European Bank
for Reconstruction and Development

Sub-sectoral Environmental and Social Guideline: Aquaculture (Marine and Freshwater) – Onshore and Offshore

Introduction

This guideline is designed to be used by EBRD Financial Intermediaries (FIs) to understand the nature of environmental and social (E&S) risks associated with existing operations in this sector and suggested actions for businesses to manage these E&S risks. It also provides guidance for FIs on potential due diligence questions to raise with management to understand how their business is managing these E&S risks. This guideline focuses on material E&S risks; it is not an exhaustive list of E&S risks. In managing E&S risks, all businesses should be compliant with relevant E&S laws and regulations.[1] Where applicable, these include European Union legislation, which may also be taken as a benchmark for good practice.

This guideline covers the cultivation of aquatic animals and plants, especially fish, shellfish and seaweed, in natural or controlled marine or freshwater environments.

Reference NACE codes:

- 3.2 Aquaculture
    - 3.21 Marine Aquaculture
    - 3.22 Freshwater aquaculture

Material risks

Below is an overview of the material risks present in aquaculture:

[1] This guideline outlines some relevant legislation but does not provide an exhaustive list of applicable laws and regulations.

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E&S Risk Category ***Key E&S Risks***[2] **(***In order of materiality)*	**Environment** **Affect the natural environment**	**Health and Safety** **Affect the health or safety of employees**	**Labour** **Affect workplace conditions and the treatment of employees**	**Community** **Affect the health and safety, livelihoods, and environment of the community and wider public**	**Page no.**
Biodiversity	√			√	*5*
Wastewater	√				*7*
Waste	√				*8*
Land Contamination	√				*8*
Water Use	√			√	*8*
Water-borne Disease	√	√	√		*9*
Soil Erosion and Sedimentation	√				*9*
Manual Handling		√			*10*
Electric Shock		√			*10*
Drowning		√			*10*
Moving Equipment/Machinery		√			*11*
Confined Spaces		√			*10*
Slips, Trips, and Falls		√			*11*
Energy Use	√				*12*
Refrigerants	√	√			*12*
Noise	√	√	√	√	*12*
Air Emissions	√	√			*12*

[2] Note: this table provides an indicative list of the EHS risks associated with the sub-sector; it is not meant to be an exhaustive list and EHS risks will depend on the specific setting and scale of the operation or facility.

Hazardous Materials	√	√		√	*13*
Hygiene		√		√	*13*
Odour	√			√	*13*
Product Safety	√	√		√	*14*
Traffic Management		√			*14*

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1. Process description

Aquaculture is one of the fastest-growing food sectors worldwide.

For the purposes of this guideline, 'aquaculture' is defined as the cultivation of aquatic animals and plants, especially fish, shellfish and seaweed, in natural or controlled marine or freshwater environments.

Specifically this includes:

- Farming of salmon, trout, eels or other freshwater fish for consumption;
- Farming fish for restocking;
- Freshwater farming of crayfish and freshwater mussels;
- Operating finfish hatcheries and growing fingerlings and fry from eggs;
- Farming salmon, sea trout, halibut, cod, haddock, plaice, sole or other species in coastal waters;
- Farming seaweeds (e.g. kelp);
- Marine farming of mussels, scallops, oysters and clams;
- Cultivating shellfish in an enclosed water re-circulation system.

2. Key E&S Risks

Below are the material E&S risks associated with this sector and key measures to manage them. Where gaps are found in the management of key E&S risks, the E&S risk management measures may form part of a corrective E&S action plan agreed with your customer.

Aquaculture can have a number of impacts on the environment. However, these impacts can vary and are dependant on the connectivity and associated pathways to the surrounding environment.

Pond systems used in onshore facilities can be separated through treatment/isolation mechanisms from the natural environment. However, aquaculture facilities in open water are exposed to the surrounding environment and isolation techniques are restricted.

Biodiversity

The installation or construction of an aquaculture facility may result in the direct or indirect loss of aquatic habitats, (e.g. the removal or alteration of habitat during the construction phase of the facility).

Most new or extended aquaculture sites will require an Environmental and Social Impact Assessment (ESIA), especially those in EU Member States.

Depending on the nature conservation status of the proposed site and adjacent area there may also be implications under other EU Laws on the conservation of flora and fauna, notably the EU Habitats and Birds Directives.

Depending on the scale and location of the aquaculture facility, a number of impacts on biodiversity are possible. The majority of threats to biodiversity are associated with the construction phase when natural habitats are converted into commercial fish farms.

Operational risks to biodiversity include the potential release of alien species into the natural environment and the development of antibiotic resistance in pathogenic bacteria that can then spread to wild fish stocks. Further risks may be caused by farmed fish escapes from poorly-maintained facilities or those facilities damaged in extreme weather. These impacts are particularly significant in aquatic environments when there may be spawning grounds. The introduction of non-native organisms or genetically altered escapees can:

- Disturb and interfere with the existing natural ecological system;
- Out-compete native wild fish for food and territory;
- Dilute the wild genetic stocks through interbreeding;
- Result in the diffusion and spread of fish disease (e.g. bacteria, virus, sea lice);
- Displace eggs of the native species.

In addition, the aquaculture industry may introduce predator control techniques which may impact the existing natural ecological balance.

Farmed carnivorous fish, such as salmon, depend on a food source which is high in fish-derived proteins.

Fish welfare may suffer in relation to intensive operations; fish welfare applies to the farming, transport, and harvesting and slaughter process.

Loss of biodiversity due to the impacts of aquaculture can impact local communities who are dependent on these species for their livelihoods.

Local legislation controlling the field of aquaculture and aquaculture products may be in place. Key EU legal provisions for the industry are summarised below:

- Directive 2006/88/EC on animal health requirements for aquaculture animals and products thereof;
- EU Common Fisheries Policy (CFP) 2013;
- EU Hygiene Regulations require member states to put in place a programme for monitoring and classifying shellfish harvesting areas.

How can a business manage this risk?

- Design facility operations during the construction phase to preserve as much natural vegetation as possible (e.g. with vegetation buffer zones and habitat corridors);
- Avoid predator risk through careful siting of the aquaculture enterprise;

- Maintain aquaculture facilities to limit risk of escapees;
- Install screens with a suitable mesh/net to prevent the access/egress of aquatic species.

Wastewater

Wastewater released into the surrounding waters (freshwater or marine) from aquaculture facilities can result in the discharge of a variety of pollutants or high concentrations of contaminants including:

- Elevated levels of sediment. The release of such materials causes deposition of organic nutrients from faeces and uneaten food, which can result in a detrimental impact on water quality. Consequently this can have a number of adverse impacts on the species being farmed and other freshwater/marine fauna and flora in the area;

- High intensity aquaculture activities can result in the decrease of dissolved oxygen levels in the waters and the creation of visible plumes, potentially harming wildlife;

- A range of chemicals can be used in marine aquaculture operations such as disinfectants, anti-foulants and medicines (including vaccines). These marine pollutants can be toxic to wildlife and the wider ecosystem;

- Increased nutrient availability either directly through feed or indirectly by fertilising ponds to increase primary productivity can lead to the accumulation of nutrients within the receiving waters;

- Introduction of cleaning agents (including chlorine bleaches), chemical residues (including feed supplements, antibiotics and antifoulants);

- Contamination of groundwater and surface water as a result of the release of effluents or release of process waters from ponds and lagoons.

How can a business manage this risk?

Aquaculture activities may be subject to monitoring and possible enforcement action to ensure that they meet emission standards.
The EU Water Framework Directive 2000/60/EC[3] requires aquaculture facilities to meet the environmental objectives for the ecological and chemical status of surface waters by 2015.
Other management measures are as follows:

- Install/improve wastewater/effluent monitoring and treatment facilities;
- Monitor feed types and quantity of feed consumed to minimise nutrient loading of the surrounding environment;
- Minimise the use of 'fine' feed[4];
- Match feed pellet size to species life-cycle to minimise contamination of receiving waters

[3] http://ec.europa.eu/environment/water/water-framework/

[4] Feed is available in a variety of sizes ranging from fine crumbles for small fish to large pellets.

in open body aquaculture types;
- Maintain feed vitamin content by storing in a dry, cool facility for no longer than 30 days;
- Install grids to reduce or avoid introduction of solid materials into the waste water drainage or the natural system;
- Reuse wastewater through recycling, thus minimising final wastewater volumes;
- Minimise the loss of biodiversity through project design and as a last resort off-set programmes, e.g. creation of ecologically comparable area(s) managed for biodiversity;
- Monitor adjacent waters with regard to quality and biodiversity (in order to examine any environmental impacts).

Waste

Aquaculture does not typically produce large quantities of solid waste, however some solid waste arisings are derived from dead fish and packaging.

How can a business manage this risk?

The disposal of dead fish or shellfish from aquaculture activities must meet EU requirements under Directive 2008/98/EC on the treatment of waste, along with any requirements of the local governing body and any associated regulations. Measures within the Directive include control of the collection, transport, storage, handling, processing, use and disposal of animal carcasses or parts of animal carcasses.

Additional measures may include:
- Implement a waste minimisation and management system, for residual wastes;
- Recover, reuse and/or recycle packaging materials.

Land Contamination

Land pollution incidents from the aquaculture industry are minimal. However, previous land uses may include chemical, fuel or oil spills and may have resulted in chemicals seeping into the associated land.

In some cases the conversion of agricultural land to accommodate aquaculture activities in brackish water areas, may pose a salinisation risk to remaining surrounding agricultural land.

How can a business manage this risk?

- Upgrade storage areas of all raw materials, casings and solvents to contain accidental spills and leakages;
- Undertake regular integrity testing of underground storage tanks and bulk storage tanks to reduce potential for pollution and accident/fire/explosion precautions and emergency procedures.

Water Use

Potential health issues for both organisms and consumers may occur if suitable water is not used for the aquaculture process.

Quality guidelines for aquaculture have been developed and vary depending on the organism cultured.

Water resources utilised in the aquaculture process include marine areas, estuaries, rivers, lakes, ponds and groundwater. It is typical for abstraction or water use permits to detail volumes of water abstraction allowed as over abstraction can impact local communities. Wherever changes take place in product volumes this should be reflected in the permit.

How can a business manage this risk?

- Obtain abstraction or water use permits which detail the allowable volumes of water abstraction/use. Where changes take place in product volumes, this should be reflected in the permit;
- Undertake regular testing of water quality, whether municipal or from groundwater abstraction;
- Monitor water quality on a regular basis;
- Discharges and abstraction from water resources should be considered under the requirements within the EU Water Framework Directive (2000/60/EC) and local environmental regulations and permitting requirements;
- Reduce water volume used through the use of high-pressure hoses and re-use and recirculation of water and use of re-circulated chilled water systems where practicable;
- Screen raw materials and water used in the process for potential contaminants.

Water-borne Disease

Aquaculture workers may be subject to direct or indirect exposure to a variety of water-borne diseases (e.g. leptospirosis) or insect-borne disease (particularly in hot/warm climates).

How can a business manage this risk?

- Maintain water flow rates to prevent the build up of bacteria in stagnant water;
- Provide appropriate Personal Protective Equipment (PPE) for workers;
- Provide workers with training on disease prevention and management;
- Provide appropriate health monitoring for workers who may be subject to risks of water-borne diseases;
- Carry out regular water monitoring programmes.

Soil Erosion and Sedimentation

During the construction phase of some types of aquaculture projects, earth excavation may result in soil erosion and subsequent sedimentation of nearby water bodies, potentially contributing to the overall degradation of water quality.

How can a business manage this risk?

- Soil erosion will be minimised through good practice in relation to soil-moving activities. May need to consider dredging of water resources, to mitigate sedimentation if this becomes an issue.

Manual Handling

Lifting, repetitive work and posture injuries can occur as a result of occupational requirements (e.g. refilling feeders, checking of nets, and grading fish). Repetitive tasks can lead to musculoskeletal injuries**.**

How can a business manage this risk?

- Redesign manual processes to avoid heavy lifting/repetitive activities;
- Install mechanical lifting aids where possible and rotate work tasks to reduce repetitive activities.

Electric Shock

The use of electrical devices in the aquaculture process (e.g. pumping facilities, lighting operations and water circulation systems) poses the risk of electrical shock during a variety of operations.

How can a business manage this risk?

- Isolate and waterproof electrical installations;
- Provide training to all personnel involved in activities associated with electrical equipment handling;
- Regularly review fire protection equipment and procedures.

Drowning

By its very nature, the risk of drowning is present in all aquaculture operations and this risk is heightened with cage aquaculture operations at sea and when working in confined spaces.

How can a business manage this risk?

- Workers should be experienced swimmers and regular lifesaving, safety at sea, and CPR training should be provided;
- Train personnel in the requirements of working near water and associated rescue procedures.
- Provide lifejackets and harnesses with safety clips. Lifejackets should be worn at all times at sea or on exposed sites.

Moving Equipment and Machinery

In a busy environment, it is common to have injuries where people interact with machinery or equipment. This can be owing to moving or falling objects such as, crates and boxes, using equipment or operating fork lift trucks and delivery vehicles/trucks, all of which can lead to injury or death. Working at height, e.g. on boat rigging, may also be a source of risk.

How can a business manage this risk?

- Install machinery guarding to reduce risk of entrapment of employees;
- Separate people from vehicle movements

through the installation of walkways (to avoid accidents and collision risk);
- Restrict access to working at height;
- Install correct fall arrest systems (guarding and harnesses etc.).

Confined Spaces

Working in confined spaces may present a health and safety risk to workers. Entry to confined spaces without effective management and control can result in engulfment and asphyxiation.

How can a business manage this risk?

- Correct procedures should be implemented to ensure that risks from entering confined spaces are reduced;
- Strictly control entry to confined spaces, such as cages or storage areas, and prevent solo working in accordance with safety procedures;
- Confined spaces training is required for all staff working in confined spaces.

Slips, Trips and Falls

The dependence on a water/wet environment in aquaculture means that there is a high risk of slips, trips and falls.

How can a business manage this risk?

- Keep walking and working surfaces clean and dry/non-slip;
- Restrict access restriction to areas being cleaned or where spillages have occurred;
- Schedule floor cleaning for a time when work is not in progress or has finished for the day and floors have dried as much as possible.

Energy Use

Where equipment is being used for heating, cooling, filtration or circulation purposes it will increase the amount of energy (gas, electric, or diesel) use within the processes. Energy usage has a direct correlation to the operating costs of the company. Levies or taxes may be applied to minimise energy use and emissions of carbon dioxide.

How can a business manage this risk?

- Implement energy savings initiatives involving heat recovery, controlling boiling temperatures, optimisation of refrigeration and cooling systems etc.;
- Examine options for heat recovery and insulation to reduce/supplement energy consumption.

Refrigerants

Refrigerants used at aquaculture facilities are likely to be ozone-depleting substances (ODSs), such as Chlorofluorocarbons (CFC's) and Hydrochlorofluorocarbons (HCFC's), the production of which, are being phased out under the Montreal Protocol. Releases of these types of refrigerant gases should be avoided. Ammonia is also a commonly-used alternative refrigerant, which has no such restriction. There are significant health and safety risks associated with the storage (and accidental release) of ammonia.

How can a business manage this risk?

- Change to non-CFC coolants and/or sealing of leakages in the refrigeration system;
- Insulate any refrigeration rooms.

Noise

Noise emissions from aquaculture systems are generally low, however the process can result in localised impacts resulting directly from the type and form of generators and/or water circulation/filtration systems employed.
Operations may also cause noise which is a nuisance to neighbours.

How can a business manage this risk?

- Monitor noise exposure;
- Assess noise control measures using the mitigation hierarchy i.e. eliminate, substitute, engineer, administer then issue personal protective equipment PPE as a last resort (e.g. install noise reduction equipment before resorting to issuing hearing protection).

Air Emissions

With the exception of odours, air emissions are unlikely to be a principal cause of concern in relation to the operation of aquaculture facilities. However, the operation of pumps, water filtration and circulation units have the potential for creation of atmospheric emission problems relating to organic compounds and particulates.

How can a business manage this risk?

- Enclose and seal plant and equipment to prevent the escape and accumulation of dust;
- Provide PPE and regularly check and maintain this. Provide respiratory protective equipment (RPE) as a last resort after other abatement options are considered;
- Install windbreaks and covers in outside handling areas;
- Improve ventilation within buildings;
- Install dust monitoring equipment at the most sensitive points.

Hazardous Materials

The variety of chemicals used in the aquaculture process leads to the potential exposure to a range of hazardous substances (e.g. lime, diluted chlorine, or salt).

Materials stored and used at aquaculture facilities have the potential to impact human health and the environment. The most significant of these materials are likely to be:

- Bleaches and cleaning fluids;
- Oils and greases;
- Fuels.

How can a business manage this risk?

- Maintain storage areas to ensure that they are clean and dry.
- Review storage arrangements on a regular basis to ensure that leaks do not occur;
- Record all hazardous materials held on site in an inventory with Materials Safety Data Sheets (MSDSs) available in the appropriate language;
- Prepare procedures for their handling and treatment in the event of spillage.

Hygiene

Hygiene standards within process areas must be maintained to a high level to prevent product contamination.

How can a business manage this risk?

- Implement regular cleaning and disinfection to maintain food safety and hygiene standards;
- Provide suitable Personal Protective Equipment to maintain hygiene standards.

Odour

Although odour is not as problematic as in fish processing plants, aquaculture facilities can generate strong odours and, depending on the location of the facility, odour can potentially be a nuisance issue for neighbouring facilities and residential areas.

How can a business manage this risk?

- Install suitable equipment to clear air emissions of odour.

Product Safety

Aquaculture facilities provide the opportunity for farmed species to bio-accumulate inorganic compounds. This in turn may affect future consumption.

Contamination of product could result in health impacts to the general public and may result in product recall.

How can a business manage this risk?

- Circulate fish stocks to clean, odour free waters;
- Use organic food fertilisers where possible;
- Minimise use of recirculating aquaculture systems where possible.

Traffic Management

Transportation of raw materials and finished product to and from the facility could result in an increased risk of road traffic incidents involving the general public.

How can a business manage this risk?

- Control community health and safety risks through the adoption of a Traffic Management Plan and disclosure of the Plan to the community;
- Develop an Emergency Preparedness and Response Plan in conjunction with the community and local/regional emergency services to ensure that the community is alerted and protected in the case of an industrial accident.

3. Financial Implications

Outlined below are key financial implications of ineffective management of E&S risks related to this sector.

In most areas, effluent and waste discharge has direct financial implications for the aquaculture facility through:

- Fees for discharge licences and permits;
- Monitoring costs;
- Fines and penalties for negative environmental impacts or breaches of permit limits.

Companies may need considerable investment to achieve acceptable effluent discharge quality and to meet appropriate water quality standards.

The principal financial issues associated with water supply are the direct costs of supply (payment to water suppliers, costs of abstraction from groundwater or surface water bodies, sampling and analytical costs). The raw water may be subject to pre-treatment requirements which require capital for equipment and higher operating costs to pre-treat water.

Fish and fish products can be contaminated at source. The potential exists for substantial liabilities to be incurred by the aquaculture facility. Typically, the liabilities take the following forms:

- Civil liabilities resulting in compensation claims from injured parties;
- Criminal liabilities, usually resulting from some form of negligence, resulting in fines and prohibitions;
- Diminished reputation and sales as a result of damage to public perception of the company and/or the industry as a whole;
- If a wastewater treatment plant is not present there may be pressures from the regulatory authorities for one to be installed. If the site has wastewater treatment facilities it may be required to be upgraded to meet stricter discharge parameters. This is likely to incur significant costs. The level of fines or fees in relation to wastewater discharges should also be assessed;
- Where large quantities of energy are being used within the process this can result in high operating costs to the business;
- Energy reduction programmes/legislation may require substantial investment in new/clean technologies to achieve the emission targets set;
- Capital expenditure will also be required to maintain health, safety and hygiene standards;
- Legislative requirements to recycle used packaging in countries to which product is exported may increase costs of packaging materials;
- Injuries may lead to increased payroll costs to replaced workers and provide treatment;
- Depending on the location of the facility and the surrounding land use, financial liabilities relating to odour may be a factor for aquaculture facilities. Odour control equipment can prove costly; improvements to waste management and storage procedures may provide substantial improvements without incurring excessive cost;
- Fines, penalties and third party claims may be incurred for non-compliance with environment, health & safety regulations.

4. Suggested due diligence questions

Perform a complete tour of the facility, accompanied by someone knowledgeable about all the activities at the site covering the following.

When assessing E&S risks, it is important to engage the customer on how these risks are managed. Below are suggested questions to discuss with management, as relevant to the business.

Confirm organisational responsibilities and systems for environment, health, safety and social matters and that these systems cover

both workers employed directly and sub-contractors.

Processes

Confirm what processes are undertaken and whether any hazardous chemicals are used? How hazardous are the materials and have associated risks been documented and addressed in appropriate systems?

General Housekeeping

- What is the standard of "house-keeping" on site? Do areas look clean and tidy? Look for localised spills, leaking pipes, stained ground etc.;
- Look for signs of poor housekeeping, such as spillages and piles of empty drums/containers;
- Clients involved in the harvesting of fish or other aquatic species must be able to demonstrate to EBRD that all their activities (from harvesting through to processing) are being or will be undertaken in a sustainable way. This can be achieved through attaining attainment of independent certification (where such exists), or through studies undertaken as part of due diligence assessment process. Fishery activities are not necessarily limited to harvesting. Re-population or introduction of different species or populations (, especially in closed environments such as lakes), must ensure that the new stock does not destroy or displace existing local endemic/natural fish species.

Inspections, Permitting and Regulations

- Establish the permitting requirements and the presence/duration of appropriate permits;
- Establish any history of breaches of statutory or regulatory requirements;
- Establish statutory or other land use restrictions/requirements (particularly for new plants);
- Confirm the surrounding land/water uses and the potential for impacts associated with these uses;
- Ask to see the aquaculture facilities compliance records, such as manufacturer's specifications, to confirm that the pens/nets used are suitable for the environment in which they are to be used.

Biodiversity Management

Note if there are any designated sites or protected species/habitats in close proximity or linked (e.g. through an environmental pathway) to the existing or proposed aquaculture facility?

- Are there any habitat restoration schemes that the aquaculture facility could assist to offset any detrimental impacts of its operations?
- Pay particular attention to the design, mooring and resilience of pens to be used in more exposed, higher energy environments such as those found in offshore/coastal waters;

- Establish the systems to ensure that pens, nets and moorings are inspected on a regular basis as part of a planned maintenance schedule and repaired/replaced as soon as damage/wear is noted. Such inspections should be recorded and available for scrutiny;

- Check that stocking densities versus mortality rate is average for the sector.

Water and Wastewater Management

- Establish the source and reliability of water supply and any potential constraints which may affect production. Are there any industrial facilities neighbouring the facility which may pollute the water used in the process or have caused historical contamination?

Solid Waste Management

- Check waste management and disposal procedures (in particular in relation to effluent processing and discharge) and any associated effluent monitoring data;

- Check that solid waste storage and disposal (storage equipment) is in a good condition;

- Check that waste storage areas are clean of debris and that are skips covered to prevent waste escaping, for example, check that waste containers have lids or are stored in an area with a roof.

Supply Chain/Product Quality Control

- Note the screening methods implemented to prevent contamination of raw materials and the finished product;

- Is the facility subject to any audits by customers? What was the outcome of these audits?

- Check that the organisation has insurance in place to cover the recall of contaminated products? Have there been any recent product recall incidents?

Materials Storage

Note the condition and quality of material storage facilities for raw materials, caustics and chemical solvents (including underground storage tanks) typical indicators of spillage include leaking pipes and stained ground.

Noise, Air Emissions and Odours

Note any noticeable odours and air emissions; what is the zone of influence of these odours/emissions?

- Have efforts been made to reduce noise, air and odour emissions through application of the hierarchy of controls.

Health and Safety

- Note whether Health and Safety risks have been systematically assessed and addressed;
- Check whether people are wearing Personal Protective Equipment (PPE) and determine the availability of such equipment;

- If PPE is required, check that it is being supplied by the employer, is used effectively and maintained/checked regularly;

- Is fire-fighting and first aid equipment available, and is it checked/maintained regularly?

- Has the facility undertaken EHS audits of its operations via a third party; what are the results of these audits and recommendations made?

Labour Management

- Check that labour standards, contracting and remuneration are in line with national law and are consistent with the average for the sector;
- Ask particularly about the working hours, pay and conditions regarding casual and contract labour, and check what health and safety provisions (e.g. PPE) are provided for them; are these comparable with permanent employees? This is a particular issue in the agribusiness sector;

- Has the Company received inspections from the local labour, H&S or environmental inspectorate in the previous three years? Have these resulted in any penalties, fines, major recommendations or corrective action plans? What is the status of these?

- Check worker accommodation;

- Does the organisation have a grievance mechanism which allows employees to raise workplace concerns?

- Is a grievance mechanism in place to allow the community to raise concerns regarding the operations?

- Are employees free to form, or join, a worker's organisation of their choosing?

Investment

- Does the business plan have budgeted line items for environment, health and safety improvements? Are there any high value improvements noted in the business plan for E,H and S issues in the coming months/years?

Management Plans

Review the operational procedures and management plans available the control of risks.

As a minimum any business should be required to have the following in place:

- Environmental, Health & Safety management systems which include operational procedures that are communicated, implemented and regularly reviewed (i.e. "live" systems that are used in practice, not just kept as an office manual);

- Monitoring and testing programmes (water, air, noise etc.);

- Improvement objectives, targets and project plans;

- A training plan for personnel to include environmental and health and safety issues;

- Regular inspections, checks and audits against records to demonstrate achievement of the required level of

performance against legal requirements and improvement actions;

- Emergency plans for environment, health & safety incidents and site security; and
- Demonstrable involvement of senior management in environment, health & safety management and leadership.

Aquaculture facilities should have a specific Environmental Management Plan that includes plans for monitoring and improving the following:

- Surrounding water quality;
- Prevention of escapes;
- Organic waste reduction and/or remediation;
- Control of the use of chemicals and medicines;
- Protection of biodiversity;
- Control of predators;
- Biological oxygen demands;
- Prevention and control of disease (e.g. sea lice), including transfer to wild stocks.

5. References and additional sources

European Bank for Reconstruction and Development (EBRD). Environmental and Social Policy May 2008. http://www.ebrd.com/enviro/tools/index.htm

International Finance Corporation 2007, Environment, Health & Safety Guidelines. Aquaculture, April 2007, .http://www.ifc.org/ifcext/sustainability.nsf/AttachmentsByTitle/gui_EHSGuidelines2007_Aquaculture/$FILE/Final+-+Aquaculture.pdf

EU Common Fisheries Policy (CFP) 2013. http://ec.europa.eu/fisheries/cfp/index_en.htm

EU Habitats Directive (92/43/EEC);
http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm

EU Birds Directive (2009/147/EC);
http://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm

European Union 1991, Council Directive 91/67/EEC concerning the animal health conditions governing the placing on the market of aquaculture animals and products, http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31991L0067&model=guichett

European Union 2008, Council Directive 2008/98/EC on waste (Waste Framework Directive), setting out the basic concepts and definitions related to waste management.
http://ec.europa.eu/environment/waste/framework/index.htm

European Union Water Framework Directive - integrated river basin management for Europe.
http://ec.europa.eu/environment/water/water-framework/index_en.html

European Union 2006, Council Directive 2006/88/EC on animal health requirements for aquaculture animals and products thereof, and on the prevention and control of certain diseases in aquatic animals, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:328:0014:0056:EN:PDF

International Organisation for Standardisation (ISO) www.iso.org,
ISO22000:2005: Food Safety Management System – Requirements for any organisation in the food chain. Geneva ISO; ISO14001:2004: Environmental Management Systems – Requirements with Guidance for use. Geneva: ISO.

Marine Conservation Society 2007, Fish online: Marine Conservation Society (MCS) Principles and Criteria; Sustainable Fish Farming, and UK Marine Finfish farming, http://www.fishonline.org/farmed/finfish.php