ASC Feed Standard

Second Draft

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About The Aquaculture Stewardship Council (ASC)

ASC is the acronym for Aquaculture Stewardship Council, an independent not for profit organisation. The ASC was founded in 2009 by the WWF (World Wildlife Fund) and IDH (The Sustainable Trade Initiative) to manage the global Standards for responsible aquaculture. ASC's farm-based species Standards (Abalone v1.0, Bivalves v1.0, Freshwater Trout v1.0, Pangasius v1.0, Salmon v1.0, Seriola/Cobia v1.0, Shrimp v1.0 and Tilapia v1.0) were first developed by the Aquaculture Dialogues, a series of roundtables initiated and coordinated by the WWF.

After completion of the Aquaculture Dialogues, the farm-based species Standards where handed over to the Scheme Owner, ASC. Revisions of the Standards mentioned above and the development of new standards is managed by ASC.

What the ASC is

The ASC's aquaculture certification programme and logo recognise and reward responsible aquaculture and aquaculture feed production. The ASC is a global organisation working internationally with aquaculture and feed producers, seafood processors, retail and foodservice companies, scientists, conservation groups, social NGOs and the public to promote the best environmental and social choice practices in aquaculture and aquaculture feed.

What the ASC does

The ASC programme promotes the best environmental and social aquaculture performance to minimise or eliminate any damaging environmental and social footprint of aquaculture and aquaculture feed. Through its consumer label the ASC promotes certified responsibly farmed products in the marketplace.

To achieve this, the ASC programme is

Credible: ASC standards are developed and implemented according to ISEAL guidelines being therefore multi-stakeholder, transparent, incorporating science-based performance metrics where possible.

Meaningful: By including science-based performance metrics where possible, the requirements in the standards are realistic, measurable and auditable.

Effective: A globally recognised, market-oriented programme that aims to promote meaningful improvements in aquaculture and feed production in a credible and cost efficient way that adds real value to producers and buyers of certified products.

Overview of the ASC System

The ASC system is made up of 3 components:

ASC Standards

The ASC works with independent third-party certification organizations that provide certification services for aquaculture and aquaculture feed operations for which the Standards have been, or are being, developed.

The Standard creation process followed guidelines of the ISEAL Alliance the *ISEAL Code of Good Practices for Setting Social and Environmental Standard*. This code of good practice complies with the ISO/IEC Guide 59 *Code of good practice for standardization*, and the WTO Technical Barriers to Trade (TBT) Agreement Annex 3 *Code of good practice for the preparation, adoption and application of standards*. The Standards are science-based, performance-based and metrics-based where possible.

Independent 3rd Party Audits Conducted by accredited Conformity Assessment Bodies (CAB)

Farms and feed mills that seek ASC certification contract a CAB (conformity assessment body) that has been accredited by Accreditation Services International GmbH. (ASI). Only farms and feed mills that are certified by a CAB accredited by ASI are eligible to sell certified product into a recognized chain of custody and have that product eligible to carry the ASC logo.

Accreditation is the process by which CABs are evaluated to determine their competency to provide certification to the ASC Standards. The accreditation process includes annual evaluations of each accredited CAB and the ASC audits they perform. ASC has exclusively appointed ASI to provide accreditation services for ASC. ASI is fully independent of ASC. ASI is based in Bonn, Germany and also provides accreditation services to, amongst others, Forest Stewardship Council (FSC) and Marine Stewardship Council (MSC). Despite similar sounding names, all of these organizations are independent of ASC.

ASI is responsible for evaluations of CABs against the ASC Certification and Accreditation Requirements (CAR-document). ASI takes all accreditation decisions independently. The independence of ASC, ASI and the CAB ensures that high quality, objective audits and certification decisions are performed without bias for all clients around the world.

The certification process follows the requirements as outlined in the ASC Certification and Accreditation Requirements (CAR-document).

MSC Chain of Custody Certification and the ASC logo

The ASC logo has been developed for use by certified and licensed farms and feed mills, processors and distributors so that all parts of the value chain and especially consumers can easily identify ASC certified product(s). The use of the ASC logo can be applied only to products that are sold through a consecutive, certified chain of custody that ensures

traceability of certified products from production to final point of sale. For ASC, chain of custody is certified through application of the MSC chain of custody system, to which ASC CoC requirements have been added as a scope, to ASC certified aquaculture products. Only products that originate in ASC certified farms and are sold through an MSC certified chain of custody (with ASC CoC scope) are eligible to carry the ASC logo.

Just as with the ASC Standards, the ASC logo is owned by ASC which regulates all aspects of its use.

Introduction

Seafood is one of the most popular sources of protein worldwide. By volume, more than half of the seafood we eat is from aquaculture, the fastest-growing animal protein production sector in the world. Of all farmed aquaculture animal species, 70% is dependent on feed to complete their production cycle.[1]

As with many rapidly growing industries, the growth in aquaculture production has raised concerns about negative social and environmental impacts related to farming, including the production of raw material sources of feed ingredients. The production of feed for farm-raised animals (aquaculture & livestock) puts ever increasing pressure on the available land and (natural) resources. Currently, about 33% of all croplands are used for livestock feed production – including aquaculture. Next to cropland produced feed ingredients, aquaculture also depends on fishmeal and –oil to complete the diets. An estimated 17-20% of all wild caught fish are reduced to fishmeal and –oil, or which 75-80% is consumed by aquaculture.

With an ever growing world population and shifting diet preferences as a result of increasing economies, the demand for farmed seafood (and other animal proteins) is rapidly growing. As we are faced with a finite amount of arable land and wild fish resources, it becomes evident that responsible use of these resources is increasingly important.

One tool to help recognize and reward more responsible aquaculture feed is the development and implementation of global standards.

The principles contained in this document serve as a platform to identify and subsequently minimize or eliminate the social and environmental impacts of the production of feed ingredients and feed itself while permitting the industry to maintain economically viability. These principles - along with the corresponding criteria and indicators - are verified at the feed mill level.

Although these standards represent feed mill-level requirements, they are intended to help protect and maintain ecosystem function and ecosystem services in producing areas of raw material for key ingredients, with the recognition that feed mills nor their suppliers are not solely responsible for total ecosystem health.

How to read this document

This standard is composed of principles. Each principle is composed of several criteria and each criterion is composed of one or more indicators. A rationale is provided for criterion (where needed) that documents the justification of the indicator(s) required.

Definitions are provided in the definition list.

[1] FAO State of World Fisheries and Aquaculture 2016; http://www.fao.org/3/a-i5555e.pdf

Purpose and Scope of the Feed Standard

Purpose of the Feed Standard

The purpose of the ASC Feed Standard is to credibly set out comprehensive and measurable performance-based indicators that identify and subsequently minimize or eliminate the social and environmental impacts of the production of feed ingredients and feed itself while permitting the industry to maintain economically viable.

Furthermore, the standard also provides as incentive and workable goals for feed mills and raw material/ingredient producers that want to improve their production processes and recognizes and rewards their achievements.

Scope of the Feed Standard

Issue areas to which the standard applies

This standard establishes Principles, Criteria and (performance-based) Indicators for feed mills with regard to social and environmental issues. The areas of key potential negative impacts that have been identified are: feed mill operation and raw material sources for marine/terrestrial plant and animal ingredients.

It is noted that although the focus of this Standard are aquaculture feed mill and the ingredients that are sourced by these entities, the issues are not unique for aquaculture feed alone. Other livestock feeds use to a large extent the same ingredients only in different ratios. ASC encourages overarching initiatives that address this shared set of issues.

Geographic scope to which the Standard applies

The ASC Feed Standard can apply to all locations and scales of aquaculture feed manufacturing plants able to meet the Standard.

Unit of Certification to which the Standard applies

The unit of certification for the ASC Feed Standard is the aquaculture feed mill. The auditor will verify compliance to this standard by reviewing evidence available at the feed mill.

Process for creating the Feed Standard

General Considerations

The process of setting requirements is critical, as it significantly affects the credibility, viability, practicality and acceptance of the ASC Feed Standard. All ASC standards are set in multi-stakeholder and transparent processes. This is in line with the International Social and Environmental Accreditation and Labelling (ISEAL) Alliance's "Code of Good Practice for Setting Social and Environmental Standards". This has allowed the process to remain transparent, open to public participation, and engage multiple key stakeholders.

Standard Setting Process

A Steering Committee is formed which supervised the development process and direction of the ASC Feed Standard. The Steering Committee is composed of 14 experts related to the aquaculture feed industry. These participants have 12 votes which are divided (50/50) to industry and non-industry representatives.

In addition to the Steering Committee, four Technical Working Groups where mandated create the content for v0.1. Their participants also comprised of industry and non-industry.

Mid-2015 v0.1 was opened for public consultation. On the basis of the received comments, the Steering Committee made further recommendations for the content of the Standard. This has resulted in v0.2. The second draft will be open for public comments as well be field-tested to identify any gaps between the proposed indicators and practices of feed production and ingredient sourcing. Feedback from both the second consultation period and the field-tests will be incorporated into the final version of the Standard.

More information on the Standard Setting Process of the ASC Feed Standard, can be found at the ASC website (https://www.asc-aqua.org/what-we-do/our-standards/feed-standard/).

Continuous Improvement of the Feed Standard

It is implicit in the development of all ASC Standards that the indicators and performance levels can be adjusted over time to reflect new data, improved practices and new technology. This is in line with the ASC Standard Setting Protocol and in compliance with the ISEAL Code of Good Practices for Setting Social and Environmental Standards v6.0.

Principle 1 – General Feed Mill[2] Requirements

Business Integrity

The purpose of the following criteria is to ensure that feed manufacturers conduct their business in a legal, fair and equitable manner.

Criterion 1.1 Legal compliance

Indicators:	
1.1.1	The feed mill has a system in place to identify and ensure compliance with all applicable laws and regulations (including environmental and social laws and regulations) as well as required licenses and permits.
1.1.2	The feed mill is in possession of all necessary licenses and permits.
1.1.3	The feed mill maintains an accurate and up-to-date database recording any non-compliance(s) with applicable laws and regulations and any corrective actions taken to address such non-compliance(s).
1.1.4	There is no evidence of outstanding non-compliances with applicable laws and regulations.

Rationale - Feed mills must, as a baseline, comply with all applicable laws and regulations from a combination of local, regional, national authorities. These can vary significantly depending on the location of the mill but any responsible operation will be able to establish all of the necessary legal requirements, assess compliance and then take appropriate actions to ensure any issues are addressed.

Criterion 1.2 Anti-corruption

Indicators:	
1.2.1	The feed mill has defined, documented and implements an anti-corruption policy[3].
1.2.2	The feed mill's anti-corruption policy is effectively communicated[4] to all employees[5].
1.2.3	The feed mill provides anti-corruption training[6] for all senior management[7],

[2] **Feed Mill:** see definition

[3] Under the 10th Principle of the UN Global Compact Code, a credible implementation process of an anti-corruption policy, shall include at a minimum the following steps:
1) decide to adopt an anti-corruption policy,
2) plan implementation of the policy,
3) develop detailed anti-corruption program,
4) implement program,
5) monitor and
6) evaluate and improve.
Reference: https://www.unglobalcompact.org/docs/news_events/8.1/bac_fin.pdf

[4] This can be done in various ways: distributing the policy to all employees in digital/hard copy, incorporating it into the companies employee handbook, etc.

[5] **Employees**: see definition.

	legal/regulatory, sales and procurement employees. The feed mill provides new employees of these departments with anti-corruption training within six months of the start of their employment, and provides all employees with refresher training at least every other year.

Rationale - In order to promote a fair and competitive economy it is essential that feed mills engage in ethical conduct with organizations such as suppliers, contractors, competitors and governments with whom they interact. This involves respecting the rule of the law and adhering to ethical standards with the intention to establish legitimate and productive relationships.

Labour Practices

The purpose of the following criteria is to ensure that the basic rights of employees are respected and the working conditions provided are contributing to a safe and healthy workforce. The ILO "Declaration on Fundamental Principles and Rights at Work"[8], and the embedded Core Conventions within this Declaration, are the reference documents for this Criterion on Labour Practices.

Criterion 1.3 Corporate policies for social responsibility

Indicators:	
1.3.1	The company[9] that operates the feed mill has defined and documented a company-level policy that specifies that the labour policies and practices defined in this criterion 1.3: a) shall be implemented at all sites operated by the company in the same country or region as the feed mill that is seeking certification; b) shall be implemented by all contractors to the company in the same country or region as the feed mill that is seeking certification

Rationale - Companies must be able to demonstrate that not only are the specific sites applying for certification able to meet this robust set of social and labour standards, but that they also have company-wide policies related to these key issue areas that are in line with the ASC Feed Standard. Such policies must relate to all of the company's operations. Sub-contracting is acceptable but cannot be used to avoid paying benefits or to deny other rights to employees employed by contractors. The company shall have policies and mechanisms to ensure that employees contracted from other companies for specific services (e.g., cleaning or maintenance) and the companies providing them with primary inputs or supplies have socially responsible practices and policies.

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[6] This training shall ensure that employees understand the company's anti-corruption policy and how to implement it in their daily business activities.

[7] **Senior management**: see definition.

[8] http://www.ilo.org/declaration/thedeclaration/textdeclaration/lang--en/index.htm

[9] Applies to the headquarters of the company in a region or country where the site applying for certification is located. In case the headquarters of the company in a region or country is not responsible for purchases, the indicators apply to the office that makes purchases.

Criterion 1.4 Freedom of association and collective bargaining[10]

Indicators:	
1.4.1	The feed mill's employees have access to trade unions (if they exist) and union representative(s) chosen by themselves without managerial interference.
1.4.2	The feed mill's employees are free to form organizations, including unions, to advocate for and protect their rights.
1.4.3	The feed mill's employees are free and able to bargain collectively for their rights.
1.4.4	The rights and interests of migrant employees[11] are effectively represented by unions or associations.

Rationale - Having the freedom to associate and bargain collectively is a critical right of employees because it enables them to engage over issues such as wages and other working conditions. Freedom of Association and the effective recognition of the right to collective bargaining is one of the core principles of the International Labour Organization's (ILO) "*Freedom of Association and Protection of the Right to Organise Convention", 1948 (No. 87)* and the "*Right to Organise and Collective Bargaining Convention", 1949 (No. 98)*.

In cases where the local law restricts the right to freedom of association and collective bargaining, the employer facilitates, and does not hinder, the development of parallel means for independent and free association and bargaining.

Criterion 1.5 Child[12] **labour**[13]

Indicators:	
1.5.1	There are no incidences of child labour at the feed mill that does not meet the minimum requirements of ILO Conventions 138[14] and 182[15] as well as nationally applicable laws where these are more restrictive.
1.5.2	The feed mill has defined, documented and implements a policy that prohibits employees under the age of 18, if employed, from: a) exposure to hazardous health and safety conditions; b) working hours that interfere with their education; c) a combined daily transportation time, school time and work time that exceeds 10 hours/day.

Rationale - The effective abolition of child labour is one of the core principles of the ILO *Minimum Age Convention, 1973 (No. 138)* and *Worst Forms of Child Labour Convention,*

[10] **Collective bargaining**: see definition.

[11] **Migrant employee**: see definition.

[12] **Child:** see definition.

[13] **Child Labour:** see definition.

[14] http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C138

[15] http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C182

1999 (No. 182). Adherence to the child labour codes and definitions included in this section indicates compliance with what the ILO and international conventions generally recognize as the key areas for the protection of child and young employees.

Children are particularly vulnerable to economic exploitation, due to their inherent age-related limitations in physical development, knowledge and experience. Children and youth need adequate time for education, development and play. Therefore, they should not have to work or be exposed to working hours and conditions that are hazardous[16,17] to their physical or mental wellbeing. To this end, the requirements related to what constitutes child labor will protect the interests of children and young employees at feed mills certified to these requirements.

The legal minimum age of employees is usually 15 years old, or 14 if the country allows it under the developing country exceptions in ILO convention 138. If the legal minimum age allowed in the country is higher than 15 years, the legal minimum age of the country is followed.

Criterion 1.6 Forced or compulsory labour[18]

Indicators:	
1.6.1	There are no incidences of forced or compulsory labour at the feed mill.

Rationale - Forced labour - such as slavery, debt bondage and human trafficking - is a serious concern in many industries and regions of the world. The elimination of all forms of forced or compulsory labour is one of the core principles of the ILO *Forced Labour Convention, 1930 (No. 29)* and *Abolition of Forced Labour Convention, 1957 (No. 105)*

Ensuring that contracts are clearly articulated and understood by employees is critical to determining that labour is not forced. The inability of a employee to freely leave the workplace and/ or an employer withholding original identity documents of employees are indicators that employment may not be at-will. Adherence to these policies shall indicate feed mill is not using forced, bonded or compulsory labour forces.

Criterion 1.7 Discrimination[19]

Indicators:	
1.7.1	The feed mill has defined, documented and implements a comprehensive[20] anti-discrimination policy[21] that is communicated[4] to all employees.

[16] **Hazard:** see definition.

[17] **Hazardous work:** see definition.

[18] **Forced or compulsory labour**: see definition.

[19] **Discrimination:** see definition.

[20] Employers shall have written anti-discrimination policies stating the company does not engage or support discrimination in hiring, remuneration, access to training, promotion, termination or retirement based on race,

1.7.2	The feed mill has defined, documented and implements an effective and fair complaints procedure[22] that is communicated[4] to all employees.

Rationale - The elimination of discrimination in respect of employment and occupation is one of the core principles of the ILO *Discrimination (Employment and Occupation) Convention, 1958 (No.111) and* Equal Remuneration Convention, 1951 (No. 100). Additionally, widespread discrimination in the working environment can negatively affect overall poverty and economic development rates. Feed mills must demonstrate their commitment to equality with an official anti-discrimination policy, a policy of equal pay for equal work, as well as clearly outlined procedures to raise, file and respond to a discrimination complaint in a fair and effective manner.

Special treatment to protect the rights and health of particular groups of employees, or to provide opportunities for groups which have historically been disadvantaged is allowed, and often required by laws related to such issues as maternity and affirmative action.

Criterion 1.8 Work environment health and safety

Indicators:	
1.8.1	The feed mill has carried out a comprehensive health and safety risk assessment[23], documented its findings, and taken preventative actions to address any significant risks that were identified. The health and safety risk assessment has been reviewed and updated as necessary if new equipment, substances or work procedures have been introduced, or if there has been an accident or other significant event relevant to the maintenance of health and safety at the site.
1.8.2	Employees are informed of any risks that are identified that are relevant to their role as well as the preventative actions they need to take to avoid such risks. New employees are informed of relevant risks within six months of the start of their employment, and all employees are provided with refresher training at least every other year.
1.8.3	Employees use Personal Protective Equipment (PPE) effectively.
1.8.4	All health and safety related accidents and violations are recorded and corrective actions are taken when necessary.
1.8.5	The feed mill is responsible for employees costs resulting from job-related accidents or injuries if such costs are not covered under national law, for example through the maintenance of employee accident or injury insurance.

caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation, age, or any other condition that may give rise to discrimination

[21] Guidance can be found at: http://www.ohrc.on.ca/en/policy-primer-guide-developing-human-rights-policies-and-procedures/5-anti-harassment-and-anti-discrimination-policies

[22] Guidance can be found at: http://www.legalombudsman.org.uk/wp-content/uploads/2014/09/Guide-Good-Complaints-Handling-BW.pdf

[23] Guidance can be found at: http://www.hse.gov.uk/risk/faq.htm

Rationale - A safe and healthy working environment is essential for protecting employees from harm. One of the key risks to employees are hazards resulting from accidents and injuries. Consistent, effective and regular employee training in health and safety practices is an important preventative measure. When an accident, injury or violation occurs, the company must record it and take corrective action to identify the root causes of the incident, remediate, and take steps to prevent future occurrences of similar incidents. This addresses violations and the long-term health and safety risks.

While many national laws require that employers assume responsibility for job-related accidents and injuries, not all countries require this and not all employees (in some cases migrant and other employees) will be covered under such laws. When not covered under national law, employers must prove they are insured to cover 100% of employee costs when a job-related accident or injury occurs.

Criterion 1.9 Wages

Indicators:	
1.9.1	No employees have a base pay[24] below the national minimum wage[25].
1.9.2	The feed mill is working towards the payment of basic needs wage[26].
1.9.3	There is transparency in wage-setting towards the employee.

Rationale - Wages and the process for setting wages are important components of the ILO core principles. For this reason, it is important to highlight under these standards the importance of employees' base pay meeting the national legal standard and being rendered to employees in a convenient manner.

Unfortunately, minimum wage in many countries does not always cover the basic needs of employees. Unfairly and insufficiently compensated employees can be subject to a life of sustained poverty. Therefore, it is important for socially responsible employers to pay or be working towards paying a basic needs wage. The calculation of a basic needs wage can be complex and it is important for employers to consult with employees, their representatives and other credible sources when assessing what a basic needs wage would be.

Certified feed mills shall also demonstrate their commitment to fair and equitable wages by having and sharing a clear and transparent mechanism for wage-setting and a labour conflict resolution policy[27] that tracks wage-related complaints and responses. Having these policies outlined in a clear and transparent manner will empower the employees to negotiate effectively for fair and equitable wages that shall, at a minimum, satisfy basic needs.

[24] **Base pay**: see definition.

[25] **Minimum wage**: see definition.

[26] **Basic needs wage**: see definition.

[27] See Criterion 1.4.8.

Criterion 1.10 Employee contracts

Indicators:	
1.10.1	All employees have formal employment agreements[28] (e.g. contracts) that comply with applicable labor laws and regulations.

Rationale - Fair contracting is important to ensure transparency between the employer and employee and fairness in the employment relation. Short-term and temporary contracts are acceptable but cannot be used to avoid paying benefits or to deny other rights.

Criterion 1.11 Workplace problems[29]

Indicators:	
1.11.1	All employees have access to effective, fair and confidential conflict resolution procedures[30] that includes requirements for non-retaliation and an impartial investigation and appeals process in case needed.
1.11.2	All grievances that are handled under the grievance procedure are addressed[31] within a 90-calender day timeframe after submission.

Rationale - Companies must have a clear labour conflict resolution policy in place for the presentation, treatment and resolution of employee grievances in a confidential manner. Employees shall be familiar and comfortable with the policy and its effective use. Such a policy is necessary to track conflicts and complaints raised, as well responses to conflicts and complaints.

Criterion 1.12 Disciplinary practices[32]

Indicators:	
1.12.1	The feed mill has defined, documented and implements a functioning disciplinary policy and procedures with the aim to improve the employee.
1.12.2	Disciplinary actions are progressive.
1.12.3	Punitive or corporal punishment is not used as a disciplinary action.
1.12.4	The policy and procedures are communicated to all employees.

[28] Labour-only contracting relationships or false apprenticeship schemes are not acceptable. This includes revolving/ consecutive labour contracts to deny benefit accrual or equitable remuneration. **False Apprenticeship Scheme**: see definition. **Labour-only contracting arrangement**: see definition.

[29] **Workplace problems:** see definition.

[30] See also: http://www.ilo.org/public/english/mediate/download/conflict-prev-and-res-procedures-en.pdf

[31] Acknowledged and received, moving through the company's process for grievances, corrective action taken when necessary.

[32] **Disciplinary practices**: see definition.

Rationale - The rationale for discipline in the workplace is to correct improper actions and maintain effective levels of employee conduct and performance. However, abusive disciplinary actions can violate employees' human rights. The focus of disciplinary practices shall always be on the improvement of the employee. Fines or base wage deductions shall not be acceptable as methods for disciplining workforce. A certified feed mill shall never employ threatening, humiliating or punishing disciplinary practices that negatively impact a employee's physical and mental[33] health or dignity.

If disciplinary action is required, progressive verbal and written warnings shall be engaged. Policies for bonuses, incentives, access to training and promotions are clearly stated and understood, and not used arbitrarily.

Criterion 1.13 Working hours and overtime

Indicators:	
1.13.1	There are accurate up-to-date records of attendance and hours worked, including any overtime, for all employees.
1.13.2	There are no incidences of violations or abuse of working hours[34] and overtime laws.
1.13.3	Overtime is limited, voluntary[35], paid at a premium rate[36] and restricted to exceptional circumstances.

Rationale - Abuse of overtime working hours is a widespread issue in many industries and regions. Employees subject to extensive overtime can suffer consequences in their work-life balance and are subject to higher fatigue-related accident rates. In accordance with better practices, employees in certified feed mills are permitted to work - within defined guidelines - beyond normal work week hours but must be compensated at premium rates. Requirements for time-off, working hours and compensation rates as described should reduce the impacts of overtime.

Criterion 1.14 Education and training

Indicators:	
1.14.1	The feed mill encourages and supports education and training initiatives for all employees (e.g., courses, certificates, degrees, etc.).

Rationale - Education and training can be beneficial to companies and enable employees to improve their incomes. Such human capital development should be encouraged where it is in the interest of the company. Incentives, such as subsidies for tuition or textbooks and time

[33] **Mental Abuse**: see definition.

[34] In cases where local legislation on working hours and overtime exceed internationally accepted recommendations (48 regular hours, 12 hours overtime), the international standards will apply.

[35] Compulsory overtime is permitted if previously agreed to under a collective bargaining agreement.

[36] **Premium rate:** see definition.

off prior to exams, should be offered. The offer of training may be contingent on employees committing to stay with the company for a pre-arranged time. This should be made clear to participants before they start the training.

Environmental Impacts

The purpose of the following criteria is to ensure that feed manufacturers understand the environmental impacts of their operations and take appropriate action to mitigate any associated negative outcomes.

Criterion 1.15 Energy and greenhouse gases (GHG)

Indicators:	
1.15.1	The feed mill's energy consumption in kWh/t feed/year is calculated, recorded and submitted to ASC on an annual basis according to source using the methodology outlined in Appendix 1-a.
1.15.2	The feed mill's greenhouse gas (GHG) emissions in kg CO_2 eq/t feed/year are calculated and recorded on an annual basis using the methodology outlined in Appendix 1-b.
1.15.3	The feed mill has defined, documented and is implementing an action plan to improve energy efficiency and/or to increase the proportion of energy coming from renewable energy sources[37], which is reviewed and revised if needed, on an annual basis.

Rationale - The energy used in the production of aquafeeds is not only a source of economic costs; it may also use finite natural resources that emit pollutants such as greenhouse gases (GHG). There is growing scientific consensus that the global climate is changing and that this is closely related to the rising levels of greenhouse gas (GHG) emissions coming from human activities. The most significant source of GHG is fossil fuel combustion and industrial processes which according to the United Nations contribute to almost 80 % of the total anthropogenic GHG. Therefore it is important that energy is used as efficiently as possible to minimize the associated economic and environmental costs. The use of alternative sources to fossil fuels is encouraged.

Different fuels have different implications for the environment both through their extraction and use as a fuel source. Therefore it is important to have the results broken down into specific energy sources, including the share of renewable energy in the mix.

Feed mills should play their role in climate change mitigation by measuring the GHG emissions from their direct operations and engaging in activities to reduce this.

[37] **Renewable energy sources:** see definition.

Criterion 1.16 Water consumption

Indicators:	
1.16.1	Water consumption in m^3/t feed/year is calculated, recorded and submitted to ASC on an annual basis according to source using the methodology outlined in Appendix 1-a.
1.16.2	The feed mill has defined, documented and is implementing an action plan to improve water efficiency, which is reviewed and revised if needed, on an annual basis.

Rationale - Demand for fresh water is increasing due to a range of factors including population growth, urbanization and changing supply due to climate change. As such there is growing competition for this precious resource. It is important that feed mills are aware of their water use and take action to improve the water efficiency of their production process.

The source of fresh water (i.e. surface water, ground water) and the local conditions (e.g. rainfall, sensitivity of ecosystems) are very important in determining whether or not the utilization of this resource is detrimental to the natural environment. As such, water use data shall be reported by source.

Criterion 1.17 Waste[38]

Indicators:	
1.17.1	The feed mill has defined, documented and is implementing a waste management plan (as defined in Appendix 1-c).

Rationale - Effective waste management ensures that resources are used in an efficient manner by reducing the amount of materials thrown away unnecessarily. It also ensures that wastes containing dangerous substances are disposed of properly and do not cause harm. Feed mills should aim to reduce waste and where this is not possible, find ways to reuse or recycle it. All waste must be stored and disposed of in a safe and responsible manner, with particular care taken for wastes that contain substances known to be hazardous to people and the environment.

Criterion 1.18 Effluents[39]

Indicators:	
1.18.1	The feed mill has defined, documented and is implementing an effluent management plan (as defined in Appendix 1-c).
1.18.2	The feed mill has a spill prevention and response plan which is effectively implemented.

[38] **Waste**: see definition.

[39] **Effluent**: see definition.

Rationale - Effluents created from the production of aquafeeds can create problems for human and environmental health if not managed correctly. As such, it is important that feed mills have procedures in place that avoid such incidences from occurring. In the case where breaches do occur, they should be recorded in a non-conformity database, with appropriate actions taken to remedy the situation and prevent it from occurring again.

Criterion 1.19 Product declaration

Indicators:	
1.19.1	The nitrogen and phosphorus content of each batch of feed is calculated (in kg N or P/t feed) disclosed[40] to all purchasers of the feed.
1.19.2	Feed that contains or consists of genetically modified organisms[41] (GMOs), or contains ingredients[42] produced from GMOs, must be declared[43] as such to all purchasers.

Rationale - Nitrogen and phosphorus are released to waters surrounding fish pens as a result of uneaten feeds and metabolic by-products. If not managed properly, this can lead to significant changes to pelagic and benthic ecosystems. Feed companies can assist their customers to better understand the potential impacts of their feeds on the local environment by providing them with an estimate of the nutrient emissions based on nutrient content of their feeds.

The production and use of transgenic materials is increasing globally, with around 79% of the global supply of soy coming from transgenic sources, as well as 30% maize and 24% rapeseed[44]. Despite the widespread use of these materials, many consumers remain sceptical of the long-term impacts and wish to avoid them. As such there is a need to identify food products that are genetically modified or that have been fed genetically modified ingredients. Feed mills must therefore be aware of the any transgenic materials they receive from their suppliers and have systems in place to trace these through their production process and into the finished feeds. This is required to meet customer requests for declarations from feed companies regarding the inclusion of transgenic materials in feeds.

[40] This can be done via the label on the feed bag, or on the invoice of bulk deliveries.

[41] **Genetically modified organism (GMO)**: see definition.

[42] A threshold of 0.9% is permitted to allow for the adventitious, or accidental, presence of GM material in non-GM food or feed sources.

[43] The declaration may be made via the feedbag label or referenced on the invoice.

[44] International Service for the Acquisition of Agri-Biotech Applications (2013) Brief 46: Global Status of Commercialized Biotech/GM Crops: 2013. Reference: https://www.isaaa.org/resources/publications/briefs/46/executivesummary/pdf/Brief%2046%20-%20Executive%20Summary%20-%20English.pdf

Local community engagement

The purpose of the following criteria is to ensure the feed manufacturer plays an active role in their local community and is aware of the impacts that their production process has on its neighbours as well as seeking for solutions to mitigate these.

Criterion 1.20 Community consultation

Indicators:	
1.20.1	The feed mill's management are in regular[45] and meaningful consultation and engagement with local community representatives and organizations.
1.20.2	The potential direct negative impacts of the feed mill's operations on the local community have been identified and documented.
1.20.3	The feed mill makes measurable efforts to avoid, mitigate, and/or compensate for negative impacts on the local community.
1.20.4	There are records of any complaints or concerns raised by members of the local community in relation to the feed mill's impacts, and records of any corrective actions taken by the feed mill to address such complaints or concerns.

Rationale - Engaging with local communities provides an opportunity to identify potential risks, impacts and conflicts before they occur. It also helps to build solid relationships that enable problems that arise to be dealt with in a civil manner. It is expected that feed mills take all necessary precautions to prevent the occurrence of negative impacts on the local community. In cases where these do occur, they must demonstrate due diligence and address the issues in an open, fair and transparent manner.

[45] At least once per year.

Principle 2: General Feed Mill Sourcing Policy and Management

Responsible Sourcing Policy

The purpose of these criteria is to ensure the feed mill has policies and management processes in place relating to sourcing of all types of ingredients that represent more than 1% of total ingredients[46] by weight.

Criterion 2.1 Social and environmental sourcing commitments

Indicators:	
2.1.1	The company has a documented and publicly[47] available Responsible Sourcing Policy that includes as a minimum the requirements as listed under indicator 2.1.2, 2.1.3, 2.1.4 and criteria 2.2 and 2.3.
2.1.2	The company is committed to ensuring that all manufacturing/ processing sites in its supply chain meet the following minimum social standards: a) employees have freedom of association, the right to collective bargaining and access to equitable conflict resolution processes; b) ILO conventions 138 (Minimum Age Convention) and 182 (Worst Forms of Child Labour Convention) are complied with; c) there is no forced or compulsory labour; d) there is no discrimination; e) there are safe and hygienic working conditions; f) employees receive the national minimum wage as minimum base pay; g) working hours are in compliance with national legislation and each employee has written terms and conditions of employment; h) there are no excessive or abusive disciplinary practices.
2.1.3	The company is committed to ensuring that all manufacturing/ processing sites in its supply chain meet the following minimum environmental standards: a) the discharge of waste and effluent is in compliance with the applicable national laws and regulations; b) the discharge of odours and air emissions is in compliance with the applicable national laws and regulations.
2.1.4	The company is committed to ensuring that the raw material sources of the ingredients for the manufacture of its feed meet minimum legal, social and environmental requirements as specified in Table 1 of Appendix 2 for specific categories of ingredients.

[46] References to “ingredients” or “all ingredients” in this standard refer to ingredients that make up more than 1% of the total.

[47] Via the website of the feed mill – in local language and English.

Criterion 2.2 Continuous improvement of sustainability levels of ingredients

Indicators:	
2.2.1	The Responsible Sourcing Policy (indictor 2.1.1) includes a commitment to continuous improvement in relation to the sustainability levels of the primary sources of the ingredients used for the manufacture of all feed as defined in Principles 4 to 6 of this Standard.

Criterion 2.3 Commitment to implementation

Indicators:	
2.3.1	The Responsible Sourcing Policy (indictor 2.1.1) includes a commitment for the feed mill to discontinue purchases of any ingredient from any supplier that does not meet the requirements of the company's Responsible Sourcing Policy to its satisfaction.
2.3.2	The Responsible Sourcing Policy (indictor 2.1.1) has been communicated to all purchasing staff and direct suppliers.

Contract specification for feed ingredient suppliers

The purpose of these requirements is to support the implementation of the Responsible Sourcing Policy commitments of indicator 2.1.1.

Criterion 2.4 Feed ingredient listings and contracts

Indicators:	
2.4.1	The feed maintains accurate and up-to-date listings of: a) The types of feed ingredients that it uses that individually represent more than 1% of total ingredients it uses annually by weight; b) Its current suppliers of feed ingredients listed in a), above, together with the ingredient types they are contracted to supply.
2.4.2	The feed mill has up-to-date copies of all of its contracts for the supply of feed ingredients listed in indicator 2.4.1, above.

Criterion 2.5 Social and environmental accountability of sites in the supply chain

Indicators:	
2.5.1	The feed mill specifies in its contracts with all of its direct suppliers[48] that the supplier shall itself comply with the social and environmental standards specified in criteria 2.1, above, and that it shall have a documented and publicly[40] available Responsible Sourcing Policy that requires as a minimum the same commitments as specified in indicator 2.1.1 and criteria 2.3 shall be applied to its own suppliers.
2.5.2	The feed mill specifies in its contracts with all of its direst suppliers that the supplier shall have an independent, third party assessment of its compliance with its Responsible Sourcing Policy carried out prior to the supply of any feed ingredients to the feed mill and at least every three years thereafter, and that the

[48] **Direct supplier**: see definition.

reports of the most recent assessment report are available to the feed mill. The audit findings are made available to the feed mill on request.

Guidance note: *certification of the supplier's compliance with the requirements of the SA8000: 2014 standard by an ASI accredited certification body is deemed to be sufficient evidence that the supplier meets the social standards specified in indicator 2.1.1, above.*

Criterion 2.6 General ingredient sourcing specifications

Indicators:
2.6.1 The contracts for the supply of the ingredient types listed in indicator 2.4.1 require that the suppliers of such ingredients shall: a) EITHER ensure that the supplied ingredients are covered by an ASC-recognised chain of custody certificate or equivalent (see Appendices 4 and 5 for lists of ASC-recognised certificates); b) OR provide the feed mill with the documentation requested by the feed mill to allow the feed mill to carry out an effective Due Diligence Assessment of the ingredient supply, as defined in 2.8, below.
2.6.2 The contracts for the supply of the ingredient types listed in 2.2.1.1 require that the suppliers of such ingredients shall inform the feed mill in the case of any material changes in relation to the sourcing of the supplied ingredients. ***Guidance note:*** *material changes would include a change of the company managing the primary production of the ingredient, and/or changes of geographic source of the ingredient (for example a change in the fishery or estate of origin).*

Rationale - See 2.8, below, for the rationale for the application of a due diligence assessment.

Criterion 2.7 Additional supply specifications for feed ingredients

Indicators:
2.7.1 The contracts for the supply of the ingredients listed in indicator 2.4.1 a) specify that all deliveries of such ingredients shall be labelled with or otherwise linked to the following accompanying information: a) ingredient name/ unique identifier; b) quantity; c) the supplier's name; d) if applicable, a clear statement that the ingredient consists of or contains genetically modified material; e) the chain of custody certificate code (or equivalent) which covers the ingredient, if applicable; f) the proportion of the ingredient that consists of material recognised by ASC as meeting different levels of sustainability, as defined in Appendices 3 and 4; g) the date of shipment.

Due Diligence assessment for all feed ingredients

The purpose of these requirements is to implement the policy commitment specified in indicator 2.6.1. b).

Criterion 2.8 Due Diligence Assessment for all feed ingredients

Indicators:	
2.8.1	The feed mill has a documented procedure in place that specifies that it must complete a due diligence assessment of every source of supply of the feed ingredients[49] of the types listed in indicator 2.4.1 a) and that is not already covered by an ASC-recognised chain of custody certificate or equivalent, in accordance with the requirements of indicator 2.6.1 of this standard, before any ASC-certified feed is permitted to be produced at the site.
2.8.2	The procedure specifies that the due diligence assessment for the supply of an ingredient must be repeated if there is any material change made by the supplier in relation to the sourcing of the ingredient.
2.8.3	The due diligence assessment of every source of feed ingredients shall consist of the following elements: a) the feed mill requires the supplier of the ingredient to provide it with as detailed information as possible about the geographical location of the primary source of the ingredient, but including as a minimum its country or countries of origin (or in the case of marine ingredients the fishery of origin), and copies of any certificates of compliance or other indications of compliance with relevant legal, social and/ or environmental standards; b) the feed mill consults relevant sources of information and available guidance and determines whether the risk that the primary source of the ingredient fails to comply with each of the legal, social and environmental standards listed in Table 1 of Appendix 2 for the applicable ingredient category is considered to be low, medium or high; c) the feed mill records the results of its assessment, together with its justification, including reference to any documentation, guidance or other evidence it has taken into account in reaching its determination; d) if the feed mill determines that the level of risk in relation to any element of the assessment is 'high' or 'medium', the feed mill specifies what actions it would expect the supplier to take in order to reduce the level of risk to 'low'; e) the feed mill documents any actions taken by the supplier in response to its assessment, and adds an update to the report if such action results in the assignment of a lower level of risk in relation to any of the legal, social or environmental standards required; f) the feed mill makes the due diligence reports[50] (updated if applicable) for any of the ingredients it has determined are 'low risk' for all the applicable

[49] **Feed ingredient**: see definition.

[50] Commercially sensitive information (i.e.: names of suppliers and/or product names) are not to be made public. Ingredient names (e.g.: fishmeal, soybean protein concentrate), country of origin and other non-commercial sensitive information needs to be made public in the local language and English.

	legal, social and environmental standards publicly available on its company website.
2.8.4	If the level of risk for an ingredient source is raised from 'low' to 'medium' or 'high' on the basis of a re-assessment following a material change of the source, the feed mill must delist the supply until action has been taken to reduce the level of risk back to 'low'.

Rationale - The rationale for the application of the due diligence assessment is given in Appendix 2.

Guidance note: *ASC will provide additional guidance about the application of due diligence assessments for plant-based ingredients at a future date.*

Additional guidance about the application of due diligence assessments of marine ingredients is specified in the MSC Mass Balance Standard, which must be used together with this ASC Feed Standard.

Records

Criterion 2.9 Records of Implementation

Indicators:	
2.9.1	The feed mill has on file a copy of the current Responsible Sourcing Policy for each of its suppliers listed in indicator 2.4.1 b), above, and a copy of the most recent independent assessment report on its implementation provided by the supplier as specified in indicator 2.5.2, above.
2.9.2	The feed mill has on file a copy of the current due diligence assessment report for each of its feed ingredients as listed in indicator 2.4.1 a) for each of the suppliers listed in indicator 2.4.1 b), unless the ingredient is covered by an ASC-recognised chain of custody certificate or equivalent, as specified in indicator 2.6.1 a), above.

Principle 3: Goods In Control and Records for Ingredients for Feed Production

The feed mill identifies, checks and records the quantities and sustainability levels of all ingredients it receives in accordance with the classification of ASC-recognised certification schemes for marine ingredients (Appendix 3) and plant-based ingredients (Appendix 4), as applicable. These records allow the feed mill to demonstrate that it has achieved ASC's requirements in relation to the sustainability of the ingredients used to manufacture its products, and to determine the amount of product that it can subsequently sell as ASC Mass Balance Certified Feed based on a mass balance calculation.

Criterion 3.1 Goods-in ingredient control

Indicators:	
3.1.1	The feed mill operates a documented system to verify that all ingredients it receives comply with the feed mill's contract specifications (see criteria 2.4-2.7) before they can be used for production.
3.1.2	The feed mill operates a documented system to record the types and quantities of all verified ingredients received, including: a) the supplier's name; b) the ingredient name/ unique identifier; c) date of physical receipt; d) quantity received (including conversion if required into kg or t); e) whether or not the ingredient consisted of or contained Genetically Modified material (see indicator 1.19.2); f) the chain of custody certificate code (or equivalent) which covers the ingredient, if applicable; g) the proportion of the ingredient that consists of marine material that meets the different levels of sustainability defined in Appendix 3, as below: • whole fish, which has met due diligence requirements but is not from a fishery certified to a standard listed in Appendix 3 at sustainability level 1 to 4; • fish byproducts[51], which has met due diligence requirements but is not from a fishery certified to a standard listed in Appendix 3 at sustainability level 1 to 4; • whole fish or fish byproducts[51] from sources certified to fisheries standards listed in Appendix 3 at sustainability level 1; • whole fish or fish byproducts[51] from sources certified to fisheries standards listed in Appendix 3 at sustainability level 2; • whole fish or fish byproducts[51] from sources certified to fisheries standards listed in Appendix 3 at sustainability level 3; • whole fish or fish byproducts[51] from sources certified to fisheries standards listed in Appendix 3 at sustainability level 4 h) the proportion of the ingredient that consists of plant-based material that meets the different levels of sustainability defined in Appendix 4.
3.1.3	The feed mill operates a documented system to control the use of any ingredients received that do not comply with the required specifications, that includes the

following elements:

a) the feed mill is required to place any non-compliant ingredients in a designated area, where it is excluded from further processing until its status has been assessed;
b) if the ingredient is not covered either by a current due diligence assessment or by an ASC-recognised chain of custody certificate (or equivalent) that meets the requirements specified in Appendix 5, the feed mill is required to exclude the ingredient from any processing and return it to the supplier;
c) the record of ingredients received shall be updated so that it accurately reflects the quantity of material used for feed production.

Guidance note: *feed mills with ingredients in stock at the time of the certification audit must be able to demonstrate that these ingredients meet all the applicable requirements of this standard. The certification body must verify that goods received are covered by a valid due diligence assessment or ASC-recognised chain of custody certificate (or equivalent), are correctly labelled, specify their ingredient content, and have been correctly recorded in the feed mill's goods received record system.*

3.1.4 The feed mill operates a documented system to calculate and record at the end of each calendar month, the total weight received over the month of:

a) each type of ingredient listed in 2.2.1.1 a);
b) whole fish, which has met due diligence requirements but is not from a fishery certified to a standard listed in Appendix 3 as being at sustainability level 1 to 4;
c) fish byproducts[51], which has met due diligence requirements but is not from a fishery certified to a standard listed in Appendix 3 as being at sustainability level 1 to 4;
d) whole fish or fish byproducts[51] from sources certified to fisheries standards listed in Appendix 3 at sustainability level 1[52];
e) whole fish or fish byproducts[51] from sources certified to fisheries standards listed in Appendix 3 at sustainability level 2[52];
f) whole fish or fish byproducts[51] from sources certified to fisheries standards listed in Appendix 3 at sustainability level 3[52];
g) whole fish or fish byproducts[51] from sources certified to fisheries standards listed in Appendix 3 at sustainability level 4[52];
h) plant-based material recognised by ASC as being at sustainability level 1

[51] There is no *obligation* for the supplier to specify sustainability level of the fish byproducts it uses. If the sustainability level of the fish byproducts is not known, then (assuming they have passed the due diligence assessment) they are deemed to consist of level 0 material and are counted as such for the purpose of the mass balance calculation. However, if the supplier is able to determine what proportion of the fish byproducts originate from fisheries that certified to fisheries standards at L1 or above, the supplier has the option of declaring this information, which can then contribute to the calculation of the overall sustainability level of the feed mill's marine ingredient supply.

[52] The ingredients approved for level 1-4 are recognised as mass balance inputs for the purpose of calculating the amount of feed that may be sold as ASC Mass Balance Certified feed in accordance with the requirements specified in Principle 7.

	on the basis of a risk assessment as described in Appendix 4; i) plant-based material recognised by ASC as being at sustainability level 2 on the basis of a risk assessment as described in Appendix 4; j) plant-based material recognised by ASC as being at sustainability level 3 on the basis of a risk assessment as described in Appendix 4.
3.1.5	Records are accurate, complete, and unaltered, OR, if records have been changed, these changes have been clearly documented including the date and name or initials of the person that made the changes.

Guidance note: *in the case of ingredients that contain material sourced from more than one primary source, the feed mill shall allocate the material proportionately to the appropriate sustainability level, based on the information specified in 3.1.2 (g) and (h).*

For example, if 50% of the marine material in the ingredient is sourced from an IFFO RS Global Standard for Responsible Supply of Marine Ingredients assessed fishery that meets the requirements for sustainability level 2 as specified in Appendix 3, and 50% is sourced from an MSC-certified fishery that meets the requirements for sustainability level 4 as specified in Appendix 3, then 50% of the weight of the ingredient would be allocated to sustainability level 2 and 50% would be allocated to sustainability level 4.

Criterion 3.2 Traceability

Indicators:	
3.2.1	The feed mill operates a documented and effective traceability system that allows feed ingredients to be traced from the point of sale of a final product back to the point of purchase of individual ingredients, including all internal traceability and handling steps.

Rationale - When dealing with complex global supply chains it is essential that systems are in place to enable materials to be traced back to their origin. Such a system is vital when problems arise and the affected materials need to be identified and isolated. This not only helps to protect the safety of the end consumer, but also minimizes the associated financial and reputational losses for the feed mill.

Ideally materials should be traced from the feed mill back to the place where the original material was produced, but unfortunately this can be difficult to achieve in practice. In some cases this is because there is a lack of data available from key players within the supply chain, whilst in other cases it is because of the inherent nature of the production process which makes it difficult to trace (e.g. products that undergo multiple extraction and refining processes). As such, feed mills must be able to trace one step back in the supply chain and are encouraged to go further if possible.

Principle 4: Continuous Improvement - Marine Ingredients[53] Sourcing

Criterion 4.1 Marine ingredient source sustainability continuous improvement requirements

Indicators:	
4.1.1	The feed mill must publish annually the weight of the marine ingredients it has used over the previous year in each for the following categories: a) whole fish, for which the sustainability level was not determined; b) fish byproducts, for which the sustainability level was not determined[52]; c) whole fish or fish byproducts[51] at Sustainability Level 1 (see Appendix 3)[52]; d) whole fish or fish byproducts[51] at Sustainability Level 2 (see Appendix 3)[52]; e) whole fish or fish byproducts[51] at Sustainability Level 3 (see Appendix 3)[52]; f) whole fish or fish byproducts[51] at Sustainability Level 4 (see Appendix 3)[52].
4.1.2	The feed mill must calculate and publish[47] the 'Overall Sustainability Level' (see Appendix 6) of the marine ingredients that are recognised as mass balance inputs using the data specified in 4.1.1 above, in accordance with the calculation specified in Appendix 6 (available from ASC as an Excel spreadsheet).
4.1.3	For the first 3-year certificate cycle the 'Overall Sustainability Level' of the marine ingredients that are recognised as mass balance inputs must be at Level 1 or higher (see Appendix 3).
4.1.4	For each subsequent 3-year certificate cycle, the 'Overall Sustainability Level' of the marine ingredients that are recognised as mass balance inputs must be at least one level higher[54] than in the preceding certificate cycle, until the Overall Sustainability Level 4 is achieved (see Appendix 3).

Rationale - The value of the ASC brand depends on its association with sustainability, and this value might be undermined if ASC did not consider the social and environmental impacts of the use of the marine ingredients in the feed used for the production of ASC certified fish.

When ASC standards for aquaculture production were first agreed they included the requirement that within a specified time frame all ASC certified producers would have to ensure that 100% of the marine ingredients in their feed was sourced from MSC-certified fisheries. In practice this has proved challenging for many feed manufacturers on the time-scale as originally envisaged. In consequence ASC agreed to modify the requirement in relation to the sourcing of MSC-certified ingredients in feed to allow feed mills that are not able to source 100% MSC certified marine material or to produce feed which contains 100% MSC certified material through a segregation approach, to continue to supply ASC-certified aquaculture operations based on a combination of three major elements:

[53] **Marine ingredients**: see definition.

[54] In the situation that a feed mill can demonstrate that for its marine ingredients it is dependant on a single fishery, and that shifting supplies is not possible, an exemption may be granted for the mill to extent its cycle on the current sustainability level to be in line with the FIP-progress trajectory. This request must be submitted to ASC and substantiated with relevant public information.

a) a due diligence assessment applicable to all of its marine ingredients representing more than 1% of its inputs, as described in Section 2 of this standard;
b) a mass balance approach to claims and labelling, based on the total quantity of marine material sourced from sources that meet at least ASC's minimum requirements for sustainability, as specified in Principle 7 of this standard; and
c) a continuous improvement mechanism that ensures that the overall sustainability level of the marine material that can be counted towards the mill's ASC Mass Balance Certified Feed production must increase for each certification cycle, until >50% is sourced from MSC-certified fisheries (or equivalent).

This combination of elements is designed:

a) to protect the value of ASC's brand;
b) to allow consumer demand for fish from ASC certified production to drive demand for increasingly sustainable sources of marine ingredients for aquaculture feed;
c) to allow feed mills and aquaculture producers in regions in which access to MSC-certified marine ingredients is currently limited to continue to participate in the ASC scheme, allowing time for them to identify MSC-certified sources of marine ingredients, and/or to allow time for their suppliers of marine ingredients to achieve MSC-certification.
d) to facilitate a mechanism that enables to require eventually 100% MSC certified, or equivalent, whole fish fishmeal and fish oil.

Guidance note: *a feed mill that does not source any marine ingredients may still apply for certification against the ASC Feed Standard. In this case the requirements for the sourcing of marine ingredients (Principle 4), and for the calculation of Mass Balance (Principle 7) do not apply. If the feed mill meets all other requirements of the ASC Feed Standard it may sell its feed as ASC Certified Non-Marine Feed (see Principle 8).*

A feed mill that sources marine ingredients but sells some products that do not contain such marine ingredients, may also sell such products as ASC Certified Non-Marine Feed (see Principle 8). In this case the requirement 4.1.1 applies, but requirements 4.1.2 to 4.1.4, and the requirements for the calculation of Mass Balance (Principle 7) do not apply.

Principle 5: Continuous Improvement - Plant-based Ingredients[55] Sourcing

Criterion 5.1 Plant-based ingredient source sustainability continuous improvement requirements

Indicators:	
5.1.1	The feed mill must publish annually the weight of the plant-based ingredients it has used over the previous year that has been found, based on its risk assessment, to meet the sustainability level 1, 2 or 3 as defined in Appendix 4.
5.1.2	During the course of the first 3-year certificate cycle 100% of the plant-based ingredients used by the feed mill must be subject to a risk assessment that meets the requirements described in Appendix 4.
5.1.3	Before the start of the second 3-year certificate cycle, 100% of the plant-based ingredients used by the feed mill must be at sustainability level 1 or higher.
5.1.4	Before the start each subsequent 3-year certificate cycle, 100% of the plant-based ingredients used by the feed mill must be at a sustainability level that is higher than the level achieved in the previous cycle, until the majority (>50%) reaches the highest achievable level (sustainability level 3).

Rationale - The value of the ASC brand depends on its association with sustainability, and this value might be undermined if ASC did not consider the social and environmental impacts of the use of plant-based ingredients in the feed used for the production of ASC certified fish. However, ASC recognises that the level of demand for such ingredients for the manufacture of aquaculture feed is low compared to the overall volume of production of relevant agricultural commodities such as soy, rice and palm oil, and that certification systems covering all relevant commodities are not yet widely adopted by the suppliers of these ingredients to feed mills.

In consequence ASC takes a continuous improvement approach to the sourcing of plant-based ingredients in the feed destined for use by ASC certified aquaculture producers. Firstly, as a pre-requisite all plant-based ingredients representing more than 1% of a feed mill's inputs are subject to a due diligence assessment. Subsequently, feed mills must carry out a broader risk assessment, identifying and subsequently addressing a wider range of issues, as described in Appendix 4. By the end of the first certificate cycle all plant-based ingredients must have been assessed in relation to this wider range of issues. In the second certificate cycle actions must be taken to address the highest risks that are identified as a result of this risk assessment. By the third certificate cycle at least half of the total amount of plant ingredients must have reduced the risk of any issues being of concern to a level that is considered to be low. This approach to continuous improvement is codified through the definition of the three sustainability levels controlled plant-based ingredients[56] recognized by ASC, as defined in Appendix 4.

[55] **Plant-based ingredients**: see definiton.

[56] **Controlled plant-based ingredients**: see definiton.

Principle 6: Land Animal Ingredients[57] Sourcing

Criterion 6.1 Terrestrial animal ingredient source requirements

Indicators:	
6.1.1	When land animal ingredients[58] are sourced by the feed mill, the feed mill must ensure that antibiotics potentially given to animals used in the production of animal feed ingredients are used only to control or treat infectious diseases and have been issued under veterinary supervision.
6.1.2	Land animal ingredients sourced by the feed mill have been produced from slaughtered animals passed fit for human consumption.

Rationale - The World Health Organization concluded that inappropriate use of antibiotics in animal husbandry is an underlying contributor to the emergence and spread of antibiotic-resistant germs, and that the use of antibiotics as growth promoters in animal feeds should be restricted. The World Organisation for Animal Health has added to the Terrestrial Animal Health Code[59] a series of guidelines with recommendations to ensure the proper and prudent use of antibiotic substances.

[57] **Land animal ingredients**: see definition.

[58] **Controlled land animal ingredients**: see definition.

[59] https://www.oie.int/doc/ged/D10905.PDF

Principle 7: ASC Mass Balance Feed Calculation

This Principle specifies requirements for implementation of the ASC Feed Standard in combination with the MSC Mass Balance Standard.

Criterion 7.1 Application in combination with the MSC Mass Balance Standard

Indicators:

7.1.1 The ASC Feed Standard must always be used together with the MSC Mass Balance Standard, and the requirements of both standards must be met.

Guidance note: *the MSC Balance Standard specifies requirements for:*

a) Marine ingredient sourcing policy;
b) Contracts with approved suppliers of marine ingredients;
c) Goods-in control for marine ingredients;
d) Mass balance calculation;
e) Mass balance product identification and sales;
f) Management system requirements.

Detailed guidance on the application of the ASC Feed Standard together with the MSC Mass Balance Standard will be prepared when the content of both standards has been finalised. Currently both standards are subject to stakeholder consultation and potential revision.

Rationale - The ASC Feed Standard has been written with the explicit intention that it should be used in support of a mass balance approach to claims which will provide flexibility for feed mills supplying ASC certified aquaculture producers and that are not yet able to supply feed that contains marine ingredients 100% of which is sourced from MSC-certified fisheries covered by MSC chain of custody certificates. The conditions for the operation of such a mass balance approach are being prepared by MSC through its own ISEAL-compliant standards development procedure.

Criterion 7.2 ASC mass balance ingredients

Indicators:

7.2.1 Marine ingredients that meets the following requirements is MSC Mass Balance Recognised Marine Material, for the purposes of calculating the Input Mass of the mass balance calculation:

a) fish byproducts, for which the sustainability level was not determined;
b) whole fish or fish byproducts at Sustainability Level 1 (see Appendix 3);
c) whole fish or fish byproducts at Sustainability Level 2 (see Appendix 3);
d) whole fish or fish byproducts at Sustainability Level 3 (see Appendix 3);
e) whole fish or fish byproducts at Sustainability Level 4 (see Appendix 3).

Guidance note: *the procedural requirements for the calculation of the Input Mass are specified in the MSC Mass Balance Standard (Draft 2-0) clause <<XX>>. The clause number will be given once the drafting of the MSC Mass Balance Standard (Draft 2-0) has been finalised.*

Rationale - The ASC Feed Standard has been written for use in combination with the MSC Mass Balance Standard (in development in parallel with the ASC Feed Standard). This Principle specifies requirements for implementation of the ASC Feed Standard in combination with the MSC Mass Balance Standard, and is intended to allow feed mills that do not currently have access to MSC-certified marine ingredients, or are not able to source 100% MSC certified marine material and are unable to segregate their MSC-certified inputs from non-MSC certified inputs to continue to supply ASC-certified aquaculture operations.

Feed mills that can source 100% of their marine ingredients from MSC certified sources, OR that are able to segregate their production lines so as to manufacture feed consisting of 100% MSC certified marine ingredients may choose to be certified under the MSC Chain of Custody Standard (Default Version 4-0, February 2016). In this case they should apply to MSC for MSC chain of custody certification, will be subject to MSC's usual requirements, and may label their feed in accordance with those requirements. Feed mills that choose this route would not be required to meet the additional requirements of the ASC Feed Standard.

Some feed mills may nonetheless wish to be certified in accordance with both the ASC Feed Standard and the MSC Chain of Custody Standard (Default Version 4-0, February 2016). This would potentially allow a feed mill to supply both MSC certified feed and ASC Mass Balance certified feed. In this case: all the requirements of the MSC Chain of Custody Standard (Default Version 4-0, February 2016) will apply for the purposes of segregation and labelling of the MSC product line(s); and all the requirements of the ASC Feed Standard will apply to the feed mill as a whole, including the requirements in relation to due diligence for all the ingredients comprising more than 1% of its supply. For the avoidance of doubt, this would include non-marine ingredients which are allocated for use in production lines covered by the MSC Chain of Custody Standard (Default Version 4-0, February 2016). In addition, the feed mill would be required to implement the requirements of the MSC Mass Balance Standard for all production that is not covered by the MSC Chain of Custody Standard (Default Version 4-0, February 2016). In this case the marine ingredients used for the production of MSC certified products will be included in the calculation of the feed mill's Overall Sustainability Level, but will be excluded from the calculation of the mass balance, in order to avoid double-counting.

MSC certified products produced by feed mills that are certified under both MSC Chain of Custody Standard (Default Version 4-0, February 2016) and the ASC Feed Standard would be eligible to carry both MSC and ASC labels, under the respective licensing schemes of each organisation.

ASC Mass Balance Certified Products produced by feed mills that are certified under both MSC Chain of Custody Standard (Default Version 4-0, February 2016) and the ASC Feed Standard would be eligible to carry ASC Mass Balance Certified labels/ claims ONLY, under the ASC licensing scheme, as described in Principle 8, below.

Principle 8: ASC Certified Feed Labelling and Claims

Criterion 8.1 ASC certified feed product labelling

Indicators:	
8.1.1	The feed mill has a documented system in place to control the labelling of its feed products, and any associated claims.
8.1.2	The system includes procedures to ensure that: a) the feed mill may only label, promote or make any other claims about its sourcing, production or products in association with use of the ASC name or logo if it has been granted approval to do so under the terms of the ASC licence agreement; b) any product that is sold as an ASC Certified Feed Product (wehther it is ASC Mass Balance Certified Feed or ASC Certified Non-Marine Feed) is labelled with a statement to this effect together with the feed mill's ASC Feed Certificate number. ***Guidance note:*** *where it is impossible or impractical to apply a physical label to the product the feed mill will need to demonstrate how the product can be verifiably linked with associated traceability or inventory records that identify its certified status.* *a) Packaging, labels, and other materials identifying products as ASC Mass Balance Certified Products can only be used for ASC Mass Balance Certified Products* *b) No product sold without carrying the applicable statement and associated certificate number may be associated with any kind of ASC claim.* c) *When sold, all ASC Mass Balance Certified Products are identified as such on the line item of the related invoice.*

Criterion 8.2 ASC mass balance certified feed

Indicators:	
8.2.1	Any product that is sold as an ASC Mass Balance Certified Feed Product is labelled with a statement to this effect together with the feed mill's ASC Feed Certificate number.

Guidance note: *for the avoidance of doubt, feed that is certified as complying with the requirements of the ASC Feed Standard (and, therefore, also with the requirements of the MSC Mass Balance Standard as described in Principle 7, above) is NOT eligible to carry any MSC logo or related claim*

Criterion 8.3 ASC certified feed containing no marine ingredients

Indicators:	
8.3.1	Products that are sold by a feed mill that meets the requirements of the ASC Feed Standard, but which contain no marine ingredients, may be sold as ASC Certified Non-Marine Feed.
8.3.2	The labelling of ASC Certified Non-Marine Feed must be clearly and readily distinguishable from the labelling for ASC Mass Balance Certified Feed Products, and must state clearly that it contains no marine ingredients.

Guidance note: *as above, for the avoidance of doubt, feed that is certified as complying with the requirements of the ASC Feed Standard (and, therefore, also with the requirements of the MSC Mass Balance Standard as described in Principle 7, above) is NOT eligible to carry any MSC logo or related claim.*

Definition List

Term:	Definition:	Reference:	
Basic needs wage	A basic needs wage is the take-home pay received by a employee for a standard work week sufficient to afford the employee and the employee's family a basic, but decent, standard of living in a particular location. A living wage must be sufficient to satisfy the family's basic needs (e.g. food, housing, clothing, transport, health- care, and education), must allow the employee and family to put aside modest savings for unexpected events and to participate in social and cultural life.	Finnwatch	Back to text
Base pay	The pay received by an employee for a working week (no more than 48 hours) excluding overtime and bonuses.	ASC	Back to text
Child	Any person under 15 years of age (or 14 in some developing countries). A higher age would apply if the minimum age law of an area stipulates a higher age for work or mandatory schooling.	ASC	Back to text
Child labour	Any work by a child younger than the age specified in the definition of a child.	ASC	Back to text
Collective bargaining	A voluntary negotiation between employers and organizations of employees in order to establish the terms and conditions of employment by means of collective (written) agreements.	ASC	Back to text
Controlled land animal ingredients	Sourced land animal volume that represents the volume needed to produce the declared volume of ASC Compliant Feed.	ASC	Back to text
Controlled plant-based ingredients	Sourced plant-based ingredients that represents the volume needed to produce the declared volume of ASC Compliant Feed.	ASC	Back to text
Discrimination	Any distinction, exclusion, or preferences, which have the effect of nullifying or impairing equality of opportunity or treatment. Not all distinction, exclusion, or preference constitutes discrimination. For instance, a merit- or performance-based pay increase or bonus is not by itself discriminatory. Positive discrimination in favor of people from certain underrepresented groups may be legal in some countries.	ASC	Back to text
Disciplinary practices	A method for dealing with a employee who causes problems or does not obey company rules.	ASC	Back to text
Direct supplier	Supplier from whom the product is purchased.	ASC	Back to text
Effluent	Liquid waste flowing into a water body such as a river, lake, or lagoon, or a sewer system or reservoir.	ASC	Back to text
Employees	An individual who works part-time or full-time under a contract of employment, whether oral or written, express or implied, and has recognized rights and duties.	ASC	Back to text
False Apprenticeship Scheme	The practice of hiring employees under apprenticeship terms without stipulating terms of the apprenticeship or wages under contract. It is a "false" apprenticeship if its purpose is to underpay people, avoid legal obligations, or employ underage employees.	ASC	Back to text
Feed	a component part or constituent or any	ASC	Back to text

Ingredient	combination/mixture added to and comprising the feed as disclosed on the feed bag. Feed ingredients might include meals & fat/oils, milling byproducts, added vitamins, minerals, and other nutritional and energy sources.		
Feed mill	A factory (a “mill”) in which feed destined for aquaculture is produced. The scope of ASC Feed Standard does not differentiate between pelleted or extruded feed, as long as the mill and the feed ingredients meet the indicators of this Standard.	ASC	Back to text
Forced or compulsory work	All work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily.	ILO	Back to text
Genetically Modified Organism (GMO)	An organism, with the exception of human beings, in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination.	EU	Back to text
Hazard	The inherent potential to cause injury or damage to a person’s health (e.g., unequipped to handle heavy machinery safely, and unprotected exposure to harmful chemicals).	ASC	Back to text
Hazardous work	Work that, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of employees (e.g., heavy lifting disproportionate to a person’s body size, operating heavy machinery, exposure to toxic chemicals).	ASC	Back to text
Labour-only contracting arrangements	The practice of hiring employees without establishing a formal employment relationship for the purpose of avoiding payment of regular wages or the provision of legally required benefits, such as health and safety protections.	ASC	Back to text
Land animal ingredients	Ingredients derived from non-ruminant land animals (e.g.: poultry & pigs).	ASC	Back to text
Marine ingredients	Ingredients derived from aquatic organisms (both marine and freshwater) such as fish, krill and shellfish. Ingredients derive from (micro)algae do not fall within this scope.	ASC	Back to text
Mental abuse	Characterized by the intentional use of power, including verbal abuse, isolation, sexual or racial harassment, intimidation, or threat of physical force.	ASC	Back to text
Migrant employee	Person who is to be engaged, is engaged or has been engaged in a remunerated activity in a State of which he or she is not a national.	OHCHR	Back to text
Minimum wage	A minimum wage is the lowest level of hourly pay that is legally allowable.	ASC	Back to text
Plant-based ingredients	ingredients derived from agricultural products (crops). Examples would be ingredients derived from: soy, corn, wheat, rice, canola/rapeseed, palm oil, groundnut, sunflower, tapioca, etc.	ASC	Back to text
Premium rate	A rate of pay higher than the regular work week rate. Must comply with national laws/regulations and/or industry standards.	ASC	Back to text
Region	A geographical area in which all farms that may be the source of a defined ingredient are located.	ASC	Back to text
Renewable energy sources	Energy that is collected from renewable resources, which are naturally replenished on a human time-scale. Examples are: wind energy, solar energy, hydro energy, wave/tidal energy and geothermal energy.	Wikipedia	Back to text

Senior management	Individuals and teams at the highest level of organizational management who have the day-to-day responsibilities of managing a company or corporation.	ASC	Back to text
Waste	Solid or semisolid, non-soluble material (including gases and liquids in containers) resulting from a production process and not of any use by the producer.	ASC	Back to text
Workplace problems	A workplace problem is a concern or complaint that an employee may have related to any aspect of his/her work.	ILO	Back to text

Appendix 1: Environmental Management System (EMS)[60]

Relevant for criterion: 1.15, 1.16, 1.17 and 1.18.

Introduction

Feed mills have the potential to create considerable negative environmental impacts. As such there is the nee to address these negative environmental impacts within the scope of the ASC Feed Standard.

Negative environmental impacts predominantly occur on two levels and over various categories:

a) Level: input – needed for production process:
    1. Category: Raw material[61]
    2. Category: Water & energy
b) Level: output – as a result of the production process:
    1. Category: Waste material
    2. Category: Wastewater

An effective tool to mitigate these negative environmental impacts of a factory is an Environmental Management System (EMS). This system puts in place a structured management framework to address site-specific (potential) environmental impacts and allows for continuous improvement over time.

The benefits from having an EMS range from better control over negative environmental impacts, reducing the risk of costly pollution incidents, assisting with compliance to environmental legislation, decrease water & energy bills and a more efficient production process.

Next to this, an EMS can also boost the reputation of being an environmentally responsible company, or industry. This could, amongst others, translate in better shareholder satisfaction and increased community support.

An EMS is often, if not always, tailored to site-specific conditions. This allows for factories to implement overarching corporate values & principles, but also gives them the flexibility to adjust to site-specific needs in order to optimize their environmental management. Within the context of v1.0 of the ASC Feed Standard, the scope of the required EMS will cover the following elements:

a) Water & Energy Consumption
b) Green House Gas Emissions
c) Waste and Effluent Management

[60] Companies/mills certified to ISO 14001:2015 are exempt from this requirement.

[61] The potential negative environmental impacts from raw material production (1a) are addressed under Principle 4-6.

a) Water & Energy Consumption

Water and energy consumption shall be calculated as follows:

Energy consumption (criterion 1.15):

1. Identification of the time period to allocate the calculation to. This is set at the previous calender year (1 January – 31 December).
2. Calculate the production volume of feed (t) within the defined time period.
3. List all sources of energy (electricity, fuel (fossil/renewable) used during the production process of feed[62] within the defined time period and their conversion rate to kWh.
4. Calculate the quantity used per energy source within the defined time period and converted[63] to kWh.
5. Sum the sub totals.
6. Express the total energy use in kWh/t feed produced/year.
7. Report the result of Step 6 to ASC via certification@asc-aqua.org

Water consumption (see criterion 1.16):

1. Identification of the time period to allocate the calculation to. This is set at the previous calender year (1 January – 31 December).
2. Calculate the production volume of feed (t) within the defined time period.
3. List all sources of water (wells, surface and drinking water) used during the production process of feed[62] within the defined time period.
4. Calculate the quantity used per water source within the set time period in m^3.
5. Sum the sub totals.
6. Express the total energy use in m^3/t feed produced/year.
7. Report the result of Step 6 to ASC via certification@asc-aqua.org

b) **Green House Gas Emissions** (criterion 1.15)

Assessments shall follow either the GHG Protocol Corporate Standard or ISO 14064-1 (references below). These are commonly accepted international requirements, and are largely consistent with one another. Both are also high level enough not to be prescriptive and they allow companies some flexibility in determining the best approach for calculating emissions for their operations.

If a company wants to go beyond the requirement of the ASC Feed Standard and conduct this assessment for their entire company, then the full protocols are applicable. If the assessment is being done only on sites that are being certified, the feed mill shall follow the GHG Protocol Corporate Standard and/or ISO 14064-1 requirements pertaining to:

a) Accounting principles of relevance, completeness, transparency, consistency and accuracy
b) Setting operational boundaries
c) Tracking emissions over time

[62] From ingredient intake process to final feed packaging process.

[63] Several online conversion tools are available. An example: http://www.abraxasenergy.com/energy-resources/toolbox/conversion-calculators/energy/

d) Reporting GHG emissions

In regard to the operational boundaries, feed mills shall include in the assessment:

a) Scope 1 emissions come directly from a source that is either owned or controlled by the feed mill. For example, if the feed mill has a diesel generator, this will generate Scope 1 emissions. So will a truck owned/operated by the feed mill.
b) Scope 2 emissions result from the generation of purchased electricity, heating, or cooling.

Quantification of emissions is done by multiplying activity data (e.g., quantity of fuel or kwh) by an emission factor (e.g., CO2/kwh). For non-CO2 gases, this needs to be multiplied by a Global Warming Potential (GWP) to convert non-CO2 gases into the CO2-equivalent. Neither the GHG Protocol nor the ISO require specific approaches to quantifying emissions, so the ASC provides the following additional information on the quantification of emissions:

a) Feed mills shall clearly document the emission factors they use and the source of the emission factors. Recommended sources include the Intergovernmental Panel on Climate Change (IPCC) or factors provided by national government agencies such as the United States Environmental Protection Agency (USEPA). Companies shall survey available emission factors and select the one that is most accurate for their situation, and transparently report their selection.
b) Feed mills shall clearly document the GWPs that they use and the source of those GWPs. Recommended sources include the IPCC 2nd Assessment Report, on which the Kyoto Protocol and related policies are based, or more recent Assessment Reports.

References (relevant at time of publication of standard):

a) GHG Protocol Corporate Standard Website: http://www.ghgprotocol.org/standards/corporate-standard
b) ISO 14064-1 available for download (with fee) at http://www.iso.org/iso/catalogue_detail?csnumber=38381
c) Some information on ISO 14064-1 is at http://www.iso.org/iso/pressrelease.htm?refid=Ref994
d) IPCC 2nd Assessment Report: http://www.ipcc.ch/pdf/climate-changes-1995/ipcc-2nd-assessment/2nd-assessment-en.pdf
e) All IPCC Assessment Reports: http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml#1

c) **Waste and effluent management Plan** (criteria 1.17 and 1.18)

The waste and effluent management plan, constitutes of at least the following elements:

1. Identification of the possible types of waste (e.g.: (non-) hazardous, (non-)recyclable) and effluent types (e.g.: biological, chemical, physical) and their respective volumes produced during production process.
2. A detailed description of how waste can be reused, recycled and, if necessary, appropriately treated and disposed of. Effluent will need to be treated prior to discharge as needed by national and regional laws and regulations.
3. Monitoring of the effectiveness of the points under Step 2.
4. A description of what procedures to follow to ensure compliance if a non-compliance is detected.

Appendix 2: Due Diligence Assessment for All Ingredients

Relevant for criterion 2.8.

Background

The ASC Feed Standard is intended, amongst other objectives, to promote the sustainable production of the ingredients used for the production of aquaculture feed. However, the ASC Steering Committee recognises that for many of the commodities that are used as ingredients for aquaculture feed ASC cannot expect to generate sufficient demand on its own to drive producers and processors of those commodities to meet demanding social and environmental standards. The Steering Committee accepts that certified sustainable supplies of many types ingredients are likely to be limited for some time. Given the need to mix different types of ingredients in a range of recipes to meet differing feed specifications, and the potential cost of producing small batches of certified feed separated from uncertified feed, the limitation of the supply of certified ingredients could create a serious barrier to the production of more sustainable feed.

In response, the ASC Steering Committee has agreed to allow a mass balance approach whereby certified as well as non-certified ingredients may be mixed, so long as the total amount of the feed that is produced and sold as ASC-certified is equivalent to the amount of certified ingredients that the mill has previously purchased over a defined period of time.

This more flexible approach is designed to reduce the barriers to uptake of the ASC Feed Standard and to create demand for the purchase of more sustainable ingredients for feed production starting from a low base. However, it raises concerns about ingredients associated with unacceptable social or environmental practices being mixed in with feed that may carry the ASC label, with the associated risk of reputational damage for ASC.

In response to this concern the ASC Steering Committee has determined that *all* the ingredients that are sourced by an ASC-certified feed mill must be subject to a due diligence assessment designed to exclude any ingredients associated with the worst social and environmental practices being purchased by the mill, and hence to exclude such ingredients from ASC-certified feed even when non-certified and certified inputs are mixed together for its production.

The due diligence assessment is the first step in ASC continuous improvement approach to transition feed ingredients to a level recognised by approved third party certification standards.

The due diligence approach is designed to ensure that all ingredients sourced by ASC-certified feed mills have been screened to exclude those that are associated with the worst legal, social or environmental concerns for each ingredient category, as specified in Table 1, below:

Ingredient Category	Legal	Social	Environmental
Marine: Fish or fish byproducts	Products from illegal, unreported and unregulated (IUU)	Production using child labour or forced labour	Production that is likely to have a major detrimental impact on

Ingredient Category	Legal	Social	Environmental
	fishing		'Species at Risk' (SAR)
Plant: Soy, Rice, Wheat, Oil Palm, Corn and Canola	Production from illegally deforested/cleared land	Production using child labour or forced labour	Production from illegally deforested/cleared land
Land Animal	Products derived from ruminants Products from sources not passed fit for human consumption	Production using child labour or forced labour	Products from sources where the use of antibiotics is not supervised by vets

Table 1

Due Diligence Approach

Applicability: a due diligence assessment is required for all ingredient types that constitute more than 1% of the annual volume of ingredients purchased.

Implementation: suppliers must provide the feed mill with sufficient evidence to allow the feed mill to carry out its due diligence assessment. If evidence is not submitted, or is insufficient to allow an effective assessment to be completed, the supply will be deemed by default to be high risk. Additional guidance may be published by ASC to support applicants in the consistent implementation of due diligence assessments in relation to specific issues, or as applicable to specific categories of ingredients as experience is gained over time.

Response: the feed mill must discontinue the sourcing of any supplies that are deemed to be at 'high risk' of containing ingredients associated with any of the aspects listed in Table 1 until or unless the feed mill has confirmed that the supplier has taken corrective action sufficient to reduce the level of risk to an acceptable level.

Due Diligence Findings: where the due diligence assessment concludes that the risk that the supply contains ingredients from excluded sources is at an acceptable level the results of the assessment must be made public. Where a source that was previously regarded as high risk is subsequently assessed to be low risk as a result of corrective action, the corrective actions that were taken to reduce the risk to an acceptable level must be described in the published assessment.

Exemptions: ingredients that are covered by a chain of custody certificate issued by a scheme that is already recognised by ASC as providing sufficient evidence that unacceptable sources in its supply chain have been excluded are exempt from the requirement for a separate due diligence assessment.

Appendix 3: Sustainability Levels for Marine Ingredients

Relevant for criterion: 3.1.2, 3.1.4, 4.1.1, 4.1.3, 4.1.4 and 7.2.1

The table below defines the specifications for the Sustainability Level of marine ingredients (Table 1). The specifications for calculating the Overall Sustainability Level of a feed mill's marine ingredients is specified in Appendix 6.

Level	Description	Guidance
Level 0: (due diligence)	A due diligence process has been carried out as defined in the ASC Feed Standard in relation to the sourcing of all marine ingredients in the product, including the sourcing of whole fish as well as fish by-products. Any sources that were identified as being high risk have either been excluded, or the issues have been addressed so that the sources are no longer considered to be high risk.	MSC is developing guidance on the exclusion of ingredients derived from IUU fisheries, which must be used as part of the due diligence process when the ASC Feed Standard is used in association with MSC Chain of Custody Standards. The due diligence process applies to all marine ingredients, including both whole fish and fish byproducts. However, fish by-products at Level 0 are treated differently to whole fish at Level 0 for the purposes of calculating the Overall Sustainability Level of the fish mill's marine ingredient sourcing (see Table 2, below). Note that IFFO RS is developing a due diligence process which is designed to demonstrate that fish byproducts achieve this level of compliance.
Level 1	Whole fish used as raw material are sourced from fisheries that: 1) Are not associated with the unacceptable practises listed in Appendix 2, Table 1 for marine ingredients 2) Are engaged in time-bound fishery improvement projects (FIPs) that are recognised by the IFFO RS Improvement Programme, or equivalent, and 3) Are working towards meeting the key requirements of the FAO Code of Conduct for Responsible Fisheries or the APFIC Guidelines for the Management of Tropical Trawl Fisheries where applicable.	A range of information about global FIPs is available at <www.fisheryprogress.org> Equivalence to the IFFO RS Improvement Programme will be based on an assessment of compliance to the key sustainability of the FAO Code of Conduct for Responsible Fisheries. These are listed below this table. Marine ingredients covered by the following chain of custody certificates are currently recognised by ASC as being at sustainability level 1: • IFFO RS CoC Standard
Level 2	Whole fish used as raw material are sourced from fisheries that: 1) Are not associated with the	Equivalence to the IFFO RS Global Standard will be based on assessment of compliance with ISEAL Codes of

	unacceptable practises listed in Appendix 2, Table 1 for marine ingredients 2) Are approved by the IFFO RS Global Standard for Responsible Supply, or equivalent, and 3) Are working towards meeting the key requirements of the APFIC Guidelines for the Management of Tropical Trawl Fisheries where applicable.	Good Practice as well as consideration of key sustainability criteria that are referenced in the IFFO RS Global Standard. Marine ingredients covered by the following chain of custody certificates are currently recognised by ASC as being at sustainability level 2: • IFFO RS CoC Standard
Level 3	Whole fish used as raw material are sourced from fisheries that: 1) Are not associated with the unacceptable practises listed in Appendix 2, Table 1 for marine ingredients 2) Are engaged in time-bound fishery improvement projects (FIPs) as defined by the CASS Comprehensive FIP or equivalent, and 3) Are working towards certification to the Marine Stewardship Council fisheries standard or equivalent.	A range of information about global FIPs is available at <www.fisheryprogress.org> Marine ingredients covered by the following chain of custody certificates are currently recognised by ASC as being at sustainability level 3: • MSC Chain of Custody Certificate (Default Version).
Level 4	Whole fish used as raw material are sourced from fisheries that: 1) Are not associated with the unacceptable practises listed in Appendix 2, Table 1 for marine ingredients 2) Are certified to the Marine Stewardship Council fisheries standard, or equivalent	Equivalence to MSC will be based on assessment of compliance with ISEAL Codes of Good Practice as well as consideration of key sustainability criteria that are referenced in the MSC Principles and Criteria. Standards recognised as equivalent to MSC standard must have been set in accordance with the ISEAL Code of Good Practice for Setting Social and Environmental Standards, and be recognised by/ meet the requirements of the Global Sustainable Seafood Initiative (GSSI) Global Benchmarking Tool. The standard should be based on a full ecosystem approach with specific provisions for the management of low trophic level species and the protection of populations of dependent predators. Marine ingredients covered by the following chain of custody certificates

		are currently recognised by ASC as being at sustainability level 4: • MSC Chain of Custody Certificate (Default Version).

Key sustainability of the FAO Code of Conduct for Responsible Fisheries are considered to be:

The Fishery Management Framework and Procedures:

a) there must be objectives that promote the long-term conservation and sustainable use of fishery resources and ecosystem;
b) fishery management actions must be based on the long-term conservation of the fishery and ecosystem;
c) management must be concerned with the whole stock over its entire distribution and consider all fishery removals and the biology of the species;
d) the management of the fishery must include a legal and administrative basis for the implementation of measures and controls to support the conservation of the fishery;
e) management procedures and outcomes must be transparent and publically available.

Stock Assessment Procedures and Management Advice:

a) there must be scientific information available on the characteristics of the fishery relevant to the long term conservation of the fishery and ecosystem, including; its geographic distribution, stock assessment of target species and where applicable, impact on non-target species;
b) the conservation and management measures of the fishery must be based on the best scientific information available, concerned with the entire stock, its life-cycle characteristics and geographic distribution;
c) where there is more than one stock management system (e.g. where stocks are distributed across trans-boundaries), there must be sufficient interaction between relevant domestic and international parties to promote compatibility of management objectives for the conservation and sustainable utilisation of the fishery resource;
d) representation must, where applicable include both governmental and non-governmental organisations, concerned with fisheries conservation and management.

The Precautionary Principle:

a) the fisheries management framework must apply a precautionary approach to the conservation of the target fishery resource, associated non target species and for the conservation of the wider eco-system;
b) suitable or proxy target and limit reference points must be set and take into account uncertainties relating to size and productivity of the stocks, unknown fishing mortality and the impact of fishing on the environment;
c) precautionary measures must consider (where relevant), discards, dependent species, habitats, communities and threatened, endangered and protected species.

Management Measures:

a) the level of fishing permitted must be set according to the scientific information and where available, the recommendation from an officially recognised body;
b) there must be adequate control on excess fishing capacity to ensure that it does not prevent the recovery of stocks that are outside of safe biological limits;
c) management measures must ensure that fishing gear and fishing practices do not have a significant impact on non-target species and the physical environment;
d) the fishery must not engage in dynamiting, poisoning and other comparable destructive fishing practices;
e) management must ensure that all vessels under its responsibility including foreign vessels flying their flag are authorised and included in management measures of the fishery;
f) there must be a management system for fisheries control and enforcement;
g) there must be laws and regulations that provide for sanctions in respect to their violation, (for example where vessels engage in illegal, unregulated and unreported fishing activity);
h) there must be evidence of effective fisheries management and control.

Appendix 4: Sustainability Levels for Plant-Based Ingredients

Relevant for criterion: 3.1.2, 3.1.4, 4.1.1, 5.1.1, 5.1.2,

Level	Description	Guidance
Due diligence	A due diligence process has been carried out as defined in the ASC Feed Standard in relation to the sourcing of all plant-based material in the product. Any sources that were identified as being high risk have either been excluded, or the issues have been addressed so that the sources are no longer considered to be high risk.	
Level 1	In addition to the above, the feed mill has carried out an assessment of the llikelihood that the primary source of production of the ingredient fails to comply with a broad range of significant sustainability aspects, and the likelihood of such non-compliance has been designated as 'high', 'medium' or 'low' level. Corrective actions with associated timelines have been specified that, if implemented, would reduce the likelihood of non-compliance from 'high' to 'medium' or 'low'.	Significant sustainability aspects include deforestation, soil protection, responsible use of pesticides and herbicides, water use, and labor practices. Specific guidance on the range of sustainability aspects to be included in the assessment, and on the assignation of 'high', 'medium' and 'low' risk levels is listed below this table. ASC will also develop a list of existing certification schemes applicable to plant ingredients that it considers address the relevant sustainability aspects and that, if implemented, would reduce the likelihood of non-compliance to 'medium' or 'low'.
Level 2	In addition to the above, corrective actions have been taken and verified that have reduced the likelihood of non-compliance with any significant sustainability aspects of the primary source of production of the ingredient from 'high' to levels that are now considered to be at worst 'medium'.	See above.
Level 3	In addition to the above, corrective actions have been taken and verified that have reduced the likelihood of non-compliance with any significant sustainability aspects of the primary source of production of the ingredient to levels that are now considered to be at worst 'low'.	See above. • For soy-based ingredients the approved list will include sources that meet the requirements of the Round Table Responsible Soy (RTRS), Proterra. • For palm oil based ingredients the approved list will

		include sources that meet the requirements of the Roundtable on Sustainable Palm Oil.

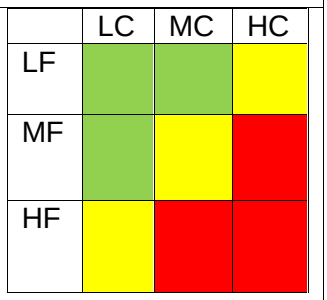
Risk determiniation

Risk is a combination of frequency and consequence. Low frequency, low consequence actions are generally considered to be of little concern. A high consequence, low frequency event, will generate a far different response. Actions that have significant consequences, especially if there is the possibility of irreversible harm, require a response aimed at avoiding the action or mitigating the consequences.

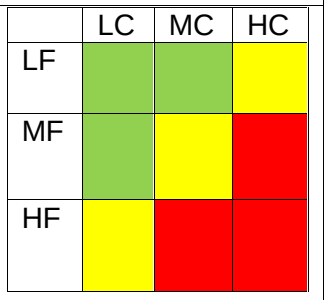
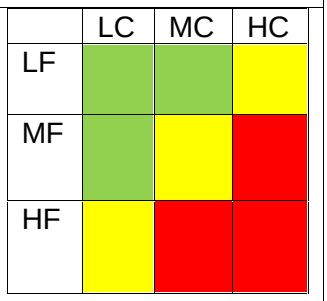
This table below sets out the allocation of risk into low, medium and high outcomes..

	Low consequence	**Medium consequence**	**High consequence**
Low frequency	**Low**	**Low**	**Medium**
Medium frequency	**Low**	**Medium**	**High**
High frequency	**Medium**	**High**	**High**

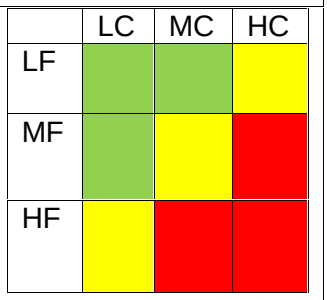
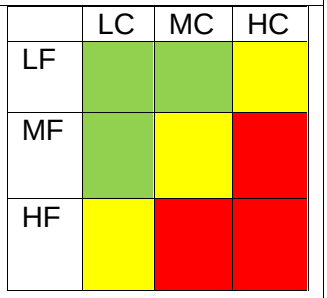
In order to justify a “low”, “medium” or “high” level, following Criteria need tob e evaluated by the Feed Mill and evidence for the oucomes needs to be justified to the auditor.

Environmental responsibility	
Criterion 1.1: The expansion of *CROP*[64] cultivation is responsible.	
There is government control over the expansion of *CROP* production (e.g. land ownership, biodiversity legislation, forest legislation, land management policies). <u>Frequency indicators:</u> • Low – there is government oversight of expansion of farming such that land, water and biodiversity is protected • Medium – government oversight of farming activities is not comprehensive • High – there is no government oversight of farming activities that may negatively affect land, water and biodiversity <u>Consequence indicators:</u> • Low – the landscape is heavily altered and the expansion of farming can have little additional impact	 <u>Evidence:</u>

[64] The word *CROP* can be substituted for the plant that is used for an ingredient covered by the ASC Feed Standard

• Medium – there are laws in place but they are not fully implemented across the region[65] and high conservation values are being lost • High – the farming exists within a high conservation value landscape that is sensitive to the impacts of farming	
Areas that are assigned as legal reserve, conservation area or otherwise secured by law are protected. There are mechanisms in place to require the restoration of any such areas. <u>Frequency indicators:</u> • Low – reserves adequately cover all areas of high conservation value • Medium – reserves exist but do not adequately cover areas of high conservation value • High – reserves are non existent and areas of high conservation value are unprotected <u>Consequence indicators:</u> • Low – laws are enforced and any breaches subject to enforceable restoration orders • Medium – laws are only occasionally enforced or restoration is not possible • High – laws are not enforced and areas of high conservation value are being lost	 <u>Evidence:</u>
Important on-farm biodiversity should be maintained and safeguarded through the preservation of native vegetation and waterways. Farms have maps which show the native vegetation and owners have a plan to protect and recover native vegetation. <u>Frequency indicators:</u> • Low – on farm vegetation and water courses are protected from degradation • Medium – on farm vegetation and water courses are not protected • High – on farm vegetation and water courses are being actively degraded <u>Consequence indicators:</u> • Low – on farm vegetation is of low conservation value and/or water courses are already in a heavily disturbed state • Medium – on farm vegetation is of high conservation value and/or adjacent waterways are important for fish/wildlife and other water users • High – high conservation value on farm vegetation is being	 <u>Evidence:</u>

[65] **Region**: see definition list.

lost and local waters being polluted by farm runoff and loss of riparian vegetation or fish passage	
Areas of natural vegetation around bodies of water and on steep slopes and hills and other sensitive parts of the ecosystem must be maintained or restored. <u>Frequency indicators:</u> • Low – on farm vegetation and water courses are protected from degradation • Medium – on farm vegetation and water courses are not protected • High – on farm vegetation and water courses are being actively degraded <u>Consequence indicators:</u> • Low – on farm vegetation is of suitable quality (location and areal coverage) to protect adjacent waterways from degradation and prevent soil erosion • Medium – on farm vegetation is of insufficient quality to prevent waterway degradation and/or soil erosion • High – lack of vegetation is a major contributor to waterway degradation and soil erosion	 <u>Evidence:</u>
Pest control activities do not threaten the conservation status of native species (plan or animal). <u>Frequency indicators:</u> • Low – there are few interactions between farming and native species • Medium – farming interacts with a small number of native species or the interactions are confined to small parts of the region • High – farming interacts with a wide range of species across the entire region or the interactions are with conservation dependent species <u>Consequence indicators:</u> • Low – pest control methods are known or suspected to have little impact on the populations of native species • Medium – pest control methods are managed such that impacts are acceptable or are confined to certain species or areas • High – pest control methods are having region wide impacts or putting some species at risk	 <u>Evidence:</u>
Good agricultural practices	
Criterion 2.1: The quality and supply of surface and ground water is maintained or improved.	

Good agricultural practices* are implemented to minimize diffuse and localized impacts on surface and ground water quality from chemical residues, fertilizers and erosion or other sources.
*for example maintaining a buffer zone around water bodies, treating waste water, precision farming etc.

Frequency indicators:

- Low – water quality is well protected by GAP
- Medium – farms generally have GAP but, regionally, there remain water quality issues
- High – most farms in the region do not have GAP aimed at protection of water quality

Consequence indicators:

- Low – regional water quality is well protected from the effects of farming
- Medium – instances of poor water quality are confined to particular time periods and/or sub catchments of the region
- High – polluted water is damaging aquatic habitats and affecting downstream users across the region

	LC	MC	HC
LF			
MF			
HF			

Evidence:

Ground or surface water quality and quantity is monitored reported and the results made publicly available by local authorities.

Frequency indicators:

- Low – there is a comprehensive system across the region for monitoring water quality/quantity that reports in a timely fashion
- Medium – some regionally implemented monitoring of water quality/quantity is undertaken but the areal coverage and/or frequency of sampling is inadequate
- High – water quality/quantity is not monitored

Consequence indicators:

- Low – information is made freely available to interested parties on a timely basis
- Medium – information is available but inadequate for decision making
- High – information is not available

	LC	MC	HC
LF			
MF			
HF			

Evidence:

When irrigation is used, relevant legislation is being complied with and measures are taken to minimise water use.

Frequency indicators:

- Low – legislation is in place and is being complied with
- Medium – legislation is inadequate and/or there is poor compliance

	LC	MC	HC
LF			
MF			
HF			

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- High – legislation is not in place or is ignored

<u>Consequence indicators:</u>

- Low – the quality of land and water is not being put at risk by irrigation
- Medium – poor water quality (attributable to irrigation practices) and soil quality is found in localised parts of the region
- High – land and water are being degraded by poor irrigation practices

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<td><u>Evidence:</u></td>
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Dams and water supply infrastructure maintain environmental flows and do not impede fish passage throughout the entire region

<u>Frequency indicators:</u>

- Low – dams and water supply infrastructure are uncommon in the region
- Medium – dams and water supply infrastructure are common in some catchments of the region
- High – dams and water supply infrastructure are widespread in the region

<u>Consequence indicators:</u>

- Low – dams and water supply infrastructure are well managed such that the consequences for aquatic habitats and fish/wildlife are acceptable
- Medium – there are known and unacceptable impacts on aquatic habitats and fish/wildlife but these are confined to a small number of catchments in the region
- High – region-wide impacts on aquatic habitats and fish/wildlife are known to be occurring

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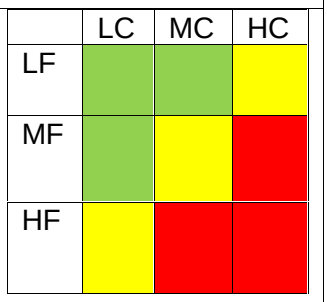

<u>Evidence:</u>

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<td>Criterion 2.3: Agrochemicals listed in the Stockholm and Rotterdam Convention are not used and all application of agrochemicals is in accordance with best practices</td>
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The application of agrochemicals (fertilizers) is documented and in accordance with best practice guidelines

<u>Frequency indicators:</u>

- Low – there is a predominance of farms that use few artificial fertilisers as part of their farming practices
- Medium – farms use artificial fertilisers in accordance with best practice guidelines
- High – there is widespread and poorly controlled use of artificial fertilisers

<u>Consequence indicators:</u>

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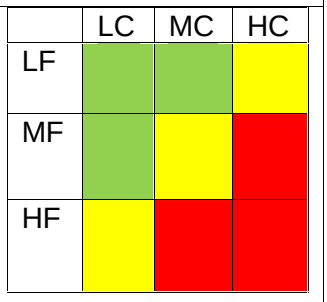

<u>Evidence:</u>

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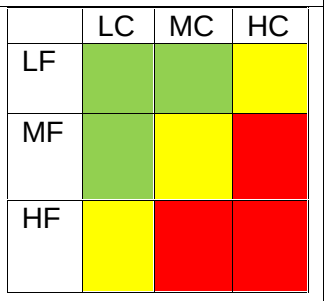
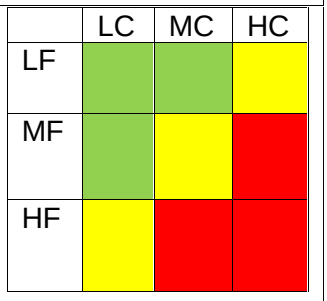
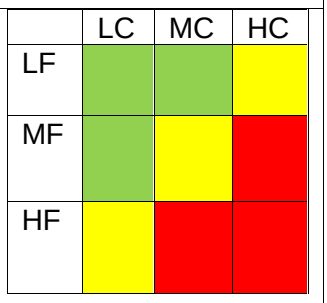
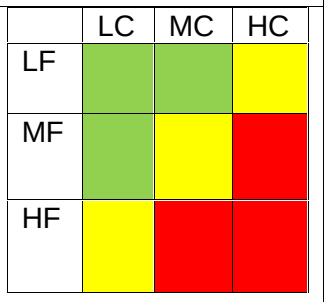
• Low – there are few known impacts arising from the use of artificial fertilisers • Medium – impacts are occurring at certain times of the year or in certain parts of the region. • High – there are widespread impacts on waterways and people arising from excessive use of artificial fertilisers	
The application of agrochemicals (crop protection) is documented. All handling, storage, collection and disposal of agrochemical waste and empty agrochemical containers, is monitored. Use, storage and waste disposal of agrochemicals is in line with the professional recommendations and applicable legislation. There is no use of agrochemicals listed in the Stockholm and Rotterdam Conventions. <u>Frequency indicators:</u> • Low – there is a predominance of farms that use few chemicals as part of their farming practices • Medium – farms use chemicals in accordance with best practice guidelines • High – there is widespread and poorly controlled use of agrichemicals including those listed in the Stockholm and Rotterdam Conventions <u>Consequence indicators:</u> • Low – there are few known impacts arising from the use of chemicals • Medium – impacts are occurring but they are not region wide or are subject to mitigation measures • High – there are widespread impacts on wildlife, habitats and people due to chemical use	 <u>Evidence:</u>
Fair and equitable treatment of people	
Criterion 3.1: Legal use rights to the land are clearly defined and demonstrable.	
Where rights have been relinquished by traditional land users there is documented evidence that the affected communities are compensated subject to their free, prior, informed and documented consent. There is no conversion of land where there is an unresolved land use claim by traditional land users under litigation, without the agreement of both parties. <u>Frequency indicators:</u> • Low – traditional landowners maintain control over their land • Medium – land is being transferred from traditional ownership • High – there is widespread evidence of the dispossession of land without the consent of traditional landowners <u>Consequence indicators:</u>	 <u>Evidence:</u>

• Low – adequate compensation secured by free, prior and informed consent is characteristic of changes in land ownership/use • Medium – there is evidence of poor treatment of land owners or disputes are common • High – land is seized from traditional owners by force with no compensation.	
Farm employees are provided a fair wage, adequate on-farm facilities (accommodation where needed, access to water/hygiene and a safe working environment) and freedom to associate <u>Frequency indicators:</u> • Low – there is documented evidence that employees are treated fairly and equitably across the region • Medium – laws are un place but they are not fully implemented across the region • High – employee rights are not enshrined in law <u>Consequence indicators:</u> • Low – there is little evidence that employee treatment is a significant issue across the region • Medium – there are known cases of poor treatment of individual farm employees which violate national laws and international norms • High – there is evidence of widespread employee opposition to poor treatment including civil unrest	 <u>Evidence:</u>
Protection of community relations	
Criteria 4.1: A mechanism for resolving complaints and grievances is implemented and available to local communities and traditional land users	
Disputes are dealt with in an appropriate manner. Documented evidence of complaints and grievances received is maintained. <u>Frequency indicators:</u> • Low – disputes are very rare • Medium – disputes occur but they are episodic or confined to certain parts of the region • High – disputes are common and/or widespread across the region <u>Consequence indicators:</u> • Low – disputes are dealt with quickly • Medium – disputes remain unresolved for extended periods of time or there is an ongoing series of related disputes. • High – disputes have escalated to the extent the civil order is	 <u>Evidence:</u>

being threatened	

Appendix 5: ASC Recognition of Chain of Custody Certificates

Relevant for criteria: 3.1.3

Minimum Requirements for ASC Recognition of Chain of Custody Certificates

A. General requirements
In order to be recognised by ASC:

- Chain of custody certificates must be issued by conformity assessment bodies that are EITHER accredited as being in compliance with ISO17065 or 17021 by one or more accreditation bodies that themselves meet the requirements of ISO17011, OR under certification schemes that meet the requirements of the ISEAL Code of Good Practice for Assuring Compliance with Social and Environmental Standards, to ASC's satisfaction.
- The Chain of custody standard(s) that must be met in order for a certificate to be issued must be made available to ASC for its review and assessment free of charge.

B. Marine Ingredients
The chain of custody standard under which marine ingredients are supplied to the feed mill must include at least the following elements:

- All products supplied under the terms of the chain of custody certificate must contain only marine ingredients from known fisheries of origin.
- All products supplied under the terms of the chain of custody certificate must contain only marine ingredients that have passed a due diligence assessment that meets the requirements specified by ASC (see section 2.3), OR that are certified as being from a fishery that meets a sustainability standard listed in Appendix 3 as being recognised by ASC at sustainability level 1, 2, 3 or 4.
- If the product contains marine ingredients from a single fishery of origin the product will be supplied with an invoice and/or other documentation that:
    a. specifies the fishery standard to which it has been certified, or that specifies that the ingredients are covered by a due diligence assessment only;
    b. specifies the proportion of the product that is made with whole fish, and the proportion of the product that is made from fish byproducts.
- If the product contains marine ingredients from multiple fisheries of origin the product will be supplied with an invoice and/or other documentation that:
    a. lists all of the fishery standards to which its ingredients have been certified, and specifies whether the product also contains ingredients that are covered by a due diligence assessment only;
    b. specifies the proportion of the product that is made with whole fish, and the proportion of the product that is made from fish byproducts.

The feed mill will use the information provided to calculate the overall sustainability level of the marine ingredients it uses, and to determine how much of the feed it produces can be sold as ASC Mass Balance Certified Feed.

If the product contains ingredients from multiple fishery sources in a mixture, the feed mill's calculation will be based on the lowest sustainability level of the material in the mixture, unless additional information is provided about the actual proportions of material in the

mixture that has been certified to different standards. In other words, a mixture of due diligence only (sustainability level 0) material and MSC-certified (level 4) material will be treated as being at sustainability level 0, unless additional information is provided as to the proportion of material from each source in the supplied product.

Ingredient suppliers are therefore recommended to supply products under the terms of a chain of custody certificate that allows the supplier to specify the actual proportion of a product it supplies that consists of each of the following:

- Whole fish, which has met due diligence requirements but is not from a fishery certified to a standard recognised by ASC as being at sustainability level 1 to 4
- Fish byproducts, which has met due diligence requirements but is not from a fishery certified to a standard recognised by ASC as being at sustainability level 1 to 4
- Whole fish or fish byproducts from sources certified to fisheries standards listed in Appendix 3 at sustainability level 1
- Whole fish or fish byproducts from sources certified to fisheries standards listed in Appendix 3 at sustainability level 2
- Whole fish or fish byproducts from sources certified to fisheries standards listed in Appendix 3 at sustainability level 3
- Whole fish or fish byproducts from sources certified to fisheries standards listed in Appendix 3 at sustainability level 4

Ingredients suppliers are not required to provide this additional information, but if the information is provided under the control of the supplier's chain of custody certification then it may be used by the feed mill for its calculation of the overall sustainability level of its marine ingredients, and for the purpose of its mass balance calculation.

C. Plant-based Ingredients

The chain of custody requirements under which plant-based ingredients are supplied to the feed mill must include at least the following elements:

- If the product contains plant-based ingredients from a single primary origin of production the product will be supplied with an invoice and/or other documentation that specifies that the ingredients are covered by a due diligence assessment only;

If the product contains plant-based ingredients from multiple primary origins of production the product will be supplied with an invoice and/or other documentation that:

- Plant-based material recognised by ASC as being at sustainability level 1 as described in Appendix 4
- Plant-based material recognised by ASC as being at sustainability level 2 as described in Appendix 4
- Plant-based material recognised by ASC as being at sustainability level 3 as described in Appendix 4

Appendix 6: Calculation of Overall Sustainability Level for Marine Ingredient Sourcing

Relevant for criteria: 4.1.2

Chain of custody certificates recognised by ASC for the supply of marine ingredients are required to provide the information that is needed by the fish mill to calculate both the overall sustainability level of its marine ingredients supply, and the quantity of product containing marine ingredients that it will be able to sell as ASC Mass Balance Certified Feed.

To do this, the feed mill must calculate the amount of marine material in its ingredients according to each of the following classes:

a) **L0 whole fish:** whole fish, which has met due diligence requirements but is not from a fishery certified to a standard recognised by ASC as being at sustainability level 1 to 4;
b) **L0 fish byproducts:** fish byproducts, which has met due diligence requirements but is not from a fishery certified to a standard recognised by ASC as being at sustainability level 1 to 4;
c) **L1 material:** whole fish or fish byproducts* from sources certified to fisheries standards listed in Appendix 3 at sustainability level 1;
d) **L2 material:** whole fish or fish byproducts* from sources certified to fisheries standards listed in Appendix 3 at sustainability level 2;
e) **L3 material:** whole fish or fish byproducts* from sources certified to fisheries standards listed in Appendix 3 at sustainability level 3;
f) **L4 material:** whole fish or fish byproducts* from sources certified to fisheries standards listed in Appendix 3 at sustainability level 4.

*Note that there is no *obligation* for the supplier to specify sustainability level of the byproducts it uses. If the sustainability level of the byproducts is not known, then (assuming they have passed the due diligence assessment) they are deemed to consist of level 0 material and are counted as such for the purpose of the mass balance calculation. However, if the supplier is able to determine what proportion of the fish byproducts originate from fisheries that certified to fisheries standards at L1 or above, the supplier has the option of declaring this information, which can then contribute to the calculation of the overall sustainability level of the feed mill's marine ingredient supply.

If the product contains ingredients from multiple fishery sources in a mixture, and the proportion of the ingredients in each of these classes is known, the quantities will be allocated to the relevant class in proportion to the actual content.

If the product contains ingredients from multiple fishery sources in a mixture, and the proportion of the ingredients in each of these classes is NOT known, the whole quantity will be allocated to the lowest class of the material in the mixture.

Overall Sustainability Level (OL) Calculation
The feed mill records its purchases of ingredients according to the above classification over time, and at the end of the year calculates the overall sustainability level of its marine

ingredients supply according to the following formula (embedded in a spreadsheet provided by ASC):

a) IF (L1+L2+L3+L4)=0 THEN OL is not applicable*
b) ELSE IF (L1) >= (L1+L2+L3+L4)/2 THEN OL = 1
c) ELSE IF (L1+L2) >= (L1+L2+L3+L4)/2 THEN OL = 2
d) ELSE IF (L1+L2+L3) >= (L1+L2+L3+L4)/2 THEN OL = 3
e) ELSE IF (L4) >= (L1+L2+L3+L4)/2 THEN OL = 4***

Where:

a) Weight of whole fish or fish byproducts* at Sustainability Level 1 = L1
b) Weight of whole fish or fish byproducts* at Sustainability Level 2 = L2
c) Weight of whole fish or fish byproducts* at Sustainability Level 3 = L3
d) Weight of whole fish or fish byproducts* at Sustainability Level 4 = L4

**Note that the determination of the overall sustainability level is based on the relative quantitities of marine ingredients at sustainability levels 1 to 4. It does not take into account the quantity of ingredients that is due-diligence-only assessed fish byproduct, and nor does it take into account the quantity of ingredients that is due-diligence-only assessed whole fish. This has two intentional consequences: firstly, it means that a feed mill that sources fish byproducts but which does not source *any* whole fish, would be able to sell all of its product containing marine material as ASC Mass Balance Certified Feed; secondly, it means that a feed mill is not prevented from sourcing any quantity of due-diligene-only assessed whole fish at any time. This whole fish does not contribute to the quantity of feed the mill can sell as ASC Mass Balance Certified Feed, using the mass balance approach, but nor is there any obligation that these sources need to be phased out. The only incentive to do so would be in order to increase the quantity of feed it can supply to ASC aquaculture producers.

***The final line of the equation states that if at least half of the relevant whole fish ingredients is at Level 4, then the overall sustainability level is determined to be Level 4.

Table 2, below, provides an illustration of the calculation, and Table 3 provides a wider range of examples.

Table 2. The calculation of overall sustainability level (OL)

Marine ingredients classification			
Due diligence only: whole fish	a	100	mt
Due diligence only: fish byproducts	b	200	mt
Other marine ingredients at sustainability level 1 (L1)	c	100	mt
Other marine ingredients at sustainability level 2 (L2)	d	100	mt

Other marine ingredients at sustainability level 3 (L4)	e	0	mt
Other marine ingredients at sustainability level 4 (L4)	f	0	mt
Total volume of marine ingredients	a+b+c+d+e+f	500	mt
Volume of marine ingredients that counts as Mass Balance Input	b+c+d+e+f	400	mt
Total weight of marine ingredients at levels 1 to 4 (input for overall sustainability level calculation)	c+d+e+f	200	mt
Overall Sustainability Level of AWS Mass Balance marine ingredients (OL)		**1**	

Note that the whole fish that has been subject to due diligence assessment only does not count as a mass balance input. However, fish byproducts that have been subject to due diligence assessment only *do* count towards the mass balance input.

Table 3. Illustration of a range of examples for the overall sustainability level (OL)

Marine ingredients classification							
Due diligence only: whole fish	100	150	10000	400	250	100	1000
Due diligence only: fish byproducts	200	500	10000	10000	0	0	10000
Other marine ingredients at sustainability level 1 (L1)	0	100	250	100	100	50	100
Other marine ingredients at sustainability level 2 (L2)	0	0	50	200	100	50	0
Other marine ingredients at sustainability level 3 (L4)	0	0	0	0	300	50	100
Other marine ingredients at sustainability level 4 (L4)	0	0	0	0	20	300	350
Total volume of marine ingredients	**300**	**750**	**20300**	**10700**	**770**	**550**	**11550**
Volume of marine ingredients that counts as Mass Balance Input	**200**	**600**	**10300**	**10300**	**520**	**450**	**10550**
Total weight of marine ingredients at levels 1 to 4 (input for overall sustainability level calculation)	**0**	**100**	**300**	**300**	**520**	**450**	**550**
Overall Sustainability Level of AWS Mass Balance marine ingredients (OL)	**NA***	**1**	**1**	**2**	**3**	**4**	**4**