company that picks up morts covers all of Norway

All mortality events are evaluated and reported on weekly by the regional vet. Mortality was checked on Aquafarmer. There have been no exceptional events. There has only been 0.9% in Linesvika and 2.62% in Storstrompan overall mortality since stocking. All these records are kept and a report is made available. Once the mortalities are removed all are designated a cause of death and counted. There are monthly veterinary visits by the site vets where fish are dissected by law and must look at 30 post mortems for the site. The company sends samples to two labs. The veterinary institute look for notifiable diseases if there are suspected diseases. The second is the Pathogen in Olesund. Monthly samples to Pathogen for PD. Up to 30 fish are sampled when morts and moribund fish are sampled.

Samples are sent to laboratories. Two are used along with the National veterinary institute. Only external labs are used. Called Pathogen in Olesund. All are classified and reported on weekly to the board of directors and management teams and site managers including health groups. All data is submitted to the food safety authority. Mortality reports reviewed. There are annual reports and generation reports. The data is available on the Aquafarmer going back over previous generations. All annual and generation reports are archived digitally. The farm records from the original mortality sheets do not have enough detail.

On viral mortalities for Storstrompan the number is 0. For Linesvika the number is 0. For Storstrompan unexplained mortality number is 12208 and 0.6%. For Linesvika the total number is 1892 and 0.3%. This has been submitted. All numbers were taken from the Aquafarmer database and verified. Linesvika total mortality is 4.3% for the previous full production cycle. For Storstrompan the mortality rate for previous full production rate was 4.12%. More rigorous training for the staff in examining morts. All farm mortalities are kept in a data set including the past morts for previous production periods.

There is a reduction plan for IPN by having a breeding program for several years (4-5). This is part of the overall strategy on mortality reductions. The staff has information sheets on each disease at hand including colour pictures. When a farm site has a disease issue the vet trains staff in disease ID using post mortem examples.

There is a full list in Aquafarmer data base. When a treatment is carried out the site manager can select the information on Aquafarmer into his report. All technical information is included and cannot be changed. MS222 is used for anesthetising the fish for lice checks.

Fish health biologists are allowed to prescribe under Norwegian laws. Very strictly regulated and done as per requirement. Copies are maintained. Inspected Slice treatment for the 8/8/14 number 502684. Prescriptions are kept on the K drive internally. Records are kept for the previous 5 years.

Prescriptions have withdrawal periods and they are logged on Aquafarmer. This withdrawal period then does not allow the site to be picked for harvest as the site will be locked on Aquafarmer. Maintained on Aquafarmer and in documentation on the farm. Residue testing is carried out. Analysis is carried out by Eurofins. Results are presented in the annual global report. Cert of analysis report date 27/10/14 number NOF 004841-14 inspected. Test carried out for Azamethiphos and Deltramethrin. Both <0.01 mg/kg results. Product CV is in place that lists all treatments and stock history. The first buyer or wholesaler gets the product CV.

The PTI for Storstrompan was 12.8. Linesvika PTI was 12.8. Aquaplan Niva did the Lobster survey for database source showed no presence of lobster inside the fjord and no traditional fishery. Also there was a lobster pot survey carried out with none caught.

For every treatment carried out for lice treatments the vet must under Norwegian law document the treatment and the outcome of the treatment. This includes evaluation and resistance. Resistance has been proven on all current treatments used and is no longer in doubt nor are further bio assays required by the Norwegian authorities. There were no successive treatments. No consecutive treatments.

There were 23 bioassays set up in the Helgeland region in 2014. There were 4 chemical treatments trialled. Records are kept. There is resistance to all treatments in Area North. Bio assays have been carried out since 2009. There were 23 tests carried out in 2014. National regulations on trading of aquaculture animals and products of aquaculture animals and the prevention and combating of infectious diseases in aquatic animals on file. IPN and HSMB are both notifiable but in effect all diseases are notifiable. In effect they are very common so are not an issue for the farm sites. There has been no notifiable disease confirmed.

5.6 Principle 6: Develop and Operate Farms in a Socially Responsible Manner

All employees are aware that they can join trade unions and most of the employees are members of the union at the audited farm. 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 Harvests Code of Conduct section 4.3 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 code of conduct section 4.4 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. Working hours were noted to exceed 10 hours per day which in breach of the standard. Working hours were verified for young workers through time management systems. Risk assessments are carried out for all young workers. No young workers are exposed to hazards and do not perform hazardous work. Young workers never carry out work on floating cages in poor weather conditions

No evidence of forced, bonded or compulsory labour was identified. All employees are provided with contracts of employment. 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 code of conduct section 4.2 & 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. The contract state that "A contract of employment will terminate when an employee has reached normal retirement age. This was noted as a direct conflict with the Marine Harvest code of conduct. Employees that were 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.

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 every 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. Marine Harvest have also designed an APP that employees can report any accidents or near misses straight away. All Diving is carried out by sub-contractors who are certified with copies maintained all Diving operations are overseen by a Marine Harvest 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
Six issues were identified within the work environment health and safety section which were:

1. Electrical lock out procedures has not been established for the maintenance of equipment. No lock out system is available for both barges
2. No robust checking process has been established for checking emergency lighting for both barges
3. The barge at Flenina has electrical cables that were trailing throughout the barge and exposed to water.
4. Step on entrance to the Flenina barge is loose and broken
5. General slip and trip hazards throughout the Flenina barge.
6. Emergency door locked off and could not be opened

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 weekly or monthly 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 a 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 includes all social responsible practices and policies. There were records of communications with contractors

Marine Harvest 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 has no incidences of excessive or abusive disciplinary actions. The company has a written policy for disciplinary actions. Marine Harvest 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 Time Solutions System, which allows employees, and Management to monitor working hours. All working hours are compliant with the local legislation but do not meet international standards. Review of working hours found that workers are working in excess of 48 hours on a regular basis. The shift pattern that is in operation means that employees are working 70 hours in one week and then one week off. Overtime hours are carried out on the week that the 70 hours are conducted and means that working hours can be as high as 80 hours plus in a given week. This was noted that it was a breach of the ILO standard. All employees are paid overtime premiums and the premiums have been agreed and detailed within the collective bargaining agreement.

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 labor requirements. The Senior Management approves corporate policy. The scope of all corporate policies covers all company operations.

5.7 Principle 7: Be a Good Neighbor 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. However this has not been done bi-annually at this stage.

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.

5.8 Section 8: Standards for Suppliers of Smolt

Compliance to this section of the ASC standard was good. One of the hatcheries belonged to Marine harvest but the Grytaga hatchery was independent. There were two minor non-conformances. The first one was in relation to both hatchery's exceeds the 5kg/mt discharge of phosphorus level. A variance request is applied for as the hatcheries all discharge into the Marine environment and not into freshwater. The second related to their being no disease testing immediately prior to transfer for smolts. There is a very robust system in place in Norway to monitor transfers however it's not the same as the ASC requirements.

Grytaga that is not owned by Marine harvest, produce 7m smolts PA and is a flow through. Tosbotn produces 5m smolts and is a flow through. Two permits are needed. The Fylkesmannen I Sor trondelag controls the water conditions and the discharge to sea. The second is controlled by the Norges vassdrags-og engeridirektorat that controls incoming waters. For the independent site the licence reference number is NVN-6 and the site number is 10948. For Tosbotn the reference number is 13584 and the licence number is NBR0007.

As all the hatcheries discharge into the sea the only effluent monitoring is using the MOM sampling system. There is monthly monitoring in the hatcheries by written reports reporting on numbers, size, biomass, mortality etc. Submitted to the food safety authority's database called ALTINN. MOM B monitoring of the effluent area as the hatcheries discharge to the sea prior to licence being granted.

Linesvika is the only site that is purchasing smolts from a supplier that is not owned by Marine Harvest. A declaration for compliance with labor laws has been established and available to Marine Harvest. Supplier has undergone a Global G.A.P assessment which has covered this inspection. The global Gap Certificate was seen. Certificate number is 4052852252072.

Risk assessment in place including the MOM B which risk assesses the sites prior to establishment of the site. This establishes the carrying capacity of the environment in being able to cope with the new activity, by risk assessment. The MOM B is tested every 2 to 4 years depending on impact carried out at peak production. Results of sampling can reduce the production permission. For Tosbotn was just sampled and are awaiting results. For Grytaga there was a MOM B sample in February 2013. Rated as category 1.

There is an environmental plan set up every year that establishes goals for reducing impact. Carried out by the site manager. For Marine harvest sites the RA is similar and there is a RA procedure in place. Looked at potential escapes and disease plus water supply and the risk assessment covers all these processes. For the Grytaga site there is an RA in place and the escape section was looked at for transfer of fish into well boat.

Double screen systems in place for all the tanks. There has been no escapes. Norwegian legislation demands at least double screens to be in place. For the Marine harvest hatcheries the vaccination machine is a Nordland Sett Vaks made machine NFT 10 and there is a statement form the company dated November 14 stating that the count accuracy is 100%. For the Grutoga independent hatchery there is counting during vaccination and movement through grading or splitting. An Aquasan CSE 1600 counter is used with the pipe counting. Spec sheet shows 98-100% accuracy.

The vaccination count is used for stocking as approved by the stock exchange rules under transparency of stocks. The hatcheries can verify the count by comparing the count to the volume of the vaccine actually used. The Grutoga hatchery states that there are 10,000 doses per 0.5litres of vaccine. There are counts from the machine compared to this.

Marine harvest has the same policy on the freshwater sites as the Marine sites. Each site has a waste management plan. All waste is disposed of through and approved re-cycled contractor. Tosboten hatchery uses Retura as the waste contractor. There is a waste plan in place for Grutoga and all waste is listed and how's it's disposed of. All marine harvest hatcheries maintain records for and they are separated out by source. The Grutoga hatchery also has this information.

Same as the sea sites for Marine harvest hatchery. The Grytaga hatchery has been sent all the information required of the ASC standard using Marine harvest recommended websites such as the NVE.NO website. Full results are available for both hatcheries.

Same as the sea sites and the same regional veterinarian as the hatcheries are both owned by Marine harvest Norway. The freshwater vet is Grimm Sand Mathisen. There is a local vet health plan for each MH hatchery. For the Grytaga hatchery there is a fish biologist under contract. The company is Helgeland HAVBRUKSSTASJON AS is the supplier. This company also has written up the Health management plan. It's reviewed annually in January. The fish vet is Bjarte Langhelle. List is maintained in the FHMP in both the MH plan and the Grytaga hatchery.

The regional plan lists the diseases and vaccines. In the FHMP for Grytaga the vaccines used and the diseases are all recorded. The supplier is Marine harvest themselves. Product CV's for final product include vaccines used and therefore the vaccine history is fully traceable. For the Grytaga hatchery the transfer documents have all the information on vaccination and the data is input into Aquafarmer. All salmon are vaccinated according to the decisions of MHN and as laid out under law. There is vaccination for Vibriosis, Furunculosis, IPN and winter ulcers.

There is some testing annually for Gyrodactylus in all the hatcheries. Once they go to sea the fish are tested for IPN and PD. Test in the MHN hatcheries are for 100 fish for weight and length and deformities. Samples are taken from the 100 fish and are retained for future testing if needed. These tests are only carried out if there is a disease outbreak following transfer. There is no testing pre transfer of smolts. Vaccines and Benzocain are the main substances listed in the Chemical log.

Web link in place and the hatcheries are aware of the OIE animal health code. There is a vet visiting every month that works for Marine Harvest visiting the independent hatchery. The ASC standard has also been sent from MH to the company. There is a statement to this effect from the Grytaga hatchery dated the 28th November 2014.

Copies of the smolt suppliers' policies have been made available to Marine Harvest. Policies have been viewed as of the audit process.

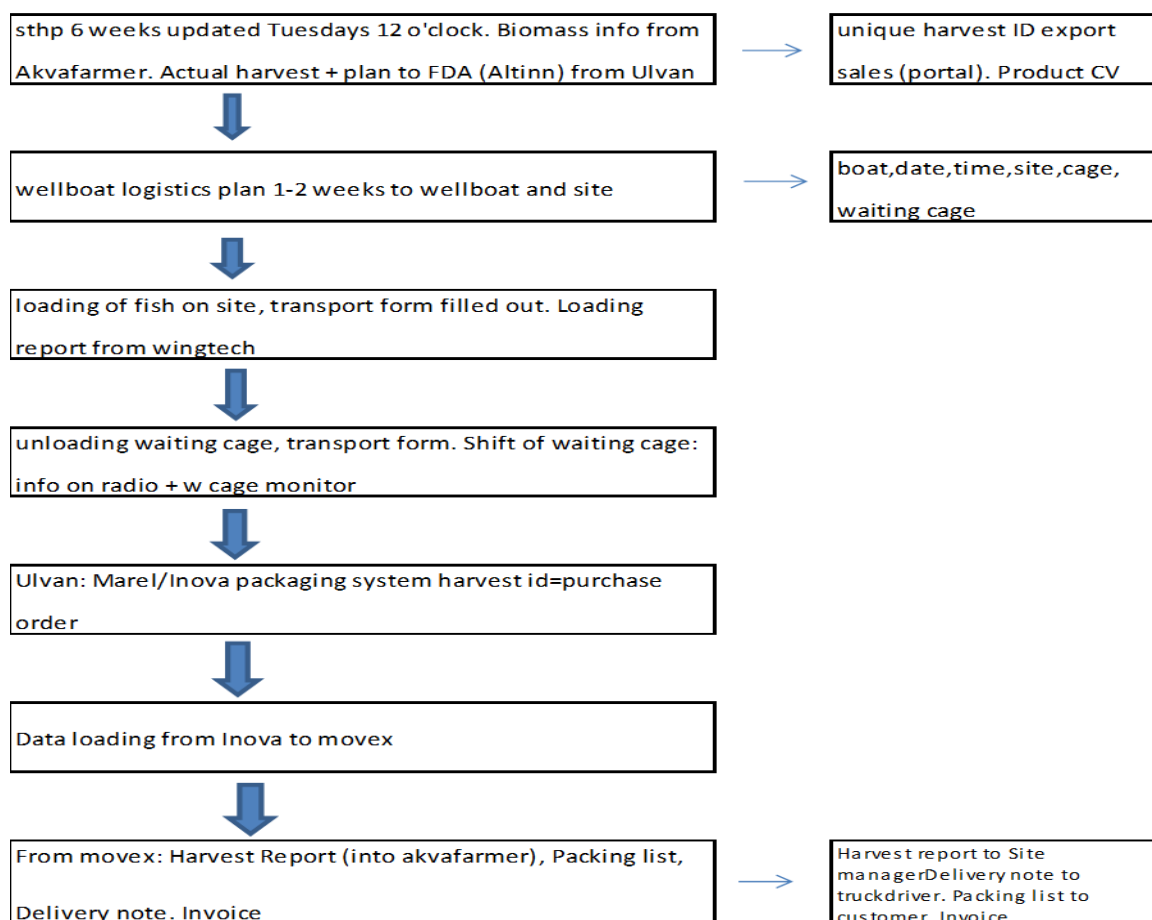
6. Determination for Chain of Custody (CoC) Certification:

Harvest:

No direct harvest takes place on this site. The fish are transported alive, by wellboat, to one of Marine harvests processing facilities. The fish are held in holding cages, for a short period of time to recover from the handling and transportation in the wellboat despite the conditions in this mode of transportation being excellent. The fish are then pumped into the processing facility where they are quickly and automatically killed and bled before going on to be processed. Fish are either sold head on gutted in iced and graded sizes or go to further processing into fillets and or section.

6.1 Traceability

Traceability from site to harvest plant



Only one farm is harvested per day, there is no risk of intermingling with other fish. Full traceability is in operation to retain identity of product.

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.

Only one farm is harvested per day with no possibility of introducing product from outside the unit of certification during harvest and well boat transfer.

6.2 Eligible operators and point(s) of landing

Marine Harvest Norway Linesvika and Storstrompan Farm Cluster is the eligible operator the point of landing is Marine Harvest processing facility.

6.3 Point from which Chain of Custody certification is required

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

7. Certification Decision

SAI Global determines that the Marine Harvest Norway, Linesvika and Storstrompan farm cluster, meets the requirements of the ASC Salmon Standard V1.0 June 2012 and is therefore certified.

Appendix 1 Detailed Findings



MHN Linesvika and
Storstrompan_Checkl

Appendix 2 Stakeholder Submissions

No stakeholder submissions to date