Code of good practice:
Broodstock Sites

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Chapter 1: Broodstock Sites

The following Code of Good Practice for Scottish Salmonid Aquaculture (CoGP) has been formatted to allow for easy comparison of compliance points between the 7 chapters. As such a compliance point will have the same ID across all chapters. Compliance points are not missing where ID's skip, that compliance point exists in another chapter but not in this one.

Many of the activities carried out on broodstock farms are regulated under European, UK and Scottish law. The undernoted provisions are additional to legal requirements.

Because of their location and the way in which broodstock sites are managed and operated, the undernoted provisions will normally be audited as an adjunct to the associated freshwater or seawater farm audit. As a consequence, the provisions that apply to freshwater sites or seawater sites also apply to any associated broodstock sites.

1: Documents and Training

1.1: Documentation Control	
1.1.1	Documents, records and other information relevant to the management of fish farming operations should be held and effectively controlled.
1.1.2	All documents should be the current version and be properly authorised.
1.1.3	All documents should be clearly written, contain sufficient detail for the purpose and be readily accessible to the relevant personnel.
1.1.4	Reasons for amendments to, and replacement of documents should be recorded.
1.1.5	All documents should be retained for an appropriate time and be available for inspection.

1.2: Training	
1.2.1	Individuals should receive training relevant to their role.
1.2.2	Procedures should only be carried out by properly trained and competent personnel, or personnel in-training who are being supervised by an appropriate member of staff.
1.2.3	Documented evidence of training of individuals in relevant areas should be maintained, this includes but is not limited to areas such as but not limited to: Fish Handling, Health and Safety, Sea Lice Management & Identification, Plankton identification, Vaccination, Boat Handing and operations.
1.2.4	Training of vaccinators should be carried out to British Veterinary Association or similar recognised veterinary standard.

3. Fish Health and Biosecurity

3.1: Key principles of fish health and biosecurity management	
3.1.1	Companies should have a Veterinary Health & Welfare Plan (VHWP) and Biosecurity Management Plan (BMP) covering relevant aspects as set out in Annex 2.
3.1.2	VHWPs and BMPs should be reviewed at the end of each production cycle.
3.1.3	All staff engaged in the production of fish should be familiar with the relevant aspects of the VHWP and BMP.
3.1.4	Risk assessments should be conducted by trained personnel experienced in the appropriate methodology (see Annex 3).
3.1.5	The outcome of risk assessments should be communicated to the relevant production personnel and other personnel responsible for implementation of the outcomes.
3.1.6	Farmers should reduce any risk to fish health associated with the presence of wild birds, mammalian predators and vermin by ensuring the secure storage of feed, good feeding practice and the secure temporary storage of dead fish.
3.1.7	Companies should have written procedures to ensure that production staff notify fish health teams immediately when disease is suspected, where abnormal behaviour is evident, or where morbidity or mortality levels are unusually high or subject to rapid increase. Procedures should also be in place to flag issues to management where appropriate.

3.2: Removal and Disposal of Dead or Moribund Fish	
3.2.1	Where possible (eg. subject to safe operating conditions) fish should be inspected daily and dead and moribund fish removed, minimising handling to avoid stress to healthy fish within the enclosure.
3.2.3	Where problems are identified during an inspection, prompt remedial action should be taken in accordance with the VHWP and BMP to determine the cause and deal with the problem including, where appropriate, consultation with a veterinary surgeon or fish health specialist.
3.2.4	At all stages, the number of dead fish should be recorded, along with, where possible, a record of the cause of death.
3.2.6	Subject to safe operating conditions, in the event of a disease outbreak, dead fish should be removed daily.

3.3: New Production Farms - proximity to existing broodstock sites	
3.3.1	All new production farms, pens, and marine linked land-based sites should be sited as a result of a thorough documented risk assessment, with consideration for environmental parameters that includes but is not limited two tidal excursions, regional hydrodynamic, potential site linkages.

3.4: Broodstock Origin	
3.4.1	Proposals to import broodstock should be underpinned by a documented risk assessment. [4d]
3.4.2	Fish should only be imported on the basis of an acceptable outcome from a documented risk assessment. [4d]
3.4.3	Farmers should obtain appropriate certification to show that stock to be imported is free from pathogens, other than those for listed diseases, relevant to the species concerned and to other susceptible species. [4d]
3.4.4	All imported broodstock should be held in quarantine in a land-based site with appropriate effluent disinfection. [4d]
3.4.5	The health of imported fish should be monitored for a period not less than 3 months. [4d]
3.4.6	While imported fish are being held in quarantine, testing for listed, notifiable and other potentially serious diseases should be carried out on all dead fish and any fish showing signs of morbidity. After 3 months, quarantine conditions may only be relaxed if the results of such tests are negative. [4d]

3.4.7	*Movements of live broodstock and their gametes should only take place on the basis of an acceptable outcome from a documented risk assessment.* [4c,4d, 4e]
3.4.9	*Transgenic finfish should not be used.*

3.7 Disease Control - Stripping and Production of Gametes	
3.7.1	Where health testing of broodstock is feasible (i.e. where non-destructive testing methods are available, or where fish are to be culled at the time of stripping), farmers should identify serious vertically transmissible pathogens and: a) Test all of the stripped fish, either individually or in pools; b) Hold the gametes under biosecure conditions while tests are being conducted; c) If test results are positive, destroy the gametes/cull progeny emanating from infected fish.
3.7.2	Contamination of eggs and milt with urine, faeces and blood should be avoided.
3.7.3	Eggs should be disinfected using an appropriate disinfectant applied in accordance with the manufacturer's instructions.
3.7.4	With respect to personnel, clothing, personal protective equipment and other equipment, strict protocols and high standards of hygiene should be applied at each stage of the stripping and fertilisation process.
3.7.5	To maintain biosecurity and prevent the spread of pathogens, broodstock and juveniles should be physically separated.
3.7.6	Trout broodstock which have been reared in sea water should be stripped on the seawater site and only disinfected fertilised trout eggs transferred to fresh water.

3.8: Broodstock Movements	
3.8.1	Movements from more than one farm management area (FMA) into a single management area should only occur for broodstock or harvesting purposes.
3.8.2	Where live fish are to be moved into a seawater broodstock farm from another seawater farm in a different FMA, the destination seawater broodstock farm should be at least two tidal excursions from any other farm, harvesting station or processing plant.
3.8.3	Where possible (eg. subject to safe operating conditions) broodstock should be inspected daily by suitably qualified and experienced persons, with health checks being appropriate to species and potential health issues.

3.8.4	Broodstock placed on broodstock sites should not leave these sites for on-growing elsewhere.
3.8.5	Where it is proposed to move salmon broodstock from sea water to fresh water, this should be done on the basis of an acceptable outcome from a documented risk assessment.

3.9: Site Disinfection	
3.9.1	Enclosure (pen, tanks etc) should be cleaned/ disinfected when empty, along with associated equipment.
3.9.2	Disinfection should be conducted to a level sufficient to inactivate pathogens considered to pose significant risk (Annex 4).

5. Fish Welfare and Care

5.2: Broodstock and Sea Lice	
5.2.1	Broodstock, particularly those reared in shore-based tanks where direct observation of lice on fish is possible, should have lice numbers visually assessed weekly. [5b]
5.2.2	If visual inspection of broodstock indicates increasing numbers of lice, lice present on individual fish should be counted as per the suggested protocol below and numbers recorded. (Note: Weekly counting and recording of sea lice is a requirement of Scottish law. These legal requirements are based on the provisions of the original Code, from which they were drawn). [5b]
5.2.3	Where appropriate, and based on veterinary advice, the fish should be treated. [5b]

Suggested Protocol for Counting Sea Lice

i) Pens and fish should be sampled at random.

ii) Personnel carrying out lice counts should have appropriate training in lice recognition and recording, and demonstrate post-training competence.

iii) Where there are more than five pens per site, five fish should be sampled from each of five pens to give a total of 25 fish.

iv) Where a site contains less than five pens, all pens should be sampled to give a total of 25 fish. A similar number of fish should be selected from each pen.

v) Fish should be netted from the pen and put straight into the anaesthetic.

vi) Each life cycle stage of Lepeophtheirus salmonis should be counted in turn, i.e. adult females, mobiles, chalimus. All identifiable stages of Caligus elongatus should be grouped together.

vii) After completing the lice counts on the fish from each pen, the tub containing the anaesthetic should be examined for sea lice which may have been shed from the fish and any lice found should be added to the total.

viii) The name of the person carrying out the counts, the date, the pen number and the water temperature at a depth appropriate to the depth of the pens used on the site should be recorded.

ix) Minimum recording requirements during sea lice counts are L. salmonis chalimus, mobiles and adult females (with or without egg strings) plus all identifiable stages of C. elongatus grouped together.

Alternative defined and recorded sampling regimes are acceptable provided that they:

i) produce reproducible estimates of lice numbers on fish held on the farms;

ii) that the results are periodically benchmarked against data gathered using the suggested protocol set out above

5.3: Breeding	
5.3.1	Handling of broodstock should be kept to a minimum.
5.3.2	Live fish that are to be stripped of eggs or milt should be properly anaesthetised and handled carefully at all times.
5.3.3	The use of anaesthetics should be addressed in the VHP and BMP.
5.3.4	Repeat-spawners that are regularly removed from the broodstock population should be appropriately marked (e.g. pit tagging) by trained personnel so that individual fish can easily be located and stress to other fish minimised.
5.3.5	If broodstock are to be culled, this should be done prior to stripping.
5.3.6	Culling methods should be appropriate to the species.
5.3.7	Culling methods should result in rapid and irreversible loss of consciousness.

7. Fallen Stock Management

7.2 Fallen Stock Collection	
7.2.1	Where fallen stock are transported after collection from the production unit to any storage facility (temporary or otherwise), closed, secured and labelled transport/ storage containers should be used at all times.
7.2.3	Any equipment used for the terrestrial transfer of fallen stock from a shorebase or land-based production unit for further processing should be cleaned and disinfected according to recommended practice before re-use.
7.2.4	Fallen stock will be handled in a discrete manner. Any container (e.g., tubs etc.) used for the storage of fallen stock should be kept covered and secured when in use and/ or unattended to prevent unauthorised access at all times.
7.2.5	Any equipment used for the storage of fallen stock should be cleaned and disinfected, as required, according to recommended practice (see Annex 4).

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