

Certified Quality Aquaculture

Processing Standard

Issue 02

January 2022

Certified Quality Aquaculture - Processing Standard Public Controlled Version

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Contents

Introduction	8
Certified Quality Aquaculture; Certification Requirements	10
1.0 Food Safety and Quality Management System	10
1.1 Food Safety and Quality Policy	10
1.2 Food Safety and Quality Management System	10
1.4 Internal Auditing	10
1.5 Purchasing	10
1.6 Document Control	11
1.7 Corrective Action	11
1.8 Product Traceability	11
1.9 Customer Complaints	12
1.10 Product Recall	12
2.0 Sustainable Management And Resource Conservation	12
2.1 Environmental Policy	12
2.2 Nature and Conservation Designation	13
2.3 Water Use and Conservation	13
2.4 Effluent Management	13
2.5 Prevention of Water Pollution	13
2.6 Energy Use and Conservation	13
2.7 Community Involvement	14
3. Sustainable Management and Nature Conservation	14
3.1 HACCP Introduction	14
3.2 HACCP Principles	14
3.3 HACCP Documentation and Records	15

4.0	Facility Standards	15
4.1	General Requirements	15
4.2	Floors, drains, walls, ceilings, doors, ventilation and lighting	15
4.3	Plant Exterior and Surround	16
4.4	Water supplies	16
4.5	Staff Facilities	16
4.6	Equipment	17
4.7	Maintenance	17
5.0	Factory Operating Standards	17
5.1	Pest Control	17
5.2	Physical and Chemical Contamination	18
5.3	Hygiene Management	18
5.4	Waste Management, Reduction, Reuse, Recycling and Recovery	19
5.5	Transport	19
6.0	Process Control	20
6.1	Control of Operations	20
6.2	Calibration	20
7.0	Product Control	20
7.1	Product Development	20
7.2	Product Analysis and Microbiological Criteria	20
7.3	Labelling	21
7.4	Packaging	21
7.5	Foreign Body Detection	21
7.6	Specific Handling Requirements	21
7.7	Control of Non-Conforming Product	21
7.8	Product Release	21
7.9	Specifications	21

8.0 Personnel	22
8.1 Training	22
8.2 Personal Hygiene	22
8.3 Protective Clothing	22
8.4 Medical Screening	23
8.5 Health and Safety at Work	23
9.0 High Risk	23
9.1 Process Flow	23
10.0 Finfish Specification	24
10.1 General	24
10.2 Touch	24
10.3 Appearance	24
10.4 Maturity	25
10.5 Gutted fish	25
10.6 Fillets and Cuts	25
11.0 Mussel Specification	25
11.1 General	25
11.2 Meat	25
11.3 Harvesting	26
11.4 Depuration	26
11.5 Ultraviolet Purification	26
11.6 Validation of Purification System	27
11.7 Purification Records	27
11.8 Purification Specific Parameters	27

Certified Quality Aquaculture; Eco Requirements	28
1.0 Environmental Management and Equipment	28
1.1 Environmental Management	28
1.2 Staff Training and Involvement	28
1.3 Environmental Reviews - Baseline and Periodic	28
1.4 Environmental Management System (EMS) & Periodic Review	28
1.5 Environmental Policy	29
2.0 Site Selection and Management	29
2.1 Site Selection and Maintenance	29
3.0 Environmental Aspects	30
3.1 Prevention of Spills, Taints and Odours	30
3.2 Emergency Spill Response Plan	30
3.3 Visual Impact Reduction	31
3.4 Noise Impact Reduction	31
3.5 Odour Impact Reduction	31
4.0 Nature and Biodiversity	31
4.1 Nature and Conservation Designation	31

5.0 Cultural Heritage	32
5.1 Conservation of Heritage	32
6.0 Waste Management and Reduction	32
6.1 Waste Management Plan	32
6.2 Waste Reduction and Recycling	32
6.3 Waste Disposal	32
7.0 Resource Management and Conservation	32
7.1 Energy Conservation	32
AMENDMENT LOG - to be up-dated on final publication	34
ACKNOWLEDGEMENTS	35
BIM Organic Aquaculture Advisory Document	36

Introduction

The Certified Quality Aquaculture (CQA) Standards (Farm and Processing) continue to be developed by an expert technical group (Technical Advisory Committee), with oversight from a governance committee (Oversight Committee). These structures involve representatives from all parts of the supply chain and interest groups from feed to fork.

Details of the CQA Program can be found on the BIM Website and link:<https://bim.ie/aquaculture/sustainability-and-certification/certified-quality-aquaculture-cqa-programme/>.

This CQA Processing Standard Issue 2 is valid from January 2022. The CQA Programme continues to maintain international recognition and accreditation via certifications to ISO/IEC 17065:2012. For existing 'certified entities', transition to this new standard will become effective on 0 January 2023, allowing a maximum of 12 months to adopt it. New entities shall be assessed and certified against this new standard starting from January 2022.

This new CQA Processing Standard Issue 2 arose following a significant review of sections of the Standard specific to key areas of interest, notably; criteria that demonstrates sustainable practice within processing operations. Areas that continue to remain of significant importance to the Certification Programme include; seafood safety, seafood quality, traceability to origin and the sustainability of Irish aquaculture.

Additionally, this new version was necessary due to the introduction of Regulation (EU) 2018/848 on organic production and labelling of organic products and repealing Council Regulation EC 834/2007 (referred to as the Organic Regulation(s) which came into force from the 1st January 2022). The previous sub-scope for Organic Aquaculture Certification Part 1A of Issue 1.0 is now superseded by a new separate implementing Standard for the Organic Regulation(s) called the Organic Food and Farming Standards in Ireland Edition 2. The Organic Sub-scope (Part 1A previously in Issue 1.0) has been removed from this new CQA Standard Issue 2. This document includes a link to a BIM Organic Aquaculture Advisory Document which provides guidance to applicants on the Organic Food and Farming Standards in Ireland Edition 2 and the Organic Regulation(s).

A survey of certified entities was also carried out in March 2021 to establish the areas of interest from the various aquaculture sectors and help inform the Standard review process. Areas that continue to remain of significant importance to the Certification Programme include seafood safety, seafood quality, traceability to origin and the sustainability of Irish aquaculture. The Sub-scope for Additional Eco Requirements already provides a comprehensive set of criteria for applicants that wish to demonstrate 'Eco' credentials. Components of this Sub-scope have been transferred and incorporated within the main Certification Requirements. These are criteria that demonstrate good environmental status and are considered of increasing importance to the Programme. The technical review has led to the addition of a new Section on Sustainable Management and Resource Conservation which focuses on environmental policy, water use, conservation, pollution prevention, energy use and conservation and the conservation of biodiversity.

The CQA Programme will continue to maintain approval to relevant international benchmarks, including Global Seafood Sustainability Initiative (GSSI) to demonstrate the CQA Programme is in line and externally assessed against International Best Practice.

Due to the outcome of the review resulting in some significant changes and additions to the Standard, the CQA TAC Committee has determined that a new Issue of the CQA Processing Standard is warranted.

This CQA Processing Standard underwent a 60-day public comment period as part of good standards setting practice, the outcome of which was included in the technical review process.

This Standard continues to represent best industry practice and will be subject to regular review to confirm its accuracy and relevance.

The Certified Quality Aquaculture (CQA) Processing Standard remains separated into different modules, each one covering different areas of activity on a farmed fish or shellfish processing site.

The CQA Programme and scope of CQA certification is open to all applicants located within the Island of Ireland regardless of size and scale. The scope of the CQA standard includes mussels and finfish species, including Atlantic Salmon and freshwater salmonids; rope and bottom grown mussels), located within the territorial limits of the Island of Ireland (i.e., the RoI & N.I.).

These modules are grouped as follows:

Scope:

Certified Quality Aquaculture Processing Standard

Certified Quality Aquaculture; General Requirements. This section of the standard covers the manufacturing process from raw material intake through to final product dispatch and covers the assessment of the company, premises, operational systems and procedures. The Processing Standard covers the food safety, operational and quality criteria that are required to be in place and also the specific product criteria for both finfish and mussels. This core section covers the practices that are required to be in place for maintaining good environmental status and also the specific product criteria describing superior quality Irish aquaculture products (including Atlantic Salmon, Freshwater Salmonids) and Mussels.

Additional CQA Sub-scope:

Eco Processing

Certified Quality Aquaculture; Additional Eco Requirements. This section of the standard is aiming to assist the company to demonstrate and prove their commitment to environmental sustainable development during the manufacturing process. This Sub-scope covers the additional eco requirements that are to be in place together with the general requirements in the CQA Processing Standard in order to achieve eco certification.

Certified Standard Scopes

Certified Quality Aquaculture Processing Standard

The company must be able to demonstrate compliance to this Standard.

Certified Quality Aquaculture Processing Standard: Sub-scope; Eco Requirements

Where Applicants apply for this option, they must be able to demonstrate compliance to this sub-scope of the Standard.

The company must be able to demonstrate compliance to the relevant section of the standard to become a 'Certified Member' of the programme through assessment by an independent Certification Body accredited to ISO/IEC 17065.

Audit Frequency

Audits are carried out by approved third party Certification Bodies accredited to the international Standard ISO/IEC 17065. The frequency of audit to maintain approval will be annual.

Further information regarding application, rules and regulations of the programme can be obtained from the BIM website www.bim.ie or via:

BIM Ireland's Seafood Development Agency
Crofton Road
Dun Laoghaire,
Co. Dublin
A96 E5A0
Ireland.

Links to relevant national legislation can be found at <http://www.fao.org/fishery/nalo/search/en> and also at http://www.fsai.ie/legislation/food_legislation.html. Links to UK legislation can be found at <http://www.food.gov.uk/enforcement/regulation/>. Inter alia, this standard has been developed to assist with compliance to relevant food safety legislation, the applicant must be aware that food safety legislation differs worldwide.

Certified Quality Aquaculture; Certification Requirements

1.0 Food Safety and Quality Management System

1.1 Food Safety and Quality Policy

- 1.1.1 The company shall have a documented food safety and quality policy which is authorised, reviewed, signed and dated by an appropriate senior manager and the company shall ensure the policy is communicated to all staff involved with activities relating to product safety, legality and quality.
- 1.1.2 The policy shall state the company's intention to meet its obligation to produce safe and legal products to its customer's specified quality parameters, and its responsibility to its customers.

1.2 Food Safety and Quality Management System

- 1.2.1 The company shall implement a food safety and quality management system which describes how the requirements of this standard are met.
- 1.2.2 The system shall be documented, describe the processes critical to food safety and quality and their sequencing and be based on a process of continuous improvement.
- 1.2.3 The company shall monitor and analyse the effectiveness of processes and shall implement actions to ensure consistency against defined targets.
- 1.2.4 The food safety and quality management system manual shall be readily available to key staff.

1.3 Responsibilities and Management Authority

- 1.3.1 The company shall have documented, clearly defined responsibilities and these shall be communicated to key staff, including arrangements for staff cover with responsibility for product safety, legality and quality systems.

- 1.3.2 A system shall be in place to ensure that the company is informed of all relevant legislation, food safety issues, scientific and technical developments, and industry codes of practice.

- 1.3.3 Management commitment, including human and financial resources for the implementation and maintenance of the requirements of this standard must be stated within the company Policy.

1.4 Internal Auditing

- 1.4.1 The company shall conduct regular internal audits, at least once per annum, of all systems, procedures and specifications critical to product safety, legality and quality.
- 1.4.2 The company shall schedule internal audits and pre-determine their depth and scope in relation to risks associated with the activity.
- 1.4.3 Results of internal audits shall be reviewed by management and brought to the attention of the personnel responsible for the activity audited. Corrective actions and timescales for their implementation shall be agreed.
- 1.4.4 Corrective actions shall be verified to ensure completion.
- 1.4.5 Internal audits shall be carried out by competent auditors.

1.5 Purchasing

- 1.5.1 The company shall have a documented supplier approval procedure in place.
 - 1.5.2 The procedures shall define how exceptions are handled, e.g. the use of product or services where audit or monitoring has not been undertaken.
-

1.5.3 The company shall have an effective supplier approval and monitoring system to ensure that incoming product intended to be identified as certified to the Certified Quality Aquaculture Processing Standard are sourced from a Certified Quality Aquaculture certified supplier that holds valid certification to the appropriate sub-scope.

1.5.4 A record of all certified raw material receipt received shall be maintained, showing the name of the supplier, their unique certificate number, evidence of certificate validity, and sufficient other details to allow the tracing of the certified raw material back to the supplier.

1.6 Document Control

1.6.1 The company shall ensure that all documents, records and data critical to the management of product safety, legality and quality are in place and effectively controlled.

1.6.2 All documents shall be properly authorised and the correct version.

1.6.3 The reason for any changes or amendments to documents critical to product safety, legality or quality systems and procedures shall be recorded.

1.6.4 A procedure shall be in place to ensure obsolete documentation is rescinded, and if necessary, replaced with a revised version.

1.6.5 Documents shall be clearly legible, unambiguous and sufficiently detailed to enable their correct application by appropriate personnel and shall be readily accessible at all times.

1.6.6 The company shall operate procedures for collation, review, maintenance, storage and retrieval of all records pertaining to product safety, legality and quality.

1.6.7 The records shall be retained in good condition, for a minimum period of 5 years.

1.7 Corrective Action

1.7.1 Corrective actions taken shall be undertaken in a timely manner to prevent further occurrence of non-conformity.

1.7.2 Any corrective action plan relating to safety, legality or quality shall only be agreed by personnel who have defined responsibility and accountability for these areas of control. These personnel shall also be responsible to verify that the corrective action plan has been completed satisfactorily.

1.7.3 Corrective actions shall be accurately documented, assigning responsibility and accountability.

1.8 Product Traceability

1.8.1 The company shall meet the requirements of traceability legislation.

1.8.2 The company shall have a system to identify and trace product lots and follow this through all raw materials (including primary and any other relevant packaging materials and processing aids), all stages of processing and the distribution of the finished product to the customer in a timely manner.

1.8.3 Identification of raw materials including primary and any other relevant packaging and processing aids, intermediate/semi-processed products, part-used materials, finished products and materials pending investigation, shall be adequate to ensure traceability.

1.8.4 The company shall conduct a documented traceability test (at least annually) to ensure traceability can be determined from raw material to finished product and immediate customer and vice versa and include quantity check/mass balance. Results shall be available for inspection.

1.8.5 Where there is a requirement to ensure identity preservation within the supply chain, e.g. to use a logo or to make a claim to a product characteristic or attribute, appropriate controls and testing procedures shall be in place.

1.8.6 Food safety, legal status, traceability and product quality shall be maintained during rework e.g. ingredient declaration, allergy information or identity preservation.

1.9 Customer Complaints

- 1.9.1 The company shall have a documented procedure defining the system for the effective capture, recording and management of complaints.
- 1.9.2 All complaints shall be recorded, investigated and the results of the investigation recorded.
- 1.9.3 Actions appropriate to the seriousness and frequency of the problems identified shall be carried out promptly and effectively by trained staff.
- 1.9.4 Complaint data shall be analysed and used to implement ongoing improvements to product safety, legality and quality, and to avoid recurrence. This analysis shall be made available to relevant staff.

1.10 Product Recall

- 1.10.1 The company shall develop a documented product recall procedure which shall be implemented by management indicating responsibility over product recall.
- 1.10.2 The company shall document and close out any product recalls.
- 1.10.3 The company shall test the product recall plan at least annually to include:
- The scope of the recall;
 - Notification and initiation of the product recall;
 - Those persons involved (internal/external);
 - Deviations, corrective and preventative actions;
 - Review the product recall and amend the product recall plan if necessary.
- 1.10.4 The company shall provide written guidance to relevant staff regarding the type of event that would constitute an “incident”. A documented incident reporting procedure shall be in place.
- 1.10.5 The company shall inform the Certification Body within 24hrs and the relevant authorities of any recall at consumer level.

2.0 Sustainable Management and Resource Conservation

2.1 Environmental Policy

2.1.1 An environmental policy shall be established, documented, implemented and maintained appropriate to reflect the nature, scale and environmental aspects of the operation including:

- Respect for the working environment, supporting sustainable development and environmentally sound business practices.
- Compliance with applicable legal requirements (concerning the natural environment).
- Compliance with applicable legal requirements and any other requirements to which the company subscribes.
- Ensuring that employees are aware of the company’s environmental policy and of their own responsibilities and given the support and training necessary.
- Working and liaising with government and non-government bodies towards the improvement of the local environment.
- Engaging and listening to the concerns of customers, employees, neighbours and the wider community.
- The provision of information to the public necessary to understand the commitment to environmentally sustainable practices by the company.
- The assessment of environmental impact of all new activities, products and processes in advance of their adoption.
- The provision for the access to external information on environmental issues by the company.
- Prevention of pollution.

2.1.2 The Policy shall be made available both internally (staff) and externally (suppliers, customers, contractors and the public).

2.1.3 The appraisal of environmental performance of all new activities, products and processes in advance of their adoption.

2.2 Nature and Conservation Designation

- 2.2.1 The company shall be aware of and maintain documentation of any nature conservation designations in and around their licensed area. There shall also be an awareness of the features of the designation and the sensitivities of the habitats / species for which the designation was made.
- 2.2.2 The company shall ensure that the impact of their operations are compatible with the long-term conservation and biodiversity of species and habitats.

2.3 Water Use and Conservation

- 2.3.1 Water shall be used conservatively, and wasteful practices avoided.
- 2.3.2 Applicants shall implement water conservation objectives and actions including:
- installation of water meters
 - recording water consumption
 - regular checking for and fixing of leaks
 - activities that encourage practical water conservation (e.g. trigger based hoses, reduced diameter hoses, automatic switch off taps and rainwater harvesting for non-food hygiene use (e.g. cleaning external areas)).

2.4 Effluent Management

- 2.4.1 Effluent discharge shall meet discharge licence consent limits issued for the site. As appropriate, the applicant shall implement treatment systems to ensure that discharge is always within permitted limits and does not affect the integrity of the receiving waters.
- 2.4.2 In the event of a breach of discharge license limits, the applicant shall employ mitigation measures in conjunction with the competent local authority in a time bound manner to ensure ongoing compliance with the licence requirements¹.

2.5 Prevention of Water Pollution

- 2.5.1 The applicant shall provide appropriate bunded storage of at least 110% of volume for fuels and chemicals, appropriately sited and with provision for draining and cleanup of spillages in a manner not to cause environmental impact.
- 2.5.2 A written contingency plan shall be available to all staff detailing the action to be taken in the event of a pollution incident.
- This shall include:
- An emergency spill response plan which shall detail proper procedures, responsibilities, emergency contact details for rapid deployment of staff and the availability of appropriate equipment to ensure rapid containment and clean-up of spillages.
 - In the event of an oil spillage that cannot be contained by on site equipment such as spill kits, the applicant shall immediately inform the relevant authorities. (e.g. coastguard, county council, EPA).
- 2.5.3 Product shall not be sold as certified until it is established through appropriate testing and batch sample retention that it is free from taints, off-odours and residues as a consequence of chemical/oil spillage.

- 2.5.4 Notification shall be given as soon as practicable to relevant authorities and **the Certification Body** of any incidence that threatens pollution of the environment and contamination of product.

2.6 Energy Use and Conservation

- 2.6.1 The company shall monitor and record the energy consumption with respect to fuel and electricity on an annual basis and implement measures for its efficient use.

1. Environmental Quality Standards established within the European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. 272 of 2009) Local Government (Water Pollution) Acts 1977. Northern Ireland National Equivalents to S.I. 272 of 2009 - The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017. (S.R. 2017 No. 81). The Water Framework Directive (Classification, Priority Substances and Shellfish Waters) Regulations (Northern Ireland) 2015 (S.R. No. 351).

- 2.6.2 All cooling equipment such as blast freezers, cold stores and chillers shall be maintained in good working order, according to manufacturer's instructions, properly insulated, and operated according to standard operating procedures for loading/unloading and defrosting to ensure energy conservation.
- 2.6.3 All boiling/cooking equipment such as steam cookers shall be maintained in good working order, in accordance to manufacturer's instructions.
- 2.6.4 The company shall, where possible, consider renewable sources of energy supply and energy recovery.

2.7 Community Involvement

- 2.7.1 The applicant shall engage with other aquaculture operators and the local community, as appropriate to avoid or resolve conflicts or gather input and provide information on the commitment and value of sustainable aquaculture to the region. These may include annual (or more frequent) meetings, correspondence and/or other activities. (This can be undertaken directly or via local CLAMS Group initiatives²).
- 2.7.2 The applicant shall organize and/or take part in initiatives that support local community involvement as applicable to the size and scale of their operation, including open days or similar information events, local sponsorship opportunities and/or periodic shore clean-up operations. Involvement via local CLAMS Group initiatives can be used to meet this requirement.

3.0 Hazard Analysis and Critical Control Point

3.1 HACCP Introduction

- 3.1.1 The company shall establish and maintain an effective Hazard Analysis Critical Control Points (HACCP) system specific to their operation and appropriate to the nature and volume of the production. This system will demonstrate compliance with the programme standards and statutory legislation.
- 3.1.2 The HACCP study shall be based on an assessment of risk. The following should be taken into consideration:
- The likely occurrence of hazards and severity of their adverse health effect on consumers;
 - The qualitative and/or quantitative evaluation of the presence of hazards;
 - Survival and multiplication of micro-organisms of concern;
 - Conditions leading to the above.

3.2 HACCP Principles

- 3.2.1 The company shall use the HACCP principles as described by the Codex Alimentarius Commission (www.codexalimentarius.net) to:
- Conduct a hazard analysis assessment on the process;
 - Determine the Critical Control Points (CCPs) in the system;
 - Establish critical limits for the CCPs identified;
 - Establish a system to monitor control of the CCPs;
 - Establish the corrective actions to be taken when monitoring indicates that a particular CCP is not under control;
 - Establish procedures of validation to confirm that the HACCP system is working effectively;
 - Establish documentation concerning all procedures and records appropriate to these principles and their application.
- 3.2.2 In formulating the HACCP plan reference shall be made to relevant legislation, codes of practice or guidelines.

² CLAMS Group Initiatives are Coordinated Local Aquaculture Management Systems developed by BIM.

- 3.2.3 HACCP shall have senior management commitment and shall be implemented through agreed procedures. Reference to requirements for product safety shall include any measures identified in the HACCP plan.
- 3.2.4 The HACCP team leader or nominated team representative shall be able to demonstrate competence in the understanding of HACCP principles and their application.
- 3.2.5 Key personnel identified as HACCP team members shall have appropriate training, product and process knowledge and experience.
- 3.2.6 The HACCP system shall be reviewed at least annually and prior to the introduction of new products, processes, systems, equipment or infrastructure changes.
- 3.2.7 All new products and changes to product formulation, packaging or methods of processing shall receive prior formal approval by the HACCP team leader or authorised HACCP committee member confirming that that hazards have been identified and assessed and suitable controls have been put in place. This approval shall be granted before products are introduced into the factory environment.
- 3.2.8 Through the HACCP system, the company shall be able to demonstrate effective control of all operations critical to food safety.

3.3 HACCP Documentation and Records

- 3.3.1 Controlled documentation shall be established which adequately describes the system and records all monitoring activities essential to the implementation and operation of HACCP.
- 3.3.2 The documentation should include:
- The procedures describing the HACCP system;
 - Data used in the hazard analysis;
 - Specification of product and materials used;
 - Monitoring procedures (for CCPs);
 - CCP monitoring records signed and dated by responsible person(s);
 - Audit reports and minutes produced at meetings.

4.0 Facility Standards

4.1 General Requirements

- 4.1.1 Procedures shall be in place to control the risk of product contamination and to comply with all relevant legislation.
- 4.1.2 The process flow from intake to dispatch shall be arranged to minimise the risk of product contamination.
- 4.1.3 Physical barriers or demonstrably effective procedures shall be in place to minimise the risk of the contamination of raw materials, intermediate/semi-processed products, packaging and finished products with particular consideration given to handling requirements for specific materials.
- 4.1.4 Segregation shall take into account the flow of product, nature of materials, equipment, personnel, waste, airflow, air quality and utilities provision.
- 4.1.5 The cleaning of production utensils shall be carried out in segregated areas or at specific time periods separated from the production process.
- 4.1.6 Premises shall allow sufficient working space and storage capacity and be maintained free from obstructions to enable all operations to be carried out properly under safe hygienic conditions.
- 4.1.7 Cleaning and inspection of areas and equipment shall be aided by the avoidance of obstructions and the provision of adequate space.

4.2 Floors, drains, walls, ceilings, doors, ventilation and lighting

- 4.2.1 Floors shall be durable, waterproof, non-toxic, non-absorbent, non-slip, free from crevices, designed to facilitate drainage (prevent pooling) and allow for easy cleaning and disinfecting.

- 4.2.2 Floors shall be non-slip, free from crevices and holes, have sufficient gradient to prevent pooling of water and allow adequate drainage.
- 4.2.3 Drains shall be of adequate size and type to avoid overflow and equipped with solid removable traps and removable grates to allow easy cleaning.
- 4.2.4 The treatment of sewage shall be kept completely separate from other process waste treatment.
- 4.2.5 Sewage shall flow to an adequately sized and located treatment tank or to the mains sewer.
- 4.2.6 Walls shall be designed, constructed, finished and maintained to prevent the accumulation of dirt, minimise condensation and mould growth, and facilitate cleaning.
- 4.2.7 Ceilings and overheads shall be designed, constructed, finished and maintained to prevent the accumulation of dirt, minimise condensation and mould growth, and facilitate cleaning.
- 4.2.8 Where suspended ceilings are used, adequate access to the void shall be provided to facilitate cleaning, maintenance of utilities and inspection for pest activity.
- 4.2.9 Where external doors to raw material handling, processing, packing and storage areas are opened, suitable precautions shall be taken to prevent pest ingress. Doors and dock levellers in these areas shall be close fitting or adequately proofed.
- 4.2.10 Doors shall be in good condition and easy to clean, where required.
- 4.2.11 Adequate lighting and ventilation shall be provided throughout the premises and where necessary, steam and water vapour extraction facilities installed.
- 4.3 Plant Exterior and Surround**
- 4.3.1 The ground surrounding the premises shall be adequately drained and maintained.
- 4.3.2 Yards and working areas immediately outside premises shall be properly surfaced, drained and maintained.
- 4.3.3 The factory hygiene schedule shall include provisions for ensuring that the external walls and surrounding areas are clean, tidy, pest proofed and free from potential contamination.
- 4.4 Water supplies**
- 4.4.1 All water used as a raw material in the manufacture of processed food, the preparation of product, or for equipment or plant cleaning shall be supplied in sufficient quantity, be potable or pose no risk of contamination according to applicable legislation, either being drawn from mains supply or suitably treated according to its source.
- 4.4.2 Based on risk assessment, the microbiological and chemical quality of water, steam, ice, air, compressed air or other gases that does not constitute an ingredient but comes in direct contact with food or packaging shall be regularly monitored. It shall present no risk to product safety or quality and comply with relevant legal regulations.
- 4.5 Staff Facilities**
- 4.5.1 Staff facilities shall be designed and operated, to minimise the risk of product contamination.
- 4.5.2 Where specific work wear is required changing facilities shall be provided for all personnel (whether staff, visitor or contractor), physically separated but directly accessible to production/applicable storage areas.
- 4.5.3 All personnel shall enter a productions area via a designated changing facility and shall follow specified procedures for donning visually distinctive clean overalls, headwear and footwear.
- 4.5.4 Above the knee, personal clothing shall be completely covered by work wear.
- 4.5.5 Suitable and sufficient hand washing facilities shall be provided.
- 4.5.6 In work areas and toilets facilities, sink taps shall not be hand operable.
- 4.5.7 Toilets shall not open directly into production, packing or storage areas.

- 4.5.8 Suitable and sufficient rest and catering facilities shall be provided for all staff.
- 4.5.9 Suitable provision shall be made for the storage of food brought onto the premises by staff.
- 4.5.10 Changing facilities shall be positioned to allow personnel direct access, without recourse to any external area, to the processing, packing or storage area.
- 4.5.11 Outdoor clothing and other personal items shall be stored separately from work wear within the changing facilities.

4.6 Equipment

- 4.6.1 Equipment in contact with product shall be constructed of smooth, impervious, non-toxic, corrosion-resistant materials and constructed to allow easy and thorough cleaning.
- 4.6.2 The company shall ensure that the safety or legality of product is not compromised during maintenance or repair operations.
- 4.6.3 Contractors shall be made aware of and subject to all company hygiene standards.
- 4.6.4 Equipment requiring extensive repair shall be removed from the processing area and sanitised prior to re-installation.

4.7 Maintenance

- 4.7.1 A documented system of planned maintenance shall be in place, covering all items of equipment and plant which are critical to product safety, legality and quality.
- 4.7.2 Contractors involved in maintenance or repair activities shall be under the supervision of a nominated person.
- 4.7.3 Maintenance work shall be followed by a documented hygiene clearance procedure which records that product contamination hazards have been removed from machinery and equipment. On completion of any maintenance work, machinery and equipment shall be clean and free from contamination hazards.

- 4.7.4 Materials used for equipment and plant maintenance and those that pose a risk by direct or indirect contact with raw materials, intermediate and finished products, such as lubricating oil and paints, shall be safe to use in a food processing environment and suitable for the intended use.

5.0 Factory Operating Standards

5.1 Pest Control

- 5.1.1 An effective and continuous programme for the control of pests, which has an emphasis upon pest proofing, shall be maintained which meets the current legislation governing the use of pest control products.
- 5.1.2 The company shall either contract the services of a competent pest control organisation or shall have trained personnel for the regular inspection and treatment of premises to deter and eradicate infestation.
- 5.1.3 Detailed records of the pest control inspections, recommendations and necessary action undertaken shall be kept.
- 5.1.4 The location of all pest control measures shall be identified on a plan/diagram of the site.
- 5.1.5 Electric Fly killers must be correctly sited and permanently operational.
- 5.1.6 Fly killer and pheromone trap contents shall be counted, assessed and analysed for trends on a regular basis. Any corrective action arising from inspection shall be documented.
- 5.1.7 Drains shall be fitted with screens or traps to prevent pest entry.
- 5.1.8 Bait stations or other rodent control devices shall be located and maintained to prevent contamination risk to product. Toxic rodent baits shall not be used within production or storage areas where open product is present. Where toxic baits are used these shall be secured. Any missing bait stations shall be recorded, reviewed and investigated.

5.2 Physical and Chemical Contamination

- 5.2.1 A chemical control procedure shall be in place which manages the use, storage and handling of non- food chemicals. This shall include as a minimum:
- An approved list of chemicals for purchase;
 - Availability of material safety data sheets and specifications;
 - Confirmation of suitability for use in a food-processing environment;
 - Avoidance of strongly scented products;
 - The labelling and/or identification of containers of chemicals at all times;
 - A designated storage area with restricted access to authorised personnel;
 - Use by trained personnel only.
- 5.2.2 A “Glass Register” listing the location of all glass within the facility and the records of inspection and actions shall be in place.
- 5.2.3 There shall be a procedure in place for the handling of glass breakages in all areas where raw material or product is handled.
- 5.2.4 Where the potential for product contamination from wood has been identified, the use of wood shall be excluded. Where the use of wood cannot be avoided, and the risk is managed, the condition of wood shall be regularly checked to ensure it is in good condition and clean.
- 5.2.5 There shall be a documented policy for the control of the use of sharp metal implements including knives, cutting blades on equipment, needles and wires. This shall include suitable controls both into and out of the factory, and safe disposal.
- 5.2.6 Snap-off blade knives shall not be used.
- 5.2.7 Non-production blades, equipment and tools shall not be left in a position that allows them to contaminate the product.

5.3 Hygiene Management

- 5.3.1 The company shall draw up a documented hygiene programme appropriate to the nature and design of its premises, equipment and facilities.
- 5.3.2 Responsibility shall be designated to a named individual to ensure cleaning operations are carried out according to the specified programme.
- 5.3.3 A detailed post work cleaning schedule shall be developed which makes reference to specific items of equipment and work areas.
- 5.3.4 Records shall be maintained indicating that cleaning tasks have been undertaken and inspected; these should be signed by the nominated employee with management responsibility.
- 5.3.5 Limits of acceptable and unacceptable cleaning performance shall be documented, based on the potential hazards (e.g. microbiological, allergen or foreign body contamination). Acceptable levels of cleaning may be defined by visual appearance, ATP bioluminescence techniques, microbiological testing or chemical testing. The cleaning and disinfection procedures and frequency shall be validated and records maintained.
- 5.3.6 Facilities shall be provided for the washing and disinfection of walls, floors, work surfaces, equipment and utensils.
- 5.3.7 All machines used for processing, shall be thoroughly cleaned and disinfected at least once per day at an appropriate break in production.
- 5.3.8 Cleaning equipment shall be:
- Fit for purpose;
 - Suitably identified for intended use, e.g. colour coded or labelled;
 - Cleaned and stored in a hygienic manner to prevent contamination.
- 5.3.9 Equipment used for cleaning in high-care and high-risk areas shall be dedicated for use in that area.

5.4 Waste Management, Reduction, Reuse, Recycling and Recovery

- 5.4.1 There shall be a statement of environmental commitment detailing the applicant's objectives in waste prevention, reduction, reuse and recycling including procurement of materials that cause less impact as waste once reached their end of life.
- 5.4.2 The applicant shall consider the circularity of materials by exploring opportunities to prevent, reduce, reuse and recycle materials in order to reduce waste.
- 5.4.3 There shall be adequate systems for the collection, collation and disposal of waste material and the prevention of waste accumulation and the prevention of accidental loss of waste to the surrounding environment.
- 5.4.4 Waste shall be categorised according to legislative requirements, segregated and collected in designated waste containers throughout all areas of the business.
- 5.4.5 Waste shall meet legislative requirements. Where licensing is in operation for disposal of categorised waste, it shall be removed by licensed contractors and records of disposal shall be maintained and available for audit.
- 5.4.6 External waste collection containers and rooms housing waste facilities shall be managed to minimise risk. These shall be:
- Clearly identified;
 - Designed for ease of use and effective cleaning;
 - Well maintained to allow cleaning and where required, disinfection;
 - receptacles covered or doors kept closed.
- 5.4.7 All waste shall be transported and disposed by licensed transporters and waste management facilities and records maintained.

Product Utilisation and Recovery

- 5.4.8 Applicants shall demonstrate concerted efforts to recover by-products from processing operations, in compliance with ABP Regulations, including recovery methods, pre and post storage, transportation and use³.

5.5 Transport

- 5.5.1 Where outside contractors are used the company shall implement their own service contract for transportation.
- 5.5.2 Vehicles used for transport shall be maintained in clean and hygienic condition and shall be washed and disinfected before and after use.
- 5.5.3 Refrigerated containers shall have adequate capability to support specified core temperatures.
- 5.5.4 Vehicles shall be fitted with a temperature-recording device. Records shall be maintained.
- 5.5.5 Boxes shall be packed to eliminate potential breakage or damage during transit.
- 5.5.6 Pallets shall be loaded into containers as tightly as possible in order to prevent movement and possible breakage in transit, whilst still allowing adequate circulation of cooling air.
- 5.5.7 Vehicles used for transporting product shall not be used to simultaneously transport any other product unless suitably packaged to prevent cross contamination.
- 5.5.8 Records of transportation conditions shall be maintained or sought by the company where outside haulage contractors are used.
- 5.5.9 Evidence of a preventative maintenance plan shall be made available on request indicating contingencies for the safe delivery of product during a breakdown.

3. Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation)

5.5.10 Transport containers shall be loaded in a covered environment to aid protection from pests, weather and any other external source of contamination.

6.0 Process Control

6.1 Control of Operations

6.1.1 Where physical and chemical control (including temperature control) is critical to product safety, legality and quality, this shall be adequately controlled, monitored and recorded.

6.1.2 In circumstances where temperature and/or time control is critical to product safety, quality or legality (e.g. thermal processing, freezing or chilling), continuous real time temperature recording equipment linked to an automatic alarm system, shall be used and records maintained.

6.1.3 Process monitoring such as temperature, time, and chemical properties shall be established and adequately controlled to ensure that product is produced within the required process specification.

6.2 Calibration

6.2.1 The company shall have a documented calibration plan for all measuring equipment, used to monitor critical control points and product safety and legality.

6.2.2 Calibration of measuring equipment shall be traceable to a recognised national standard or to the manufacturer's specifications.

6.2.3 Records of calibration shall be maintained.

6.2.4 Measuring equipment shall be clearly coded for identification purposes.

7.0 Product Control

7.1 Product Development

7.1.1 A hazard analysis and risk assessment study shall be carried out during product development to ascertain all potential safety hazards.

7.1.2 The company shall undertake trial production runs and, where necessary, subsequent testing to ensure that the product formulation and process steps are capable of sustaining a safe and legal product.

7.1.3 'Best before' or 'use by' dates shall be based on product formulation, packing environment and storage.

7.1.4 Product shelf life shall be scientifically determined for microbiological safety, sensory and organoleptic quality for all new products and reviewed at least annually and/or at the same time as the HACCP reviews. Records shall be available for review.

7.1.5 The product design/development process shall be documented to demonstrate that changes in formulation are adequately assessed for safety and legality.

7.2 Product Analysis and Microbiological Criteria

7.2.1 The company shall demonstrate that they are in possession of, and in compliance with, the most up to date legislation with regard to microbiological criteria for food stuffs.

7.2.2 The company shall demonstrate that they undertake or subcontract inspections and analysis which are critical to confirm product safety legality and quality.

7.2.3 Results of inspections and analysis shall be reviewed regularly to identify trends. These results shall be available for inspection.

7.2.4 Personnel conducting sampling and analyses, such as microbiological assessments, shall be qualified or trained to be competent in the procedures.

7.2.5 For both contract and internal laboratories the laboratory shall have a recognised laboratory accreditation (reference analyses methods critical to product safety and legality) or demonstrate that they take part and conform to a comparative testing programme with other accredited laboratories for that method.

7.3 Labelling

7.3.1 The company shall have a system in place to confirm that labelling of the product or other forms of customer information meets legislation for the designated country of use and in accordance with the product specification.

7.4 Packaging

7.4.1 Packaging materials shall be stored off the floor in dry, dust-free, hygienic conditions, away from chemicals and fuels with the potential to contaminate or taint the product and separated from the processing areas.

7.4.2 Packaging shall be stored away from walls with a minimum of 12 inches (30 cm) space to ensure contact is not made and to facilitate cleaning.

7.5 Foreign Body Detection

7.5.1 The company shall ensure that all precautions are taken to identify and eliminate any potential risk of foreign body/metal contamination of product.

7.5.2 Foreign body detection equipment shall be in place unless it can be justified as not necessary. This justification shall be documented.

7.5.3 Where detection equipment is used, the company shall establish critical limits for detection and the sensitivity of the equipment.

7.5.4 The company shall establish and implement procedures for the operation, monitoring and testing of detection equipment.

7.5.5 Detection equipment shall include a method of either automatic rejection, automatic marking of product, alarm, or production line stoppage.

7.5.6 The company shall establish and implement procedures for corrective action, reporting and recording where the monitoring procedure identifies a failure of the detection equipment. In the event of detection equipment failure the company shall ensure that procedures exist for the quarantining and re-working of product since the last acceptance test of the equipment.

7.6 Specific Handling Requirements

7.6.1 Procedures shall be in place for any materials requiring identity-preserved status, separation (e.g. containing allergens), assured organic, designated origin to ensure that product safety, legality and quality are maintained.

7.7 Control of Non-Conforming Product

7.7.1 Clear documented procedures for the control of non-conforming product shall be in place and understood by all authorised personnel.

7.7.2 Corrective actions shall be implemented to avoid recurrence of non-conformance and adequate documentation kept of the action taken.

7.7.3 All non-conforming products shall be handled or disposed of according to the nature of the problem and/or the specific requirements of the customer by a legal means.

7.8 Product Release

7.8.1 The company shall have a documented procedure to ensure that only products conforming to specification are dispatched, and this shall include release by authorised staff.

7.9 Specifications

7.9.1 The company shall ensure that specifications exist for raw materials including packaging, intermediate/semi-processed and finished products, and any product or service which could affect the integrity of the finished product.

7.9.2 Specifications shall ensure compliance with relevant safety and legislative requirements.

7.9.3 There shall be a documented procedure for the amendment and approval of specifications for all parts of the process including regular reviews.

7.9.4 Specifications and/or their contents shall be accessible to the necessary staff.

7.9.5 The company shall provide evidence to demonstrate that finished product identified as being under the product scope of the Certified Quality Aquaculture Processing standard meets the requirements of the associated product specifications, either in Section 10 or 11 of this standard.

8.0 Personnel

8.1 Training

8.1.1 The company shall establish an induction-training course for new employees based on work practices and procedures relevant to their role.

8.1.2 The company shall ensure that all employees receive training on work practices and procedures relevant to their role.

8.1.3 All training shall be recorded and trainees shall sign a training log on completion.

8.1.4 The company shall have documented training procedures as an integral part of the HACCP plan.

8.1.5 The company shall hold refresher courses in basic hygiene for all employees at least once every three years.

8.1.6 A training matrix showing all personnel and job roles shall be in place. The document shall specify the level of training for all personnel and their competence to carry out specific tasks.

8.1.7 Ongoing review of training effectiveness shall be carried out. Where the need is identified, for example when a job role changes, following performance issues or when there are changes in operating procedures there must be appropriate refresher training, coaching, mentoring or on-the-job experience to improve skills and understanding.

8.2 Personal Hygiene

8.2.1 The company shall document and implement a series of personal hygiene standards, appropriate to areas of operation, applicable to all concerned (including visitors and contractors) and governed by the potential risk of product contamination.

8.2.2 Personnel shall maintain a clean and tidy appearance.

8.2.3 Cosmetics and jewellery shall not be worn with the exception of wedding bands, in process areas.

8.2.4 Fingernails shall be kept short and clean.

8.2.5 Personnel shall not eat, chew or use tobacco anywhere in the facility except in the designated areas.

8.2.6 Hand washing and sanitising shall take place immediately after visiting the toilet areas and on entering any process area.

8.2.7 The company shall provide blue metal strip plasters to cover cuts and grazes.

8.2.8 Personnel hygiene should be monitored continuously throughout a production run and action taken for any non-conformances arising.

8.2.9 No smoking or eating is allowed in working areas.

8.3 Protective Clothing

8.3.1 Staff shall wear clean, light coloured protective clothing, including head and footwear, appropriate to the nature of their work.

8.3.2 Jewellery, cosmetic products, perfume and false nails may not be worn (other than wedding band) in any production related area.

8.3.3 First aid facilities shall be provided in accessible areas and minor cuts and abrasions shall be treated immediately with a company issue blue-strip plaster.

8.3.4 Clean protective clothing shall be donned at the beginning of each shift and shall be changed, disinfected or washed, as required to maintain hygienic conditions during the work period.

8.3.5 Suitable footwear or protective covering shall be provided in high care areas.

8.3.6 Protective clothing shall only be removed from premises for the purpose of contract cleaning.

- 8.3.7 A staff dress and hygiene code shall be documented and signs posted in communal areas.
- 8.3.8 Disposable hairnets and beard snoods shall be provided and worn in food handling areas.
- 8.3.9 High care area protective clothing shall be recognisable from low-risk area clothing by colour or other distinguishing marking.
- 8.3.10 If gloves are worn, there shall be procedures governing the wearing and sanitising of gloves.
- 8.3.11 Protective clothing shall be laundered on a regular basis on site or by a contracted laundry service.

8.4 Medical Screening

- 8.4.1 The company shall have a procedure for the notification by all employees of any relevant infectious disease or condition which they may be suffering from, or have been in contact with.
- 8.4.2 Prior entry to any area where there may be a risk to product safety new employees, visitors and/or contractors shall complete a medical questionnaire and any additional requirements advised by Health Authorities and in line with the most current Government Guidelines concerning the risk of transmission of communicable disease (e.g. global pandemics). Where appropriate, these persons shall undergo medical screening before permission is granted.
- 8.4.3 There shall be documented procedures which are communicated to employees, including temporary employees, contractors and visitors, on action to be taken in the case of infectious disease from which they may be suffering from or have been in contact with. Particular consideration should be given where product safety may be compromised. Expert medical advice shall be sought where required.
- 8.4.4 A person who is suffering from, or who is a carrier of, any communicable diseases, or newly emerging or unknown disease, or has an infected wound or open lesion shall not be engaged in the packing of product and isolation procedures immediately implemented and medical advice sought.

8.5 Health and Safety at Work

- 8.5.1 The applicant shall comply with health and safety legislation with respect to possessing a written health and safety statement.

9.0 High Risk

9.1 Process Flow

- 9.1.1 Where high-risk* areas are part of the manufacturing site, there shall be physical segregation between these areas and other parts of the site. Segregation shall take into account the flow of product, nature of materials (including packaging), equipment, personnel, waste, airflow, air quality and utilities provision (including drains). The location of transfer points shall not compromise the segregation between high-risk areas and other areas of the factory. Practices shall be in place to minimise risk of product contamination (e.g. the disinfection of materials on entry).

***A chilled/Ready to eat product of food where there is a high risk of growth of micro-organisms**

- 9.1.2 Where sites include high-risk facilities, there shall be a map of the site which designates areas (zones) where product is at different levels of risk from contamination; such as:
 - High-risk areas;
 - High-care areas;
 - Ambient high-care areas;
 - Low-risk areas;
 - Enclosed product areas;
 - Non-product areas.
- 9.1.3 Where sites include high-risk facilities, there shall be a map of the drains for these areas which shows the direction of flow and location of any equipment fitted to prevent the back-up of waste water. The flow of drains shall not present a risk of contamination of the high-risk/care area.

9.1.4 High-risk areas shall be supplied with sufficient changes of filtered air. The filter specification used and frequency of air changes shall be documented. This shall be based on a risk assessment, taking into account the source of the air and the requirement to maintain a positive air pressure relative to the surrounding areas.

9.1.5 Maintenance activities undertaken in high-risk areas shall respect the segregation requirements of the area. Wherever possible tools and equipment shall be dedicated for use in the area and be retained in the area.

9.1.6 Equipment used for cleaning in high-risk areas shall be visually distinctive and dedicated for use in that area.

9.1.7 Where an operation includes a high-risk area, personnel shall enter via a specially designated changing facility at the entrance to the high-risk area. The changing facilities shall meet the following requirements:

- Clearly documented changing procedures shall be in place demonstrating the order of changing into and out of dedicated protective clothes to prevent the contamination of clean clothing. Hand-washing shall be incorporated in the procedure to prevent contamination of the clean protective clothing;
- Prior to entry to high-risk areas, hand-washing and disinfection shall be provided and used;
- Protective clothing shall be visually distinctive from that worn in other areas and shall not be worn outside the high-risk area;
- Dedicated footwear shall be provided to be worn in the high-risk area with an effective system to segregate areas for wearing high-risk and other footwear (i.e. a barrier or bench system). By exception the use of boot-wash facilities is accepted where these demonstrably provide an effective control of footwear to prevent the introduction of pathogenic material into high-risk areas.

9.1.8 A programme of visual monitoring shall be established to assess the effectiveness of these controls, specifically; a programme of environmental monitoring shall be established to assess the effectiveness of footwear controls.

10.0 Finfish Specification

Whole/ Gutted Certified Quality Finfish shall have the following characteristics:

10.1 General

10.1.1 Gut completely free from food and faeces: “milking” the belly produces only a very small amount of mucus (if any).

10.1.2 Core temperature of fish to be brought to below 3°C as soon as possible post-harvest.

10.1.3 If in rigor, fish is handled with extreme care and not straightened.

10.1.4 Skin washed clean of blood, excess mucus and external parasites.

10.2 Touch

10.2.1 Flesh is firm and “springy” to the touch with no signs of softness: finger pressure should leave no indentation.

10.3 Appearance

10.3.1 Colour typical of fresh product, slight changes in colourations acceptable but not when due to maturity.

10.3.2 Mucus coating on skin is thin, transparent and evenly distributed.

10.3.3 Conformation typical of healthy specimen for the species. In the case of Salmon average weight of between 1–6kg and with a condition factor⁴ of between 1.1 and 1.4 on the condition factor scale.

4. Condition factor is a length to weight ratio represented by the following formula; Condition Factor = [weight (g)/length (fork length) (cm)³] x 100

- 10.3.4 Minimal scale loss only is acceptable.
- 10.3.5 Skin and fins free from damage, lesions, blood spots; and reddening.
- 10.3.6 Very minor reddening near tail region slightly more acceptable.
- 10.3.7 Very minor healed lesions are acceptable.
- 10.3.8 Eyes bright, not sunken and with transparent cornea; very minor blood spotting only.
- 10.3.9 Gills red and free from mucus.
- 10.3.10 Operculum complete with no gill lamellae visible.
- 10.3.11 Lug bone free from cuts following bleeding.
- 10.3.12 Tail fin not reduced.
- 10.3.13 All fins present.
- 10.3.14 Fins healthy and complete.
- 10.3.15 Body free from deformity.

10.4 Maturity

- 10.4.1 No outward signs of maturity.

10.5 Gutted fish

- 10.5.1 Flesh evenly pigmented (using a colour card as an optional reference. In the case of Salmon this is a medium red colour (Roche Scale) (24-28 on the Roche Scale), or depending on Customer Specifications.
- 10.5.2 Flesh free from bruising and contamination with bile from the gall bladder.
- 10.5.3 Belly cavity skin and musculature free from discolouration.
- 10.5.4 Belly cavity membrane intact.
- 10.5.5 Belly wall and lug bone free from cuts.
- 10.5.6 Musculature free from gaping or tearing.
- 10.5.7 Belly cavity free from fat and kidney deposits.

10.6 Fillets and Cuts

- 10.6.1 Fillets and cuts are uniform shape, neatly cut and trimmed.
- 10.6.2 Fillets are not gaping.
- 10.6.3 Target pin bone removal will be 100% when applicable.
- 10.6.4 The texture of the fish is resilient to the touch in all cases.
- 10.6.5 Foreign material, scales or cut surfaces are not evident on fillets or cuts.
- 10.6.6 Fillets free from:
 - Discolouration.
 - Large variation in batch colour.
 - Bruising/Blood spotting.
 - Visible parasites.

11.0 Mussel Specification

Mussels shall have the following characteristics:

11.1 General

- 11.1.1 Variance in shell colour is acceptable; colour can vary from brown, black-blue to black in colour.
- 11.1.2 Fouling present must not exceed market acceptability.
- 11.1.3 Less than 5% broken shell detected in each batch of mussels.

11.2 Meat

- 11.2.1 Meat colour can vary from cream to deep orange.
- 11.2.2 Greater than 20% meat yield is acceptable.
- 11.2.3 Meat shall be plump in appearance.
- 11.2.4 There shall be no off odours, should smell sea-fresh.

11.3 Harvesting

- 11.3.1 Live mussels harvested only from areas declared open under the Marine Biotoxin Monitoring Programme.
- 11.3.2 Each harvested batch of live mussels shall be accompanied by a completed "Gatherers Registration Document".
- 11.3.3 Each incoming batch shall be traceable to test results for the screening of biotoxins in accordance with legislative limits as implemented by the national Marine Biotoxin Monitoring Programme, conducted by the Marine Institute National Reference Laboratory.

11.4 Depuration

- 11.4.1 All depuration systems and their operation must comply with all relevant legislation, local requirements and must be approved by the appropriate Competent Authority.
- 11.4.2 Purification tanks and water storage containers must meet the following requirements:
- Internal surfaces must be smooth, durable, impermeable and easy to clean;
 - Must be constructed so as to allow complete draining of water;
 - Any water intake must be situated in a position that avoids contamination of the water supply;
 - Purification tanks must be suitable for the volume and type of products to be purified.
- 11.4.3 Before purification commences, live mussels must be washed free of mud and accumulated debris using clean water.
- 11.4.4 Operation of the purification system must:
- Allow live mussels rapidly to resume and to maintain filter feeding activity;
 - Eliminate or reduce potential microbiological contamination to an acceptable level in line with legislative requirements;
 - Allow live mussels not to become re-contaminated and to be able to remain alive in a suitable condition after purification for wrapping, storage and transport before being placed on the market.

11.4.5 The quantity of live mussels to be purified must not exceed the capacity of the purification centre.

11.4.6 The live mussels must be continuously purified for a period sufficient to achieve compliance with the health standards of Chapter V -Freshness and viability and Biotoxins (Council Directive 2074/2005) and microbiological criteria (Commission Regulation (EC) No 2073/2005).

11.4.7 Containers used to hold live mussels in purification systems must be of a construction that allows clean seawater to flow through. The depth of layers of mussels must not impede the opening of shells during purification.

11.4.8 Should a purification tank contain several batches of live mussels, they must be of the same species and the length of the treatment must be based on the time required by the batch needing the longest period of purification.

11.4.9 No crustaceans, fish or other marine species may be kept in a purification tank in which live mussels are undergoing purification.

11.5 Ultraviolet Purification

11.5.1 The company must adhere to the UV unit manufacturer's specified maximum flow rates that can be used with the units.

11.5.2 The company must adhere to the UV lamps manufacturer's specified lifetimes for UV lamps to maintain 80% efficiency.

11.5.3 Purified live mussels must be maintained in immersed storage in clean seawater of at least water from 'A' classified areas or seawater that has been re-circulated through the UV purification system.

11.6 Validation of Purification System

11.6.1 All purification systems must be commissioned and approved by the appropriate Competent Authority⁵. Prior to achieving an Approval Number, the applicant must demonstrate the effectiveness of the purification system by conducting a validation study.

11.6.2 A validation study must address the following:

- Validation pre & post purification testing of live mussels for the presence of *E.coli* (MPN method).
- Validation post purification of the process must demonstrate the absence of *Salmonella* in 25g.

A record of the validation study must be retained.

11.6.3 The applicant's Food Safety Management System must include a Microbiological Sampling Frequency Plan with analyses for the verification of the effectiveness of the purification system.

The Microbiological Sampling Frequency Plan must incorporate the following:

- Microbiological analysis on the water.
- Microbiological analysis on pre and post purified live mussels.

11.7 Purification Records

11.7.1 The following ongoing records must be maintained for each purified batch:

- Dates and quantities of live mussels delivered to the purification centre and corresponding Shellfish Registration Document numbers.
- The times of filling and emptying of purification systems (Time In - Time Out or cumulative hours).
- Dispatch details of consignments after purification.

- Seawater temperature in purification tanks.
- Seawater salinity in purification tanks.
- Seawater oxygen in purification tanks.
- Tank cleaning records.
- UV usage. The hours of UV usage should be recorded and the specified likely lifetimes for UV lamps to maintaining 80% efficiency should not be exceeded.

11.8 Purification Specific Parameters

11.8.1 The depuration or purification process of live mussels will only begin after the shellfish resume their filtration activity.

11.8.2 The company must adhere to the following minimum specific parameters:

- Minimum depuration period: Mussels >36 hours;
- Salinity >20% <35%;
- Temperature >8°C <18°C;
- Dissolved oxygen levels Minimum 50% with a recommended level of 70%.

5. The recommended method of validation is by testing naturally contaminated live mussels pre purification and post purification via the ISO TS 16649-3 5 tube three dilution method expressed as MPN *E.coli*/100grams shellfish flesh, with a limit of 230MPN/100grams of flesh and intervalvular fluid).

Certified Quality Aquaculture; Eco Requirements

1.0 Environmental Management and Equipment

The company shall be able to demonstrate a commitment to the reduction in environmental impact arising from activities under their direct control.

1.1 Environmental Management

1.1.1 Management commitment to the implementation, maintenance and operation of an environmental management system (EMS) shall be established.

1.1.2 Key components of the EMS shall include:

- Management commitment;
- Staff involvement;
- Baseline and periodic review;
- Environmental policy;
- Setting of environmental objectives and targets, usually in the form of an environmental management programme.

1.1.3 The company shall demonstrate an understanding of and commitment to the principles of environmental management and sustainability.

1.1.4 Commitment to the enhancement of environmental awareness and knowledge throughout the company shall be demonstrated.

1.1.5 Appropriate records shall be maintained.

1.2 Staff Training and Involvement

1.2.1 Management shall designate a key member of staff with overall responsibility for the implementation of the CQA Processing standard; Sub-scope Eco Processing.

1.2.2 Key staff shall be aware of the requirements of the standard and any obligatory requirements.

1.2.3 There shall be provision for staff information and training on environmental issues and involvement in the process of environmental management. Training shall be documented.

1.2.4 The designated member of staff must be able to demonstrate competence in the tasks required to implement this Eco-Standard through professional qualification or training.

1.3 Environmental Reviews – Baseline and Periodic

Baseline Review

1.3.1 Prior to establishing an EMS, a baseline review shall have been carried out and documented to identify all relevant environmental aspects of the processing operation and establish the current position with regard to the environment.

1.3.2 The review shall include the following areas:

- Identification of environmental aspects, including those associated with normal operating conditions, abnormal conditions including start up and shut down, and emergency situations and accidents;
- Identification of applicable legal requirements and other requirements to which the organisation subscribes and determines how they apply to environmental aspects;
- Examination of existing environmental management practices and procedures including those associated with procurement and contracting activities;
- Evaluation of previous emergency situations and accidents.

1.4 Environmental Management System (EMS) & Periodic Review

1.4.1 The company shall establish, document maintain and continually improve their EMS.

- 1.4.2 The performance of the EMS shall be periodically internally assessed and at least annually.
- 1.4.3 The company shall establish an internal audit procedure to carry out this periodic review of the EMS.
- 1.4.4 Records of internal audits and actions shall be maintained.
- 1.4.5 Key environmental objectives and targets shall be set within the context of the EMS.
- 1.4.6 The company shall have a system in place to ensure that they are kept informed of new processing method and systems which are proven to improve environmental performance.
- 1.4.7 Environmental impacts shall be progressively addressed.

1.5 Environmental Policy

- 1.5.1 An environmental policy shall be established, documented, implemented and maintained.
- 1.5.2 The policy shall reflect the unique nature, scale and environmental aspects of the operation.
- 1.5.3 The policy shall be communicated to all persons working for or on behalf of the company ensuring that employees are aware of the company's environmental policy and of their own responsibilities and given the support and training necessary.
- 1.5.4 The policy shall establish a framework/basis for setting and reviewing environmental objectives and targets. These shall include:
 - Respect for the working environment, supporting sustainable development and environmentally sound business practices;
 - Compliance with applicable legal requirements and any other requirements to which the company subscribes;
 - Ensuring that employees are aware of the company's environmental policy and of their own responsibilities and given the support and training necessary;
 - Working and liaising with government and non-government bodies towards the improvement of the local environment;

- Engaging and listening to the concerns of customers, employees, neighbours and the wider community.
- The provision of information to the public necessary to understand the commitment to environmental sustainable practices by the company;
- The assessment of environmental impact of all new activities, products and processes in advance of their adoption;
- The provision for the access to external information on environmental issues by the company;
- Prevention of pollution.

2.0 Site Management

The company shall ensure that the site and surrounding areas are maintained in a neat and ordered manner. In order to do this, the following practices apply.

2.1 Site Selection and Maintenance

- 2.1.1 The company shall demonstrate commitment to the maintenance of clean and tidy facilities and surrounding areas.
- 2.1.2 In cases where communal areas are used for storage of equipment the company shall maintain them neat and orderly and ensure that such storage does not obstruct users.
- 2.1.3 The company shall produce site plans for all facilities including any common facilities. These shall clearly mark, site boundaries, access points and where necessary, any hazards, obstacles to navigate and safe navigational routes for servicing sites. Clean and dirty areas, waste storage and collection areas shall also be identified.
- 2.1.4 An inventory of all stored equipment shall be maintained.
- 2.1.5 The company shall promptly remove and repair damaged equipment and avoid the accumulation of disused and de-commissioned equipment.
- 2.1.6 The company shall engage in or take part in local clean-up operations involving staff and the local community.

- 2.1.7 All structures shall be properly installed serviced and maintained by competent personnel in compliance with the manufacturer's instructions and specifications.
- 2.1.8 The company shall keep an inventory of proper disposal of decommissioned and scrapped equipment.
- 2.1.9 The company shall provide clear separation of clean and dirty areas in a manner to discourage infestation by pests.
- 2.1.10 The company shall have an effective preventive pest control programme in place to minimise the risk of infestation and there shall be the resources available to rapidly respond to any issues which occur to prevent risk to products.
- 3.1.6 Responsibility shall be assigned for chemical storage and stock control systems.
- 3.1.7 Accurate records of incoming and outgoing stock shall be maintained.
- 3.1.8 Documented routine inspection of chemical storage shall be carried out.
- 3.1.9 All chemicals shall be securely and safely stored, excessive stocks shall not be held on site.
- 3.1.10 All containers used to hold chemicals shall be leak-proof, of suitable design and material for intended use and clearly labelled. They shall be stored according to instructions where given.
- 3.1.11 The company shall provide personal protective equipment as itemised in MSDS for the handling of hazardous materials.

3.0 Environmental Aspects

The company shall manage facilities to avoid and reduce the impact of operations on the natural environment from all activities – accidental leaks, spillages, wastes, visual and odour impacts.

3.1 Prevention of Spills, Taints and Odours

Chemicals, Fuels & Lubricants

- 3.1.1 The company shall commit to choose, where possible, disinfectant, cleaning and other chemicals with an improved environmental profile.
- 3.1.2 Chemicals shall be managed to avoid accidental release into the environment and minimise impact from daily use and handling and ensure staff safety.
- 3.1.3 There shall be a minimisation of use of any chemical on site.
- 3.1.4 The company shall be aware of the associated risks for all chemicals and chemical substances shall be managed accordingly.
- 3.1.5 An up-to-date copy of the material safety data sheet (MSDS) shall be made available to relevant staff and a copy kept in the same storage place as the chemical and on file for reference.
- 3.1.12 Any chemical stock that shows signs of deterioration or has lost its label shall be disposed of in a legal manner (transported by licensed contractor and licensed waste disposal method, appropriate to the classification of the waste so as to avoid environmental impact).
- 3.1.13 Records shall be maintained of all chemical and hazardous waste disposal.
- 3.1.14 The company shall provide bunded storage of at least 110% of volume for fuels and chemicals and provision for draining in a manner not to cause environmental impact.
- 3.1.15 Bunding shall include a method to remove contained spillages without causing risk of contamination.
- 3.1.16 Biodegradable hydraulic fluid shall be used where feasible.

3.2 Emergency Spill Response Plan

- 3.2.1 The company shall have a documented emergency spill response plan designed to report and effectively manage spill incidents and potential emergency situations that impact the environment. This shall include consideration of contingency plans to maintain business continuity. The plan shall:

- Identify the key members of personnel who are in the emergency spill response team, with clearly identified responsibilities;
- An up-to-date list of key contacts or reference to the location of such a list, e.g. recall management team, emergency services, suppliers, customers, Certification Body, regulatory authorities;
- A communication plan including the provision of information to customers, consumers and regulatory authorities in a timely manner;
- Details of external agencies providing advice and support as necessary, e.g. specialist laboratories, regulatory authority and legal expertise;
- Include the provision for the rapid contact and deployment of staff and necessary technical personnel (on and off site) in the event of a potential threat of pollution.

3.3 Visual Impact Reduction

3.3.1 To minimise visual impact of developments the company shall respect the character and diversity of their landscape the company shall adhere to the following practices:

- Management of existing operations according to planning consent conditions and best practice principle outlined in license conditions;
- Use dark subdued or neutral colours where possible with a matt surface;
- Ensure design and colour continuity between operations in the same area;
- For new developments, assess potential visual impact according to the National and International guidelines.

3.4 Noise Impact Reduction

3.4.1 To minimise the impact of noise pollution the company shall meet the following requirements:

- Adhere to planning permission for conditions on noise levels;
- Establish arrangements to reduce the impact of noise, particularly for night-time operations;
- Carry out routine preventative maintenance of all machinery including the adequate

lubrication of all rotating parts and the fitting of sound suppression devices e.g. mufflers/silencers, barriers and baffles where possible;

- Keep all noise to an absolute minimum when working at night.

3.5 Odour Impact Reduction

3.5.1 To minimise the impact of odour pollution the company shall meet the following requirements:

- Adhere to conditions of planning permission regarding odour levels where applicable;
- Provide designated storage areas and containers adequately designed to minimise odour pollution for materials that may create odour;
- Avoid of the build-up of waste material that may emit odours by carrying out routine disposal and removal before an odour problem can develop;
- Implement processes to manage the cleaning of equipment and areas to prevent the build-up of odorous materials.

4.0 Nature and Biodiversity

4.1 Nature and Conservation Designation

4.1.1 The company shall be aware of and maintain documentation of any nature conservation designations in and around their licensed area. There shall also be an awareness of the features of the designation and the sensitivities of the habitats / species for which the designation was made.

4.1.2 The company shall ensure that their operations do not damage (or impact) the long-term conservation and biodiversity of species and habitats.

4.1.3 The sourcing of genetically modified aquaculture raw material is prohibited.

4.1.4 The sale for human consumption of final products containing hormone treated aquaculture ingredients is prohibited.

5.0 Cultural Heritage

5.1 Conservation of Heritage

- 5.1.1 The company shall report potential archaeological features so that they can be investigated in an appropriate manner either insitu, removed or preserved by record.
- 5.1.2 The company shall not undertake developments or operations until it is established that they will not affect sites of archaeological designation or interest.
- 5.1.3 Where appropriate, the company shall retain evidence of investigations and assessments that establish and verify the conditions of clause 5.1.2.

6.0 Waste Management and Reduction

To minimise the amount of waste produced and to manage all unavoidable waste in an environmentally sound manner. The company shall meet the following requirements.

6.1 Waste Management Plan

- 6.1.1 The company shall implement a waste management plan according to the principles of prevention, reduction, reuse, recycling and recovery.
- 6.1.2 The company shall demonstrate commitment to seeking alternative recycling and re-use methods of disused equipment.
- 6.1.3 A waste audit shall be conducted on an annual basis. Records of all waste arising from audit according to waste type, quantity and disposal destination shall be recorded.

6.2 Waste Reduction and Recycling

- 6.2.1 The company shall purchase materials with a long lifespan and/or made from recycled and/or recyclable materials, e.g. recycled paper/ plastics, rechargeable batteries, long life light bulbs, refillable print cartridges. Materials that cannot be readily recycled shall be avoided where possible.

- 6.2.2 Where feasible recycling programmes shall be utilised, for decommissioned equipment.

- 6.2.3 Where legally feasible and practical, organic matter shall be composted.

6.3 Waste Disposal

- 6.3.1 Disused equipment and waste, including hazardous waste shall be promptly disposal of from the site according to legislation.

- 6.3.2 Separation and segregation of waste into recycling and non-recycling categories for all organic and non-organic waste to eliminate cross contamination and avoid offensive odour and pest hazards shall occur.

- 6.3.3 Effluent discharge shall meet the discharge consents of the relevant authority and shall be managed and monitored to ensure that they are operating at optimum conditions.

- 6.3.4 Discharge of toxic, noxious and dangerous substances is prohibited.

- 6.3.5 A record of all waste disposal shall be maintained allowing quantification of volumes of waste output by organic, non-organic and hazardous categories.

7.0 Resource Management and Conservation

7.1 Energy Conservation

All installations shall be designed, developed and managed with a view to the equitable and efficient use of energy resources.

- 7.1.1 The company shall monitor and record the energy consumption with respect to fuel and electricity on an annual basis and implement measures as part of the EMS for its efficient use.

- 7.1.2 Energy consumption per unit production shall be established and monitored.

- 7.1.3 Unnecessary energy use shall be avoided.

- 7.1.4 Method and targets to reduce energy consumption and utilise renewable energy shall be investigated.
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- 7.1.5 Consideration to the recovery of heat from processing operations for reuse in office heating, systems or otherwise shall be demonstrated.
 - 7.1.6 Equipment with a high-energy consumption shall be identified and methods employed to ensure that energy is conserved and where possible, reduced.
 - 7.1.7 All cooling equipment such as blast freezers, cold stores and chillers shall be maintained in good working order, according to manufacturer's instructions, properly insulated, and operated according to standard operating procedures for loading/unloading and defrosting to ensure energy conservation.
 - 7.1.8 All boiling/cooking equipment such as steam cookers shall be maintained in good working order, in accordance to manufacturer's instructions.
 - 7.1.9 The company shall, where possible, source their electricity from a supplier who is committed to a programme of renewable energy.
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Amendment Log - to be up-dated on final publication

DATE	CHANNEL	AMENDMENT	VERSION	AUTHORISED BY
2021	TAC Meeting	Changes have been made to reflect the outcome of a client base survey highlighting emphasis on environmental performance, biodiversity, sustainable management and nature conservation. The revision reflects the publication of the EU Organic Regulation and the State decision to translate into a single Organic Food and Farming Standard for Ireland which supersedes the subscope of CQA Organic Aquaculture.	For Issue 2.0	Vera Flynn

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- BIM CQA Team Members
 - Food Safety Authority of Ireland
 - Marine Institute (Ireland)
 - Irish Farmers Association Aquaculture Division and Members
 - Irish Aquaculture Industry
 - ThinkAqua
 - Global Trust Certification Ltd.
 - RS Standards Ltd
 - Independent Aquaculture Experts
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BIM Organic Aquaculture Advisory Document

As a service to CQA Clients, BIM maintains an Organic Aquaculture Advisory Document which provides information to CQA Applicants and Certified Entities on the implementation and maintenance of organic aquaculture farming practices that are consistent with the Organic Food & Farming Standards in Ireland, Edition 2.

Information and guidance to applicants will be posted and updated periodically as the new Organic Regulation (848/2018) and supporting measures come into effect at: <https://bim.ie/aquaculture/sustainability-and-certification/certified-quality-aquaculture-cqa-programme/>



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