Introduction
Disease outbreaks due to international trade

Although ‘local’ pathogens combined with other factors such as poor husbandry and inadequate water quality are the most common causes of disease outbreaks in aquaculture, the introduction of ‘exotic’ pathogens through international trade in live aquatic animals and their products continues to be a major cause of new epizootics.
Some examples of international spread of aquatic animal diseases

- White spot disease in shrimp has spread to 22 countries via international trade in post-larvae (and products?)
- Taura syndrome to Asia from Americas via live shrimp transfers (species more resistant to white spot disease)
- *Gyrodactylus salaris* to Norway from Sweden via live juvenile salmon for stock enhancement (!)
Some examples of international spread of aquatic animal diseases

- First cases of Sleeping Disease of trout in UK linked with imported trout fillets
- EHN virus to Finland from Germany via live farmed sheatfish imports
- First cases of SVC in Switzerland, USA, Denmark linked with koi carp imports
- Koi herpes virus disease spread to several countries via international koi carp trade.
- Infectious salmon anaemia to Chile from Norway (via eggs?)???
Without effective implementation of biosecurity measures, the occurrence, trans-boundary spread and serious economic impact of diseases in aquatic animals will continue.
Import safeguards
Quarantine and Health Certification

Quarantine and health certification requirements form a justifiable part of national biosecurity measures to prevent the introduction or transfer of exotic diseases of aquatic animals. But they must be developed within the context of larger international standards addressing this issue.
World Trade Organisation (WTO)

“Agreement on the Application of Sanitary and Phytosanitary Measures”
(SPS Agreement)
1995
SPS AGREEMENT

The Sanitary and Phytosanitary (SPS) Agreement states that animal health requirements established by importing countries should be based on international standards, guidelines and recommendations, primarily those developed by the Office International des Epizooties (OIE).
Office International des Epizooties (OIE)

- An intergovernmental veterinary organisation established in 1924 in order to promote world animal health.
- One of its main activities is to provide uniform guidelines and standards for disease reporting and biosecurity measures applicable to international trade in live animals and their products.
- There are currently 174 OIE Member Countries and Territories worldwide (as of April 2009)
- Now known as the World Organisation for Animal Health (OIE)
The main aim of OIE is to ensure the sanitary safety of international trade in live animals and their products.

This is achieved by providing guidelines on the health measures to be used by the competent authorities of importing and exporting countries to prevent the transfer of agents pathogenic for aquatic animals, while avoiding unjustified trade barriers.
Developing the OIE standards for aquatic animals is the role of the Aquatic Animal Health Standards Commission.
The OIE standards applicable to disease reporting and biosecurity measures for international trade in aquatic animals and their products are laid out in the OIE Aquatic Animal Health Code and in the OIE Manual of Diagnostic Tests for Aquatic Animals.
2009 edition of the Aquatic Animal Health Code is now available to read on line at:

http://www.oie.int/eng/normes/fcode/en_sommaire.htm

2009 edition of the Diagnostic Manual for Aquatic Animals will follow soon
Guidelines in the Aquatic Code
With advances in scientific knowledge, the Aquatic Animal Health Standards Commission prepares draft texts for new chapters, or revises existing chapters of the Aquatic Code and the Aquatic Manual with the input of internationally renowned independent experts, OIE ad hoc groups, and the expertise at the many OIE Reference Laboratories for aquatic animal diseases.

These drafts are further refined after comments from OIE Member Countries and Territories before being finalised and presented to, and adopted or rejected by, the 174 national delegates at the OIE General Session in May each year.
The Aquatic Code and Aquatic Manual therefore provide globally accepted international standards and guidelines, and a uniform approach to the diagnosis of, and surveillance for, the diseases listed in the Aquatic Code, so that disease reporting obligations and the requirements for health certification in connection with international trade in aquatic animals and aquatic animal products can be met.
## Contents

**Foreword**

**Guide to the use of the Aquatic Animal Health Code**

**Glossary**

### Section 1. Aquatic Animal Disease Diagnosis, Surveillance and Notification

#### Chapter 1.1.
- Notification of diseases and epidemiological information
- Criteria for listing aquatic animal diseases
- Diseases listed by the OIE
- Aquatic animal health surveillance

#### Chapter 1.2.

### Section 2. Risk Analysis

#### Chapter 2.1.
- General considerations
- Import risk analysis

### Section 3. Quality of Competent Authorities

#### Chapter 3.1.
- Quality of Competent Authorities

### Section 4. General Recommendations: Disease Prevention and Control

#### Chapter 4.1.
- Zoning and compartmentalisation
- General recommendations on disinfection
- Contingency planning
- Fallowing in aquaculture
- Control of aquatic animal health hazards in aquatic animal feed

### Section 5. Trade Measures, Importation/Exportation Procedures and Health Certification

#### Chapter 5.1.
- General obligations related to certification
- Certification procedures
- Criteria to assess the safety of aquatic animal commodities
- Recommendations for safe transport of aquatic animals and aquatic animal products
- Aquatic animal health measures applicable before and at departure
- Aquatic animal health measures applicable during transit from the place of departure in the exporting country to the place of arrival in the importing country
- Frontier posts in the importing country
- Aquatic animal health measures applicable on arrival
- Measures concerning international transport of aquatic animal disease agents and pathological material
- Model health certificates for international trade in live aquatic animals and products of aquatic animal origin
<table>
<thead>
<tr>
<th>Section 6.</th>
<th>VETERINARY PUBLIC HEALTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 6.1</td>
<td>(Under preparation)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 7.</th>
<th>WELFARE OF FARMED FISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 7.1</td>
<td>Introduction to recommendations for the welfare of farmed fish</td>
</tr>
<tr>
<td>Chapter 7.2</td>
<td>Welfare of farmed fish during transport</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 8.</th>
<th>DISEASES OF AMPHIBIANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 8.1</td>
<td>Infection with <em>Batrachochytrium dendrobatidis</em></td>
</tr>
<tr>
<td>Chapter 8.2</td>
<td>Infection with ranavirus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 9.</th>
<th>DISEASES OF CRUSTACEANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 9.1</td>
<td>Crayfish plague (<em>Aphonopyle asadi</em>)</td>
</tr>
<tr>
<td>Chapter 9.2</td>
<td>Infectious hypodermal and haematopoietic necrosis</td>
</tr>
<tr>
<td>Chapter 9.3</td>
<td>Infectious myonecrosis</td>
</tr>
<tr>
<td>Chapter 9.4</td>
<td>Taura syndrome</td>
</tr>
<tr>
<td>Chapter 9.5</td>
<td>White spot disease</td>
</tr>
<tr>
<td>Chapter 9.6</td>
<td>White tail disease</td>
</tr>
<tr>
<td>Chapter 9.7</td>
<td>Yellow head disease</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 10.</th>
<th>DISEASES OF FISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 10.1</td>
<td>Epizootic haematopoietic necrosis</td>
</tr>
<tr>
<td>Chapter 10.2</td>
<td>Epizootic ulcerative syndrome</td>
</tr>
<tr>
<td>Chapter 10.3</td>
<td>Gyrodactylosis (<em>Gyrodactylus salaris</em>)</td>
</tr>
<tr>
<td>Chapter 10.4</td>
<td>Infectious haematopoietic necrosis</td>
</tr>
<tr>
<td>Chapter 10.5</td>
<td>Infectious salmon anaemia</td>
</tr>
<tr>
<td>Chapter 10.6</td>
<td>Koi herpesvirus disease</td>
</tr>
<tr>
<td>Chapter 10.7</td>
<td>Red sea bream iridoviral disease</td>
</tr>
<tr>
<td>Chapter 10.8</td>
<td>Spring viraemia of carp</td>
</tr>
<tr>
<td>Chapter 10.9</td>
<td>Viral haemorrhagic septicemia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 11.</th>
<th>DISEASES OF MOLLUSCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 11.1</td>
<td>Infection with <em>Bonamia exitosa</em></td>
</tr>
<tr>
<td>Chapter 11.2</td>
<td>Infection with <em>Bonamia ostreae</em></td>
</tr>
<tr>
<td>Chapter 11.3</td>
<td>Infection with <em>Marteilia refringens</em></td>
</tr>
<tr>
<td>Chapter 11.4</td>
<td>Infection with <em>Perkinsus marinus</em></td>
</tr>
<tr>
<td>Chapter 11.5</td>
<td>Infection with <em>Perkinsus olsenii</em></td>
</tr>
<tr>
<td>Chapter 11.6</td>
<td>Infection with <em>Xenohaliotis californiensis</em></td>
</tr>
</tbody>
</table>
OIE list of aquatic animal diseases (2009)

- 9 fish diseases
- 7 mollusc diseases
- 9 crustacean diseases
- 2 amphibian diseases
OIE list of aquatic animal diseases

- The list is reviewed annually by the AAHSC and recommendations for deletions and additions are proposed to OIE Member Countries and Territories.

- Notification and reporting requirements apply to all listed diseases and any new emerging diseases.
Obligation to notify and report disease detection
A key purpose of listing a disease in the Aquatic Code is to ensure transparency of the aquatic animal health status world-wide, by obliging Member Countries and Territories to report its occurrence to OIE.

The OIE to collates and disseminates the information received in reports on the status of those listed diseases in Member Countries and Territories.
Disease reporting obligations for Member Countries

- **Immediate (within 24 hours) notification**, must be provided to the OIE under specific epidemiological circumstances; this applies to all listed diseases.

- **Weekly reports** by fax or electronically subsequent to a notification; in each case, a final report on the incident should information on the evolution of an incident that justified immediate notification. These reports should continue until the disease has been eradicated or the situation has become sufficiently stable that six-monthly reports be submitted.

- **Six-monthly reports** on the absence or presence and evolution of all listed diseases, and findings of epidemiological importance to other countries with respect to **diseases not listed by OIE**

- **Annual questionnaire** on any other information of significance to other countries
Immediate notification

For all listed diseases in the following situations:

- the first occurrence or re-occurrence of a disease in a country or zone or compartment of the country previously considered to be free of that particular disease; or

- if the disease has occurred in a new host species; or

- if the disease has occurred with a new pathogen strain or in a new disease manifestation; or

- if there is potential for international spread of the disease; or

- if the disease has newly recognised zoonotic potential.
Immediate notification

For non-listed diseases:

- if there is a case of an emerging disease or pathogenic agent should there be findings that are of epidemiological significance to other countries.

‘Emerging disease’:

- means a newly recognised serious disease, the cause of which may or may not yet be established, that has the potential to be spread within and between populations, for example by way of trade in aquatic animals and/or aquatic animal products.
“Disease” notification

In this context, it is important to understand that the circumstances for regular as well as immediate notification of aquatic animal diseases do not require the presence of clinical disease or mortality.

The Aquatic Code clarifies in Article 1.2.1.2.4:

“The presence of an infectious agent, even in the absence of clinical disease, should be reported.”
Aquatic Animals Commission

Latest disease reports: koi herpesvirus disease, Belgium (Follow-up report No. 1)  Koi herpesvirus disease, Belgium

Other disease reports:

20/05/2009  Viral haemorrhagic septicemia, Slovakia (Follow-up report No. 1. Final report)
24/04/2009  Spring viraemia of carp, United Kingdom (Immediate notification)
31/03/2009  Viral haemorrhagic septicemia, Bulgaria (Follow-up report No. 1. Final report)
27/03/2009  Infectious salmon anaemia, United Kingdom (Follow-up report No. 1)
25/03/2009  Infectious myonecrosis, Brazil (Follow-up report No. 1. Final report)
20/03/2009  Viral haemorrhagic septicemia, Belgium (Immediate notification)
20/02/2009  Infectious salmon anaemia, United Kingdom (Immediate report)

Focus on:

Aquatic Animal Health Code 2009

Report of 77th OIE General Session, May 2009 (see pages 84, 117 and 129 for AAC items)

Report of the Aquatic Animals Commission meeting, March 2009

Databases of aquatic animal disease occurrence

Import risk analysis
OIE guidance on import requirements
CHAPTER 10.5.

INFECTION SALMON ANAEMIA

Article 10.5.1.

For the purposes of the Aquatic Code, infectious salmon anemia (ISA) means infection with ISA virus (ISAV) of the genus lnesevirus of the family Orthomyxoviridae.

Information on methods for diagnosis are provided in the Aquatic Manual.

Article 10.5.2.

Scope

The recommendations in this Chapter apply to Atlantic salmon (Salmo salar), brown and sea trout (S. trutta) and rainbow trout (Onchorhynchus mykiss). These recommendations also apply to any other susceptible species referred to in the Aquatic Manual when traded internationally.

Article 10.5.3.

Commodities

1. When authorising the importation or transit of the following commodities, the Competent Authorities should not require any ISA related conditions, regardless of the ISA status of the exporting country, zone or compartment:

   a. From the species referred to in Article 10.5.2, intended for any purpose:
   
      i. commodities treated in a manner that inactivates the disease agent e.g. leather made from fish skin, pasteurised products and some ready-to-eat meals; and fish oil and fish meals intended for use in feed.

      ii. biological samples preserved for diagnostic applications in such a manner as to inactivate the disease agent.

   b. The following commodities destined for human consumption from the species referred to in Article 10.5.2, which have been prepared and packaged for direct
Country, zone or compartment declared free of a disease

Country, zone or compartment infected or not declared free of a disease
Infectious salmon anaemia free country

A country may make a self-declaration of freedom from ISA if it meets the conditions in points 1, 2, 3 or 4 below.

If a country shares a zone with one or more other countries, it can only make a self-declaration of freedom from ISA if all the areas covered by the shared water are declared ISA free countries or zones (see Article 10.5.5).

1. A country where none of the susceptible species is present may make a self-declaration of freedom from ISA when basic biosecurity conditions have been continuously met in the country for at least the past 2 years.

OR

2. A country where the species referred to in Article 10.5.2 are present but there has been no observed occurrence of the disease for at least the past 10 years despite conditions that are conducive to its clinical expression, as described in the corresponding chapter of the Aquatic Manual, may make a self-declaration of freedom from ISA when basic biosecurity conditions have been continuously met in the country for at least the past 10 years.

OR

3. A country where the last observed occurrence of the disease was within the past 10 years or where the infection status prior to targeted surveillance was unknown (e.g. because of the absence of conditions conducive to clinical expression as described in the corresponding chapter of the Aquatic Manual) may make a self-declaration of freedom from ISA when:
   a. basic biosecurity conditions have been continuously met for at least the past 2 years; and
   b. targeted surveillance, as described in Chapter 1.4, of the Aquatic Code, has been in place for at least the last 2 years without detection of ISAV.

OR

4. A country that has made a self-declaration of freedom from ISA but in which the disease is subsequently detected may make a self-declaration of freedom from ISA again when the following conditions have been met:
   a. on detection of the disease, the affected area was declared an infected zone and a buffer zone was established; and
   b. infected populations have been destroyed or removed from the infected zone by means that minimise the risk of further spread of the disease, and the appropriate disinfection procedures (see Aquatic Manual) have been completed; and
   c. targeted surveillance, as described in Chapter 1.4, of the Aquatic Code, has been in place for at least the last 2 years without detection of ISAV, and
   d. previously existing basic biosecurity conditions have been reviewed and modified as necessary and have continuously been in place for at least the past 2 years.
Article 10.5.5.

Infectious salmon anaemia free zone or free compartment

A zone or compartment within the territory of one or more countries not declared free from ISA may be declared free by the Competent Authority(ies) of the country(ies) concerned if the zone or compartment meets the conditions referred to in points 1, 2, 3 or 4 below.

If a zone or compartment extends over more than one country, it can only be declared an ISA free zone or compartment if all the Competent Authorities confirm that the conditions have been met.

1. A zone or compartment where none of the susceptible species is present may be declared free from ISA when basic biosecurity conditions have been continuously met in the zone or compartment for at least the past 2 years.

OR

2. A zone or compartment where the species referred to in Article 10.5.2, are present but there has been no observed occurrence of the disease for at least the past 10 years despite conditions that are conducive to its clinical expression, as described in the corresponding chapter of the Aquatic Manual, may be declared free from ISA when basic biosecurity conditions have been continuously met in the zone or compartment for at least the past 10 years.

OR

3. A zone or compartment where the last observed occurrence of the disease was within the past 10 years or where the infection status prior to targeted surveillance was unknown (e.g., because of the absence of conditions conducive to clinical expression as described in the corresponding chapter of the Aquatic Manual) may be declared free from ISA when:

   a. basic biosecurity conditions have been continuously met for at least the past 2 years; and

   b. targeted surveillance, as described in Chapter 1.4, of the Aquatic Code, has been in place for at least the last 2 years without detection of ISAV.

OR

4. A zone previously declared free from ISA but in which the disease is detected may be declared free from ISA again when the following conditions have been met:

   a. on detection of the disease, the affected area was declared an infected zone and a buffer zone was established; and

   b. infected populations have been destroyed or removed from the infected zone by means that minimise the risk of further spread of the disease, and the appropriate disinfection procedures (see Aquatic Manual) have been completed; and

   c. targeted surveillance, as described in Chapter 1.4, of the Aquatic Code, has been in place for at least the last 2 years without detection of ISAV; and

   d. previously existing basic biosecurity conditions have been reviewed and modified as necessary and have continuously been in place for at least the past 2 years.
Article 10.5.8.

Importation of live aquatic animals for aquaculture from a country, zone or compartment not declared free from infectious salmon anaemia

1. When importing, for aquaculture, live aquatic animals of the species referred to in Article 10.5.2, from a country, zone or compartment not declared free from ISA, the Competent Authority of the importing country should assess the risk and, if justified, apply the following risk mitigation measures:
   a. the direct delivery to and lifelong holding of the consignment in biosecure facilities for continuous isolation from the local environment; and
   b. the treatment of all effluent and waste material in a manner that ensures inactivation of ISAV.

2. If the intention of the introduction is the establishment of a new stock, the Code of Practice on the Introductions and Transfers of Marine Organisms of the International Council for the Exploration of the Seas (ICES) should be followed.

3. For the purposes of the Aquatic Code, the ICES Code (full version see: http://www.ices.dk/indexfla.asp) may be summarised to the following main points:
   a. identify stock of interest (cultured or wild) in its current location;
   b. evaluate stock health/disease history;
   c. take and test samples for ISAV, pests and general health/disease status;
   d. import and quarantine in a secure facility a founder (F-0) population;
   e. produce F-1 generation from the F-0 stock in quarantine;
   f. culture F-1 stock and at critical times in its development (life cycle) sample and test for ISAV and perform general examinations for pests and general health/disease status;
   g. if ISAV is not detected, pests are not present, and the general health/disease status of the stock is considered to meet the basic biosecurity conditions of the importing country, zone or compartment, the F-1 stock may be defined as ISA free or specific pathogen free (SPF) for ISAV;
   h. release SPF F-1 stock from quarantine for aquaculture or stocking purposes in the country, zone or compartment.

This Article does not apply to commodities referred to in point 1 of Article 10.5.3.

Article 10.5.9.
Article 10.5.8.

Importation of live aquatic animals for aquaculture from a country, zone or compartment not declared free from infectious salmon anaemia

1. When importing, for aquaculture, live aquatic animals of the species referred to in Article 10.5.2, from a country, zone or compartment not declared free from ISA, the Competent Authority of the importing country should assess the risk and, if justified, apply the following risk mitigation measures:
   a. the direct delivery to and lifelong holding of the consignment in biosecure facilities for continuous isolation from the local environment; and
   b. the treatment of all effluent and waste material in a manner that ensures inactivation of ISAV.

2. If the intention of the introduction is the establishment of a new stock, the Code of Practice on the Introductions and Transfers of Marine Organisms of the International Council for the Exploration of the Seas (ICES) should be followed.

3. For the purposes of the Aquatic Code, the ICES Code (full version see: http://www.ices.dk/indexfla.asp) may be summarised to the following main points:
   a. identify stock of interest (cultured or wild) in its current location;
   b. evaluate stock health/disease history;
   c. take and test samples for ISAV, pests and general health/disease status;
   d. import and quarantine in a secure facility a founder (F-0) population;
   e. produce F-1 generation from the F-0 stock in quarantine;
   f. culture F-1 stock and at critical times in its development (life cycle) sample and test for ISAV and perform general examinations for pests and general health/disease status;
   g. if ISAV is not detected, pests are not present, and the general health/disease status of the stock is considered to meet the basic biosecurity conditions of the importing country, zone or compartment, the F-1 stock may be defined as ISA free or specific pathogen free (SPF) for ISAV;
   h. release SPF F-1 stock from quarantine for aquaculture or stocking purposes in the country, zone or compartment.

This Article does not apply to commodities referred to in point 1 of Article 10.5.3.

Article 10.5.9.
Importation of live aquatic animals for processing for human consumption from a country, zone or compartment not declared free from infectious salmon anaemia

When importing, for processing for human consumption, live aquatic animals of the species referred to in Article 10.5.2, from a country, zone or compartment not declared free from ISA, the Competent Authority of the importing country should assess the risk and, if justified, require that:

1. the consignment is delivered directly to and held in quarantine facilities for slaughter and processing to one of the products referred to in point 1 of Article 10.5.3, or other products authorised by the Competent Authority; and

2. all effluent and waste material from the processing are treated in a manner that ensures inactivation of ISA.

OIE Members may wish to consider introducing internal measures to prevent such commodities being used for any purpose other than for human consumption.

This Article does not apply to commodities referred to in point 1 of Article 10.5.3.

Importation of live aquatic animals intended for use in animal feed, or for agricultural, industrial or pharmaceutical use from a country, zone or compartment not declared free from infectious salmon anaemia

When importing, for use in animal feed, or for agricultural, industrial or pharmaceutical use, live aquatic animals of the species referred to in Article 10.5.2, from a country, zone or compartment not declared free from ISA, the Competent Authority of the importing country should require that:

1. the consignment is delivered directly to and held in quarantine facilities for slaughter and processing to products authorised by the Competent Authority; and

2. all effluent and waste material from the processing are treated in a manner that ensures inactivation of ISA.

This Article does not apply to commodities referred to in point 1 of Article 10.5.3.

Importation of aquatic animal products from a country, zone or compartment declared free from infectious salmon anaemia

When importing aquatic animal products of the species referred to in Article 10.5.2, from a country, zone or compartment declared free from ISA, the Competent Authority of the importing country should require an international aquatic animal health certificate issued by the Competent Authority of the exporting country or a certifying official approved by the importing country, certifying that, on the basis of the procedures described in Articles 10.5.4 or 10.5.5, (as applicable), the place of production of the commodity is a country, zone or compartment declared free from ISA.

The certificate should be in accordance with the Model Certificate in Chapter 5.10.

This Article does not apply to commodities referred to in point 1 of Article 10.5.3.
2. all effluent and waste material from the processing are treated in a manner that ensures inactivation of ISAV.

This Article does not apply to commodities referred to in point 1 of Article 10.5.3.

Article 10.5.11.

Importation of aquatic animal products from a country, zone or compartment declared free from infectious salmon anaemia

When importing aquatic animal products of the species referred to in Article 10.5.2, from a country, zone or compartment declared free from ISA, the Competent Authority of the importing country should require an international aquatic animal health certificate issued by the Competent Authority of the exporting country or a certifying official approved by the importing country certifying that, on the basis of the procedures described in Articles 10.5.4, or 10.5.5, (as applicable), the place of production of the commodity is a country, zone or compartment declared free from ISA.

The certificate should be in accordance with the Model Certificate in Chapter 5.10.

This Article does not apply to commodities referred to in point 1 of Article 10.5.3.

Article 10.5.12.

Importation of aquatic animal products from a country, zone or compartment not declared free from infectious salmon anaemia

When importing aquatic animal products of the species referred to in Article 10.5.2, from a country, zone or compartment not declared free from ISA, the Competent Authority of the importing country should assess the risk and apply appropriate risk mitigation measures.

In the case of dead fish, whether eviscerated or uneviscerated, such risk mitigation measures may include:

1. the direct delivery into and holding of the consignment in biosecure/quarantine facilities for processing to one of the products referred to in point 1 of Article 10.5.3, or other products authorised by the Competent Authority.

2. the treatment of all effluent and waste material in a manner that ensures inactivation of ISAV.

This Article does not apply to commodities referred to in point 1 of Article 10.5.3.
Article 10.5.4.

Infectious salmon anaemia free country

A country may make a **self-declaration of freedom** from ISA if it meets the conditions in points 1, 2, 3 or 4 below.

If a country shares a **zone** with one or more other countries, it can only make a **self-declaration of freedom** from ISA if all the areas covered by the shared water are declared ISA free countries or **zones** (see Article 10.5.5).

1. A country where none of the **susceptible species** is present may make a **self-declaration of freedom** from ISA when **basic biosecurity conditions** have been continuously met in the country for at least the past 2 years.

   OR

2. A country where the species referred to in Article 10.5.2. are present but there has been no observed occurrence of the **disease** for at least the past 10 years despite conditions that are conducive to its clinical expression, as described in the corresponding chapter of the *Aquatic Manual*, may make a **self-declaration of freedom** from ISA when **basic biosecurity conditions** have been continuously met in the country for at least the past 10 years.

   OR

3. A country where the last observed occurrence of the **disease** was within the past 10 years or where the **infection** status prior to **targeted surveillance** was unknown (e.g., because of the absence of conditions conducive to clinical expression as described in the corresponding chapter of the *Aquatic Manual*) may make a **self-declaration of freedom** from ISA when:

   a. **basic biosecurity conditions** have been continuously met for at least the past 2 years; and

   b. **targeted surveillance**, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last 2 years without detection of ISA.

   OR

4. A country that has made a **self-declaration of freedom** from ISA but in which the **disease** is subsequently detected may make a **self-declaration of freedom** from ISA again when the following conditions have been met:

   a. on detection of the **disease**, the affected area was declared an **infected zone** and a **buffer zone** was established; and

   b. infected populations have been destroyed or removed from the **infected zone** by means that minimise the risk of further spread of the **disease**, and the appropriate **disinfection** procedures (see *Aquatic Manual*) have been completed; and

   c. **targeted surveillance**, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last 2 years without detection of ISA, and

   d. previously existing **basic biosecurity conditions** have been reviewed and modified as necessary and have continuously been in place for at least the past 2 years.
‘Basic biosecurity conditions’ means:

a set of conditions applying to a particular disease, and a particular zone or country, required to ensure adequate disease security, such as:

- the disease, including suspicion of the disease, is compulsorily notifiable to the Competent Authority;

  and

- an early detection system is in place within the zone or country;

  and

- import requirements to prevent the introduction of disease into the country or zone, as outlined in the Aquatic Code, are in place.
Safe commodities
Commodities

1. When authorising the importation or transit of the following commodities, the Competent Authorities should not require any ISA related conditions, regardless of the ISA status of the exporting country, zone or compartment:

   a. From the species referred to in Article 10.5.2, intended for any purpose:

      i. commodities treated in a manner that inactivates the disease agent eg. leather made from fish skin, pasteurised products and some ready-to-eat meals; and fish oil and fish meal intended for use in feed;

      ii. biological samples preserved for diagnostic applications in such a manner as to inactivate the disease agent.

   b. The following commodities destined for human consumption from the species referred to in Article 10.5.2, which have been prepared and packaged for direct retail trade:

      i. eviscerated fish (chilled or frozen);

      ii. fillets or cullets (chilled or frozen);

      iii. dried eviscerated fish (including air dried, flame dried and sun dried).

   For the commodities referred to in point 1b), OIE Members may wish to consider introducing internal measures to address the risk associated with the commodity being used for any purpose other than for human consumption.

2. When authorising the importation or transit of commodities of a species referred to in Article 10.5.2, other than those referred to in point 1 of Article 10.5.3, the Competent Authorities should require the conditions prescribed in Articles 10.5.7. to 10.5.12. relevant to the ISA status of the exporting country, zone or compartment.

3. When considering the importation/transit from an exporting country, zone or compartment not declared free of ISA of a live commodity from a species not covered in Article 10.5.2, but which could reasonably be expected to be a potential mechanical vector for ISA, the Competent Authorities should conduct a risk analysis in accordance with the recommendations in the Aquatic Code. The exporting country should be informed of the outcome of this assessment.

Infectious salmon anaemia free country

A country may make a self-declaration of freedom from ISA if it meets the conditions in points 1, 2, 3 or 4 below.

If a country shares a zone with one or more other countries, it can only make a self-declaration of freedom from ISA if all the areas covered by the shared water are declared ISA-free countries or zones (see Article 10.5.5).
Criteria to assess the safety of aquatic animal commodities and products

- 2 sets of criteria:
  - Criteria to assess the safety of aquatic animal commodities irrespective of country disease status
  - Criteria to assess the safety of aquatic animal products destined for human consumption irrespective of country disease status
Criteria to assess the safety of aquatic animal commodities irrespective of country disease status

For an aquatic animal commodity to be considered safe for international trade, it should comply with the following criteria:

Absence of the disease agent in the traded commodity:

- there is strong evidence that the disease agent is not present in the tissues from which the commodity is derived, and
- the water (including ice) used to process or transport the commodity is not contaminated with the disease agent and the processing prevents cross contamination of the commodity to be traded.

OR

Even if the disease agent is present in, or contaminates the tissues from which the commodity is derived, the treatment or processing to produce the commodity to be traded inactivates the disease agent:

- physical (e.g. temperature, drying, smoking);
  and/or
- chemical (e.g. iodine, pH, salt, smoke);
  and/or
- biological (e.g. fermentation).
Criteria to assess the safety of aquatic animal products destined for human consumption irrespective of the country disease status

For an aquatic animal product to be considered safe for international trade, it should comply with the following criteria:
the aquatic animal product is prepared and packaged for retail trade for human consumption;
and

EITHER
it includes only a small amount of waste tissues;

OR
viable disease agent is unlikely to be present in the waste tissues, because:
  the disease agent is not normally found in the waste tissues;
  OR
  the disease agent may be present in the waste tissues but the processing prior to importation involves processes known to inactivate and/or reduce the load of the disease agent:
    - physical (e.g. temperature, drying, smoking);
    or
    - chemical (e.g. pH, salt, smoke);
    or
    - biological (e.g. fermentation).
OIE guidelines on disease surveillance
CHAPTER 1.4.

AQUATIC ANIMAL HEALTH SURVEILLANCE

Article 1.4.1.

Introduction and objectives

1. Surveillance activities may be performed to achieve any of the following objectives:

   a. demonstrating the absence of disease;

   b. identifying events requiring notification as listed in Article 1.1.3. of the Aquatic Code;

   c. determining the occurrence or distribution of endemic disease, including changes to their incidence or prevalence (or its contributing factors), in order to:

      i. provide information for domestic disease control programmes,

      ii. provide relevant disease occurrence information to be used by trading partners for qualitative and quantitative risk assessment.

The type of surveillance applied depends on the desired outputs needed to support decision-making. Surveillance data determine the quality of disease status reports and should satisfy information requirements for accurate risk analysis both for international trade as well as for national decision-making. Surveillance of endemic diseases provides valuable information for day-to-day health management and can act as the foundation for detecting outbreaks of exotic disease and demonstrating specific disease freedom.

Surveillance systems described in this chapter should also be used to generate information for decisions on prescribed disease prevention and control programmes. However, the actual strategies for prevention and control are beyond the scope of this chapter on surveillance recommendations.

Having a suitable management strategy to respond to surveillance data is of utmost importance for the successful implementation of surveillance systems.

2. Essential prerequisites to enable a Member to provide information for the evaluation of its animal health status are:

   a. that the particular Member complies with the provisions of Chapter 3.1. of the Aquatic Code on the quality and evaluation of the Competent Authorities,
Surveillance activities can be performed to achieve any of the following objectives:

a) demonstrating the absence of disease;

b) identifying events requiring notification to OIE as listed in Article 1.1.3. of the Aquatic Code;

c) determining the occurrence or distribution of endemic diseases, including changes to their incidence or prevalence (or its contributing factors) in order to:

   i) provide information for domestic disease control programmes,

   ii) provide relevant disease occurrence information to be used by trading partners for qualitative and quantitative risk assessment.
New detailed guidance on surveillance
<table>
<thead>
<tr>
<th>Chapter 1</th>
<th>General introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Purposes of aquatic animal health surveillance</td>
</tr>
<tr>
<td></td>
<td>Surveillance versus surveys</td>
</tr>
<tr>
<td></td>
<td>Surveillance versus monitoring</td>
</tr>
<tr>
<td></td>
<td>Surveillance methodologies</td>
</tr>
<tr>
<td></td>
<td>Demonstrating the absence of disease or infection</td>
</tr>
<tr>
<td></td>
<td>Determining the occurrence or distribution of endemic disease or infection, including changes to their incidence or prevalence</td>
</tr>
<tr>
<td></td>
<td>Deciding which diseases to subject to surveillance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 2</th>
<th>Pathogen transmission in the aquatic environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Transmission mechanisms</td>
</tr>
<tr>
<td></td>
<td>Routes of pathogen transmission among aquatic animals</td>
</tr>
<tr>
<td></td>
<td>Pathogen transmission in aquaculture</td>
</tr>
<tr>
<td></td>
<td>Transmission between farmed and wild aquatic animals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 3</th>
<th>Populations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The concept of populations</td>
</tr>
<tr>
<td></td>
<td>Host factors affecting population definitions</td>
</tr>
<tr>
<td></td>
<td>Epidemiological units</td>
</tr>
<tr>
<td></td>
<td>Zones and compartments</td>
</tr>
<tr>
<td></td>
<td>Clustering</td>
</tr>
<tr>
<td></td>
<td>Target population</td>
</tr>
<tr>
<td></td>
<td>Susceptibility of host species</td>
</tr>
</tbody>
</table>
Chapter 4  General design considerations
  Types of surveillance system  16
  Background information requirements  18
  Prioritisation of resources  19
  Sources of data  20
  Case definition  20
  Surveillance and denominator-based information  21

Chapter 5  Diagnostic tests
  Test sensitivity and specificity  22
  Predictive value of a test  23
  Factors that affect test sensitivity and specificity  24
  Estimation of test sensitivity and specificity  24
  Serological tests  25
  Testing using pooled samples  26
  Observation of clinical signs and productivity as a diagnostic test  26
  Testing in multiple laboratories  27
  Use of molecular techniques for confirmatory testing and diagnosis  27

Guide for Aquatic Animal Health Surveillance
<table>
<thead>
<tr>
<th>Chapter 6</th>
<th>Sampling considerations for surveillance</th>
<th>28</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General considerations</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Sampling strategies</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Non-probability sampling methods</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Probability sampling</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Clustering of disease and selection bias</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Cluster and multi-stage sampling</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Summary of valid sampling for disease</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>and production</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sampling units</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Sample size considerations</td>
<td>34</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 7</th>
<th>Flow of information and tools/methods</th>
<th>37</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Data and information flow</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Registration of units</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Collecting health data and information</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Recording health data</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>Flow of information through the system</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Reporting from laboratories</td>
<td>41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 8</th>
<th>Data management</th>
<th>43</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General considerations</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>Diagnostic laboratory sources of data</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Under-reporting of data in voluntary</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>system</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data validation</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Detection of new diseases</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Disease frequency estimation</td>
<td>45</td>
</tr>
<tr>
<td>Chapter 9</td>
<td>Statistical aspects</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Expertise required</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Quantifying uncertainty</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Statistical inference</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Statistical hypothesis testing</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Statistical estimation</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Assumptions</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Surveillance to support claims of disease freedom</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Disease prevalence</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Sensitivity of the surveillance system</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>Analysis of data</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Other data sources</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Surveillance to describe disease occurrence</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Estimating disease prevalence using imperfect diagnostic tests</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>WinPEPI</td>
<td>57</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 10</th>
<th>Responsibilities and resources</th>
<th>59</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Roles and responsibilities</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Capacity building</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>Allocation of resource</td>
<td>62</td>
</tr>
<tr>
<td>Chapter 11</td>
<td>Response to surveillance information</td>
<td>65</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td>Information dissemination</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>International reporting</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>Eradication</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>Zoning</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>Evidence collection and outbreak investigations</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>Research</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>Aquatic animal health management practices</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>Modification to the surveillance system</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>Health certification and quarantine</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Diagnostics</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Contingency plans</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Risk analysis</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>Policy and legal frameworks</td>
<td>69</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 12</th>
<th>Monitoring and evaluation</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Flexibility of surveillance</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Sensitivity and specificity of surveillance programmes</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Component testing</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>Timeliness</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>Cost efficiency</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>Ability for external audit and verification</td>
<td>73</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 13</th>
<th>Special design considerations for surveillance of wild, ornamental and sessile aquatic organisms</th>
<th>74</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wild populations</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>Ornamental aquatic animals</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Sessile organisms</td>
<td>76</td>
</tr>
</tbody>
</table>
Chapter 14  Improving evidence to support the design and performance of surveillance systems  78
Evidence-based policy decisions  78
Considerations for assessment  78
Coordination, responsibilities and funding  79
Conflict with end-users  79

Appendices  81
1 Establishing a passive surveillance system  82
2 One-stage structured survey (farm certification)  90
3 Two-stage structured survey (national freedom)  94
4 Spatial sampling and the use of tests with imperfect specificity  98
5 Example record sheet for aquatic animal health officers  101
6 Example formats of pond level information records (partial ‘pond book’)  103

References and further reading  107
Software  108
Index  109
Possible causes for a disease ‘incursion’ into a country

- Import health requirements inadequate or non-existent
- Import requirements good but ineffectively enforced by the authorities (or ignored by importers e.g. smuggling)
- Unreliable disease surveillance/diagnostics in exporting country
Possible causes for a disease ‘incursion’ into a country

- Slow awareness of a new or emerging disease in exporting country.
- Aetiological agent previously unknown or not known to be virulent so not included in official surveillance in either importing or exporting country.
- Intensification of surveillance in importing country.
Other possible causes for a disease ‘incursion’ into a country

- Dead wild fish as fresh feed for farmed fish or as fishing bait.

- Live fish transport vehicles that have been used in other countries and not disinfected sufficiently.

- Discharge of ships’ ballast water?

- Accidental release of imported pathogens and pathological materials intended for laboratory use.
CHAPTER 5.9.

MEASURES CONCERNING INTERNATIONAL TRANSPORT OF AQUATIC ANIMAL DISEASE AGENTS AND PATHOLOGICAL MATERIAL

Article 5.9.1.

Introduction

There is the risk that disease may occur as a result of the accidental release of aquatic animal pathogens during international transport of packaged materials. Such pathogens may already occur in the country or they may have been imported deliberately or inadvertently. It is therefore necessary to have in place measures to prevent their accidental release. These measures may be applied at national borders by prohibiting or controlling the importation of specified aquatic animal pathogens or pathological material, which may contain them.

Competent Authorities should not require sanitary measures for biological samples preserved for diagnostic applications that are treated in such a manner as to inactivate the disease agent and will not cause aquatic animal disease.

Article 5.9.2.

Importation of aquatic animal pathogens

The importation of a disease agent/pathogen referred to in the Aquatic Code, whether in culture, in pathological material or in any other form, should be officially controlled by the Competent Authority to ensure appropriate safeguards are in place to manage the risk posed by the disease agent/pathogen. The conditions should be appropriate to the risk posed by the disease agent/pathogen and, in relation to air transport, the appropriate standards of the International Air Transport Association or other relevant transport associations concerning the packaging and transport of dangerous goods as outlined in Article 5.9.3, should apply.

When considering applications to import a disease agent/pathogen referred to in the Aquatic Code, whether in culture, in pathological material or in any other form, from other countries, the Competent Authorities should have regard to the nature of the material, the animal from which it is derived, the susceptibility of that animal to various diseases and the animal health situation of the country of origin. It may be advisable to require that material be pretreated before import to minimise the risk of inadvertent introduction of a disease agent/pathogen referred to in the Aquatic Code.

Any material that does not satisfy the applied conditions should be rendered safe by the Competent Authority of the receiving country.
Packaging and documentation for transport

The safe transport of a disease agent/pathogen referred to in the Aquatic Code, with respect to the pathogen, the handler and the environment, is primarily dependent on proper packaging and it is the responsibility of the sender that this is done in accordance with current regulations.

1. Basic triple packaging system

   The system consists of three layers as follows:

   a. Primary receptacle: a labelled primary watertight, leak-proof receptacle containing the specimen. The receptacle is wrapped in enough absorbent material to absorb all fluid in case of breakage.

   b. Secondary receptacle: a second durable, watertight, leak-proof receptacle to enclose and protect the primary receptacle(s). Several wrapped primary receptacles may be placed in one secondary receptacle. Sufficient additional absorbent material must be used to cushion multiple primary receptacles.

   c. Outer shipping package: the secondary receptacle is placed in an outer shipping package, which protects it and its contents from outside influences such as physical damage, temperature fluctuations and water while in transit.

   Ice or dry ice when used in a shipment must be placed outside the secondary receptacle. If wet ice is used, it should be in a leak-proof container and the outer package must also be leak-proof. The secondary receptacle must be secured within the outer package to prevent damage after the refrigerant has melted or dissipated.

   Dry ice must NOT be placed inside the primary or secondary receptacle because of the risk of explosions. The outer package must permit the release of carbon dioxide gas if dry ice is used. IATA Packing Instruction 904 must be observed for packages containing dry ice.

2. Documentation

   Specimen data forms, letters and other types of information that identify or describe the specimen and also identify the shipper and receiver should be taped to the outside of the secondary receptacle, together with a copy of the recipient's import permit.

Article 5.8.4.

Any sender of a disease agent/pathogen referred to in the Aquatic Code or pathological material must ensure that the proposed receiver has obtained the necessary import licence referred to in Article 5.8.2.

Article 5.8.5.

1. Every consignment of a disease agent/pathogen referred to in the Aquatic Code or pathological material should be notified in advance by the sender to the intended recipient, giving the following information:

   a. exact nature of the sample and its packaging;
dioxide gas if dry ice is used. IATA Packing Instruction 904 must be observed for packages containing dry ice.

2. Documentation

Specimen data forms, letters and other types of information that identify or describe the specimen and also identify the shipper and receiver should be taped to the outside of the secondary receptacle, together with a copy of the recipient's import permit.

Article 5.9.4

Any sender of a disease agent/pathogen referred to in the Aquatic Code or pathological material must ensure that the proposed receiver has obtained the necessary import licence referred to in Article 5.9.2.

Article 5.9.5

1. Every consignment of a disease agent/pathogen referred to in the Aquatic Code or pathological material should be notified in advance by the sender to the intended recipient, giving the following information:

   a. exact nature of the sample and its packaging;

   b. the number of packages sent and the marks and numbers enabling their identification;

   c. date of despatch;

   d. method of transport used for consignment of products (ship, aircraft, railway wagon or road vehicle).

2. The recipient should notify the sender of the receipt of each consignment of a disease agent/pathogen referred to in the Aquatic Code or pathological material on its arrival.

3. When a consignment that has been notified by the sender fails to arrive by the anticipated date, the intended recipient should notify the Competent Authority of the receiving country and, at the same time, the sender in the country of origin, so that any necessary action can be taken for investigation to be made without delay.
Conclusions

Through the Aquatic Code and Aquatic Manual, OIE publishes **globally accepted** international biosecurity standards and guidelines, with respect to the listed diseases, for international trade in aquatic animals and their products.

The standards and guidelines provide a uniform approach to diagnosis and surveillance so that the need for transparency in the diseases situation in trading countries, and the requirements for health certification for international trade, can be met.

However, these guidelines in themselves cannot provide full protection against disease incursion and/or spread in a country – there are several ways they can be rendered ineffective.

National and farm-level biosecurity precautions are essential adjuncts to the OIE standards.

All stakeholders must play their part to the full to ensure that biosecurity measures are effective in preventing disease occurrence and spread.
Thank you for your attention