IMPORTER BIOSECURITY MEASURES PLAN

Guidance and templates for importers of coldwater ornamental fish

FISH HEALTH INSPECTORATE

This publication is also available at:
www.defra.gov.uk/aahm

Contact address for further information:
Fish Health Inspectorate (FHI)
Centre for Environment, Fisheries & Aquaculture Science
Barrack Road, The Nothe
Weymouth, Dorset
DT4 8UB
UK
Tel: +44 (0) 1305 206700
Fax: +44 (0) 1305 206602

Email: fhi@cefas.co.uk
Web: www.defra.gov.uk/aahm

Site name:

Site address:

BIOSECURITY GUIDANCE

Information to aid you in completing a biosecurity measures plan

Introduction

The object of this document is to complement the finfish biosecurity guidance already produced and available on the joint Government website www.defra.gov.uk/aahm by covering more specifically, the requirements of importers of coldwater ornamental fish.

Since the implementation of the Aquatic Animal Health (England and Wales) Regulations 2009, it is a requirement ``that operators of authorised aquaculture production businesses (APB), must implement a biosecurity measures plan''. This includes all businesses operating open ornamental facilities. The biosecurity measures plan must be documented and approved by the Fish Health Inspectorate. The production of an approved biosecurity measures plan is a condition of authorisation.

These guidelines are designed to help the fish importer identify biosecurity measures that might be applicable to their site. It includes examples of biosecurity measures that can be implemented and templates to enable site operators to develop and operate a meaningful plan of their own.

A comprehensive biosecurity measures plan and its effective implementation may be used to reduce the impact of aquatic animal diseases on a business (see Appendix 1).

1. Appointing a biosecurity measures plan manager / responsible person

Identify an individual with the responsibility to ensure agreed biosecurity measures are implemented at a site or over several sites, if the business is made up of more than one site. The biosecurity manager is responsible for producing and implementing a biosecurity measures plan, as well as demonstrating its effectiveness through use of good record keeping (see Section 7). Additional responsibilities include training staff in biosecurity issues and ensuring visitors are aware of measures that apply to them. It is advisable to appoint a deputy in the event that the manager is unavailable.

2. Veterinary health contacts

It is advised that the biosecurity manager should identify a veterinarian or, where appropriate, a fish health consultant with specialised knowledge of fish health issues. The manager should endeavour to establish a good working relationship with these professionals.

3. Providing staff training in fish health management and disease recognition

An important requirement when identifying risks to your business is an awareness of the following; diseases that can affect your stock, clinical signs of disease, host susceptibility, and the range of environmental parameters that could precipitate clinical outbreaks. Appropriate staff training and periodic refresher courses will provide better disease recognition skills and informed and trained staff will be of greater benefit to the business.

Information on fish diseases can be found from a variety of sources:

- Attendance at short courses or completion of distance learning courses on fish health and diseases.
- Textbooks on fish health.
- Trade associations eg OATA (Ornamental Aquatic Trade Association), PKDA (Professional Koi Dealers Association).
- Periodicals (Finfish News, Fish Farmer, Fish Farming International, etc.).
- Disease recognition leaflets and posters.
- Internet – further information on these resources is available on the joint Government website www.defra.gov.uk/aahm.
- World Organisation for Animal Health (www.oie.int).
- Veterinarians and fish health professionals.

It is essential that all staff are aware of the biosecurity measures implemented by your business. It is useful to record that staff have read and understood your biosecurity plan and comply with all appropriate measures.

4. Identify the risks of contracting and spreading disease with fish movements

The greatest risks of introducing an infectious agent into an APB comes with movements of fish.

- Be aware of the provenance of the fish when buying from any supplier.
- Assess the potential quality of the fish by checking the supplier is operating good biosecurity measures.
- Do not hesitate to ask for details of fish health surveillance programmes and disease records.
- The stock should not be exhibiting any clinical signs of disease at the time of transport.
- Isolate imported fish from other stocks until their health status can be established. It is particularly important in the case of stock brought to a site under a Regulation 23 Notice. For more information regarding Regulation 23 Notices please refer to www.efishbusiness.co.uk.

5. Identify risks of contracting and spreading disease as a result of site procedures

In addition to the obvious threat of introducing disease through movements of fish, there are other routes by which infectious agents can be spread within an APB. Among the areas for consideration are:

- Use of shared equipment , recirculation systems, etc.
- Visitors to the site including; other APB operators, veterinarians and fish health professionals, inspection agencies, etc.
- The potential for water to either transfer disease to or from the APB.
- Public access to the site.
- Splash/spray transfer between systems.

6. Risk limitation measures

Once risks have been identified, the APB operator should decide on appropriate systems and procedures to control or reduce these risks. Such measures may include:

- Early identification and prompt diagnosis and treatment of disease through regular stock inspections.
- Training staff to recognise clinical signs of disease, and enable them to identify procedures that carry a risk of introducing or spreading disease.
- Ensure that fish husbandry is suitable for the species being held.
- Limit APB access to authorised staff or approved visitors (where applicable).
- Provide advice on biosecurity to visitors.
- Identify and set up zones within your APB, eg packing and processing, tropical, coldwater and isolation.
- Restrict access to these zones.
- The use of suitable disinfectants and disinfection procedures.
- Introduce disinfection protocols for site visitors.

It is the biosecurity manager's responsibility to ensure that these measures are implemented and routinely monitored for compliance.

7. Monitoring the plan

Once procedures and measures have been implemented, it is useful to maintain a clear recording system for results of checks made and actions taken. Accurate recording will aid the biosecurity manager to make informed decisions and take appropriate actions when a disease or breach of biosecurity occurs. A log or diary can be used to demonstrate to interested parties (customers, senior management, auditors, and inspection agencies) that a biosecurity measures plan is in operation. Examples of information to be recorded in the log are listed below and a template is included at the end of these guidance notes.

Stock health inspections

- Routine inspection of stock should be an essential activity on a fish holding unit.
- Keeping an inspection log is highly recommended. This could record numbers of sick and dead fish in the holding units, as well as other significant details of the health of the fish, such as water quality parameters. The log should also record inspections by veterinarians and fish health professionals.
- Establish a formal chain of reporting so that the biosecurity manager is quickly informed of any potential problems.

Visitor details

- Keep a record of all visitors to the APB.
- Ensure visitors are aware of the biosecurity measures that apply to your APB.

Disinfection procedures

- Record dates of disinfectant solution replacements; disinfectant solutions need to be replaced before they lose efficacy.

Other useful biosecurity information to be recorded

- Record keeping is an important tool in the tracing of possible disease outbreaks. Authorised importers must maintain a form of record keeping that is suitable to facilitate disease tracing and is easily available for inspection by the Fish Health Inspectorate (FHI). This is to enable Cefas FHI to identify contacts with infected stock as quickly as possible in order to reduce the possible impact of a disease outbreak.
- Movements within the site: apart from the basic on/off movements it is suggested that more detailed records of how fish batches may have been mixed and come in contact with each other within a site might be kept. This would be especially appropriate if a site is divided into specific sections or zones. These records need not be routinely presented to the FHI; however they are important for internal management and in the event of a disease investigation may be useful in limiting the impact on a business (see

Appendix 1).

- Treatments: it is strongly recommended that records are kept of all treatments and, in particular, prescription medicines used on your animals. We recommend that this record should correspond with the format as defined by the Veterinary Medicines Regulations. The VMD medicines record book can be found on www.efishbusiness.co.uk.

8. Contingency planning

The purpose of contingency planning is to be prepared as well as possible for events that may occur but also to put in place a system so that once problems have been identified they can be dealt with.

Any such problems should be recorded and a system put in place that allows the problem to be addressed. All staff should be made aware of the appropriate course of action when problems are identified.

The contingency protocol should cover the following areas:

Identification of a problem due to a recognisable disease or parasite

- The biosecurity measures plan should include consideration of the potential disease problems that are likely to occur at a particular site, and include the treatment and action to be taken to counteract them. Where these problems are identified, discussion with a fish health professional might be considered. The involvement of a veterinarian will be required if veterinary medicines are to be used.

Identification of an unknown disease problem/unexplained mortality

- Contact your fish health professional or veterinarian, and Cefas FHI should be informed at the earliest opportunity.

Control the spread of the problem

- If a disease is suspected, action should be taken to stop it spreading throughout and from the site. This is easier to achieve when the site has been separated into sections or zones as outlined in Section 6.

Disposal of dead fish

- In the event of a disease related mortality or a fish kill due to other causes, a means of disposal should have been identified. Information on approved methods for waste disposal are available on the joint Government website

www.defra.gov.uk/aahm.

New suppliers

- Always contact Cefas at least five working days in advance of imports from any new suppliers of coldwater fish species. This enables Cefas to help identify any possible problems with the intended shipment, such as invalid or incorrect paperwork, before they are shipped. This is also a condition of authorisation for all importers of coldwater species.

Isolation of animals under a Regulation 23 Notice

- All importers should have a contingency plan with regard to the possibility that a consignment is subject to a Regulation 23 Notice. Importers should address the possible and practical means in which they are able to cope with a Regulation 23 Notice and understand the possible implications to their business if the shipment has to be isolated. The failure to provide appropriate containment facilities may compromise both the consignment of imported fish subject to the Regulation 23 notice, and the existing stocks within the facility.

BIOSECURITY MEASURES PLAN TEMPLATE

Biosecurity measures plan template

The biosecurity measures plan template covers all sections required to provide effective biosecurity on your site. This template may be completed by the biosecurity manager.

An electronic version is available from www.defra.gov.uk/aahm.

1. Biosecurity manager

Name	
Contact details	
Alternate contact name	
Contact details	

2. Useful contacts

	Fish Health Professional	*Veterinarian*
Name		
Business name		
Telephone		
Fax		
Email		
Address		

3. Staff training

Staff name	Date trained	Signature of biosecurity manager

Possible content for Section 4 “Identify the risks of contracting and spreading disease with fish movements”

- Fish are purchased from outside the country
- Fish purchased from a site with an unknown disease history (eg new supplier)
- Multiple species brought onto site
- Multiple sources of fish
- Introduction of pathogens from different sources and species

4. Identify the risks of contracting and spreading disease with fish movements

Example: Risk of introduction of disease from a new supplier

Possible content for Section 5 “Identifying risks of contracting and spreading disease as a result of site procedures”

- Use of nets and equipment at more than one site or zones within a site.
- Mechanical damage to fish as a result of handling and husbandry.
- Effluent water is untreated and discharges into an open water source.
- Mixing fish from a number of sources on the same recirculation system.
- Adjacent recirculation systems (not linked).
- Visitor access to site (Cefas FHI, Environment Agency, public, veterinarians and fish health professionals).
- Staff movements between areas on site.
- Movement of staff (and customers) between different sites.
- The management of fish stock on the farm.
- Water re-use on the site.
- Retail on site.
- Public access to whole/zones of site.
- Leaking boxes on arrival.
- Mixing of tropical and coldwater species.

5. Identify the risks of contracting and spreading disease as a result of site procedures

Example: Accidental transfer of disease from one recirculation system to another via splashed/spilt water

Possible content for Section 6 "Risk limitation measures"

- Maintain a regular biosecurity log that records the results of fish health inspections and daily mortality records.
- Check on fish health – biosecurity manager will monitor records and take action where these exceed expected levels.
- Where mortalities occur, fish from affected batches will not be moved unless as part of an agreed treatment regime.
- Monitor water quality and take appropriate action where these fall outside acceptable limits.
- Use isolation for all new sources of fish or fish held under a Regulation 23 notice.
- Do not accept fish onto the site if they are showing clinical signs of disease.
- Establish the exact provenance of stock before purchase.
- Operate separate zones on the site, where appropriate.
- Have separate equipment for individual holding facilities, or disinfect equipment before and after use.
- Maintain batch integrity where possible (don't mix batches).
- All staff to be aware of the biosecurity plan and trained in their responsibilities.
- Disinfect any re-used packaging (do not reuse bags).
- Do not return fish to biosecure zones, once they have been removed.
- Ensure that handling methods and husbandry do not compromise the health of fish stocks.
- Be aware of the diseases that can potentially affect your fish, and train staff to be aware of the clinical signs of these diseases.
- Record all the movements onto and off the site to allow proper traceability and disease investigation.
- Initiate regular fish health inspections and record the results of these.
- Record the results of third party fish health inspections (Cefas FHI, Veterinary inspections).
- Have a system for reporting health problems to the biosecurity manager.
- Have contingency plans for all foreseeable eventualities; update this in the light of emerging problems.
- Collect and remove mortalities on a daily basis, or as they occur.
- Store mortalities in a secure manner prior to disposal in accordance with official guidance.
- Leaking boxes will be handled accordingly as not to compromise biosecure zones.
- Inform Cefas FHI of the intention to import coldwater species from new suppliers at least 5 working days before ordering/shipping.

6. Risk limitation measures

Example: We will buy fish from a reliable source who operates to good and demonstrated biosecurity measures

Possible content Section 7 for "Monitoring the plan"

Record	How it will be kept
Stock health inspection	Regular inspections will be made to inspect stock and observe the health. These observations will be recorded in the biosecurity log.
Mortality levels in each batch or zone	Mortalities will be recorded in the biosecurity log. Where these exceed normal limits, action will be taken (a limit should be ascertained and all staff aware of this limit).
Third party health inspections	Inspections by fish health professionals, veterinarians, Cefas FHI or other agencies will be recorded in the biosecurity log.
Results of health inspections	The results of any fish health inspection will be kept.
Visitors to the APB	Details of all visitors will be recorded in the biosecurity log. They will be supplied with information on the biosecurity plan.
Fish movements on and off site	Movements of fish on and off/handled by the APB will be recorded to enable batch tracing.
Fish movements within the site	Movements of fish between identified zones within the APB will be recorded to enable batch tracing.
Treatments	All prescribed treatments administered to the fish will be recorded in-line with the format as set down by the Veterinary Medicines Regulations.
Disposal of waste	All waste from the APB will be disposed of accordingly and in the appropriate manner. Invoices of companies used will be kept.
Unusual events	Any unusual events such as pump failures, power failures, contamination between separate recirculation systems, poor water quality will be noted in the biosecurity log book.

7. Monitoring the plan

Record	How it will be kept
Example: Stock health inspection	*A daily record of observed fish health will be maintained in a biosecurity log*

Possible content for Section 8 "Contingency planning"

Record	How it will be kept
Unexplained mortality or a sudden increase in mortality in a batch of fish	Staff to record details including the numbers of mortalities in the biosecurity log and inform the biosecurity manager. Biosecurity manager to undertake investigation and contact Cefas FHI and/or veterinarian. Contain the threat and prevent from spreading to other areas. Record full details of all treatments in medicines record book.
Fish mortalities continuing despite treatment	Contact Cefas FHI to confirm the action to be taken. Contain the threat and prevent the problem from spreading to other areas. Restrict access to affected stock.
Import of suspected diseased fish onto site	All attempts should be made to either prevent suspected diseased fish being moved onto site or isolate affected stock. If notifiable disease is suspected Cefas FHI must be notified immediately.
Fish imported onto site subjected to poor shipping conditions	If possible isolate affected batch as weak animals are more susceptible to disease, contact supplier to rectify problem; if problem persists contact Border Inspection Post and Cefas FHI in order to address issue with certifying authority in the country of origin.
Need to dispose of dead fish	Identify a suitable site for disposal, in accordance with the waste disposal regulations. Contact the local health authority for advice on the method of disposal. Contain the mortalities in a manner which minimises the risk of infection spreading to other areas on the APB.
Identification of a parasitic infection that does not require prescription medication	Record all details, including the numbers of mortalities or clinically affected fish in the biosecurity log and inform the biosecurity manager. Biosecurity manager to undertake investigation and decide course of action. Record details of any treatment in the medicines record book. If the treatment fails to control the problem, contact the veterinarian or fish health professional for advice.
Batch of imported coldwater fish under a Regulation 23 Notice	Stock to be held in isolation. If this is not possible then all other stock in 'contact' with Regulation 23 Notice stock, will have the same conditions applied. Record source, species, size and number of fish entering holding unit. Biosecurity manager to investigate reason for Regulation 23 Notice, and if appropriate to liaise with supplier to correct any issues with import paperwork.
Suspicion of a notifiable disease	Contact Cefas FHI on 01305 206700 immediately.

8. Contingency planning

Record	How it will be kept
Example: Unexplained mortality not responding to treatment	*Contact Cefas FHI on 01305 206700 to report the problem and inform the veterinarian that mortalities are ongoing*

Example page of a biosecurity log book

Below is an example of a daily biosecurity log which can be used as a template. An electronic version is available from www.efishbusiness.co.uk

Date:	
Stock inspection carried out by:	
Water quality: $NH4+/NH_3$ Temperature: NO_2: pH:	
Mortality count:	
Details of treatments:	
Notes:	

Visitors to site:

Company	Name	Time on	Time off

Appendix 1

What happens if a notifiable disease is identified by Cefas FHI

What happens if I think my fish have a serious disease problem?

- If a business suspects that their stock may be affected by a disease that is notifiable they must contact the Cefas FHI immediately.
- The site should stop movements of fish until a full disease investigation has been carried out.
- Cefas FHI will investigate any reported disease outbreak within 3 working days.
- Cefas FHI may impose formal movement restrictions to prevent any potential spread of disease.
- More information regarding notifiable diseases can be found at www.defra.gov.uk/aahm.

How is a notifiable disease reported?

There are several ways by which a notifiable disease may be diagnosed such as;

- Report of a disease outbreak by a retailer/customer, Cefas FHI called and sample taken.
- Report of a disease outbreak by wholesaler, Cefas FHI called and sample taken.
- Sample taken as part of Cefas FHI import screening programme*.

All samples taken are subjected to tests carried out at Cefas Laboratory, Weymouth. **It may take 3-4 weeks to get a final result from the testing**.

*Cefas FHI runs an import screening programme to protect trade from failings in the certification process, or breakdown in health controls in other countries. Samples are taken from consignments entering border inspection posts in order to provide safeguards in addition to those already set down by exporting countries.

What happens if the result is positive?

- Cefas FHI will contact the site immediately upon receipt of a positive result, to advise on any statuatory controls to be placed.
- The FHI will obtain further relevant information including;
  - Sites supplied
  - Supplying sites
  - Further batches from same supplier if import screening gave the initial positive results
- The FHI will decide on any further action required at the infected, or contact sites

Confirmation of a positive result

Import restrictions may be imposed upon the exporting site/business/country until such time as FHI/Defra are satisfied that resuming exports will pose no further threat to the health staus of the UK.

After confirmation of a positive result the business can choose to take the following actions;

- Cull all animals that may have come into contact with the 'infected' stock or show clinical signs. This will be done under supervision by Cefas FHI and may include, for example, tropical fish held on the same recirculation system as a 'belt and brace' approach. Once stock is culled, all holding units/recircirculation units will be cleaned and disinfected again under Cefas FHI supervision, this includes all equipment that may have come into contact with 'infected' stock. If a business decides to take this course of action before the results of any testing then that is a business decision made by them, and Cefas FHI takes no responsibility for such an action. This disinfection would still have to be supervised by Cefas FHI otherwise controls would not be lifted. There is no compensation available for the loss of stock in any circumstance.
- A site may choose not to cull and disinfect, in this instance movement restrictions will be applied until a period of negative testing is been undertaken by Cefas FHI, this can be up to four years of negative testing; generally this is not an economically viable option for most businesses.

What happens if the result is negative?

Once Cefas FHI are satisfied that a notifiable disease is not present, or a site is cleared and disinfected to the satisfaction of Cefas FHI, the designation will be lifted and a business may resume trade. Cefas FHI may choose to keep controls in place should an emerging disease be suspected, this is to prevent the possible spread of novel infections.

'Contact testing' as a result of a positive sample

Depending on the disease and nature of occurrence, Cefas FHI may want to consider all potential 'contacts' of a disease outbreak.

The following may be considered as a contact;

- Source of stock.
- All sites supplied with susceptibles – for a period of up to six months.
- All stock that may have been in contact with the affected batch/source.

Source of stock

The source of the infected batch will be investigated where possible and Cefas FHI may sample other consignments from the same supplier.

All sites supplied

Cefas FHI may want to visit and test all sites that may have received stock from the positive batch or fish that may have been in contact with the positive stock.

All stock within the business, that may have been in contact with the affected batch/source

Cefas FHI will consider any stock that may have come into contact with infected fish as potentially compromised. Separation is obviously the key to what will be considered as compromised. Usually Cefas FHI treats all susceptible fish in a business as if they are of the same status, therefore, if one fish tests positive all stock will be culled. In rare circumstances businesses may be able to operate distinct sites/zones. Cefas FHI may carry out contact testing on these sites to mitigate low residual risk if a notifiable disease is found.

Good biosecurity measures and log are extremely important in demonstrating separation of stock.

Why demonstrate separation?

A business may want to demonstrate separation as during a disease investigation all infected stock and possibly infected stock will be subject to a designation whereby they cannot be moved off a site and this would include retail stock. The designation will only be lifted once all testing is complete and is negative, or the site is cleared and disinfected. This also applies to isolation of stocks held under a Regulation 23 Notice. If a batch of fish held under a Regulation 23 Notice were tested positive for a notifiable disease, then all susceptible fish held at the site would be culled unless sufficient separation/isolation could be proven. If the site is able to demonstrate separation, Cefas FHI may only conduct contact testing across the site.

If a business is unsure if their facilities are separated sufficiently then they should contact Cefas FHI to clarify their position.

Further reading

Biosecurity and the ornamental fish Industry " Future proofing the industry". Ornamental Aquatic Trade Association (OATA) www.ornamentalfish.org.

Code of Good Practice For Scottish Finfish Aquaculture, Annex 4: A Generic Veterinary Health Plan. Scottish Finfish Aquaculture Working Group.

Peeler, E.J. et al 2007. The application of risk analysis in aquatic animal health management. Preventative Veterinarian Medicine 81, 3-20.

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.

Acknowledgement

Cefas would like to thank the Ornamental Aquatic Trade Association for their assistance in the production of these guidelines.