INTERNATIONAL AQUATIC ANIMAL HEALTH CODE

fish, molluscs and crustaceans

1995

Recommendations for international trade in aquatic animals and aquatic animal products
The principal aim of the International Aquatic Animal Health Code and its companion volume, the Diagnostic Manual for Aquatic Animal Diseases, is to facilitate international trade in aquatic animals and aquatic animal products. The International Aquatic Animal Health Code (referred to hereafter as the Code for convenience) attempts to achieve this aim by providing detailed definitions of minimum health guarantees to be required of trading partners in order to avoid the risk of spreading aquatic animal diseases. These guarantees are based on inspection by Competent Authorities, epidemiological surveillance, and standard methods for laboratory examinations and disease diagnosis; the latter are described in the Diagnostic Manual for Aquatic Animal Diseases (referred to as the Manual).

The Code and Manual are the result of several years work by the Fish Diseases Commission, a specialist commission of the Office International des Epizooties (OIE). The contents of the Code and Manual are based on the same principles and definitions as for terrestrial animals, but have been adapted to aquatic animals. The OIE International Animal Health Code Commission and Standards Commission also contributed to the work, and the opinions of highly qualified persons in different OIE Member Countries were also obtained.

The Code and Manual will be updated each year and any amendments made will be presented to the OIE General Session in May. It is envisaged that updated versions will be printed once every four or five years.

The Fish Diseases Commission recommends that readers of the Code read the "Guide" which follows the Foreword, as well as the Introduction to Part 2. Our hope is that this will lead to rational use of the Code and to a consistent worldwide standard of testing for diseases notifiable to the OIE, thus ensuring that the basis for issuing health certificates for aquatic animals and their products is the same all over the world.

Acknowledgement is given to the staff of the OIE Central Bureau as well as to former and present members of the Fish Diseases Commission, who have contributed to producing this book and its companion volume, the Manual. Dr P. de Kinkelin is thanked for his initiating role, as it was under his chairmanship of the Commission that work on the two books was begun. Special thanks are also expressed to those scientific experts in different Member Countries who provided comments and information.

March 1995

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A. Introduction

1. The purpose of this guide is to extend the use of the International Aquatic Animal Health Code in order to assist Veterinary Administrations and/or other Competent Authorities in Member Countries in the preparation of veterinary health certificates for international trade, based on a uniform approach to health control in aquatic animal populations using standardised methods for the diagnosis of important aquatic animal diseases.

2. Certification is a prerequisite for controlling and preventing the spread of aquatic animal diseases through international trade in live aquatic animals and their products. Such certification must be based on standard methods and high ethical standards.

3. Certification is a means of facilitating trade and should not be used to restrict trade by requiring unnecessary aquatic animal health conditions. Whenever possible, aquatic animal health conditions as set out in the Code should be used. The various chapters in the Code which cover disease control measures are under constant review in line with advances in veterinary knowledge.

4. Certification is generally required for diseases that are notifiable to the OIE, if they are relevant in the particular situation. In the case of mammals, birds and bees, notifiable diseases are divided into List A (diseases with the potential for very serious and rapid spread, of serious socio-economic or public health consequence, and of major importance in international trade) and List B (diseases of socio-economic and/or public health importance within countries, and significant in international trade). The nature of aquatic animal diseases and the volume of the aquatic animal trade is such that no aquatic animal diseases are presently categorised as List A diseases. Therefore, in this Code, the term 'diseases notifiable to the OIE' has been used instead of 'List B diseases'.

5. To avoid confusion, key terms and phrases used in the Code are defined in Section 1.1. It is important, therefore, when using any of these terms or phrases in a certificate, to check that its use is in accordance with the definition given in the Code. Terms which appear in the list of definitions are italicised the first time they appear in an Article, but not subsequently in the same Article.
6. Section 1.3 of the Code spells out the legal, ethical and moral obligations of Veterinary Administrations and individual personnel of Competent Authorities involved in international trade in aquatic animals and aquatic animal products. It is important therefore that the Veterinary Administrations and/or other Competent Authorities should have a sufficient number of copies of the Code for the personnel directly involved with the trade. In addition, diagnostic laboratories should be fully conversant with the technical recommendations in the Manual.

7. Methods for diagnosing the diseases listed in the Code are given in the Diagnostic Manual for Aquatic Animal Diseases, which is a companion volume to the Code. At the beginning of each Code chapter on a specific disease, a reference is given to the corresponding chapter in the Manual.

B. World Animal Health (OIE) and FAO/OIE/WHO Animal Health Yearbook

These annual publications provide Veterinary Administrations and/or other Competent Authorities with information on the disease situation in a country from which importations are being considered. A list of exotic diseases which the importing country wishes to take measures to exclude or diseases for which it has a national control or eradication programme can be drawn up and appropriate aquatic animal health or sanitary conditions applied. The information can be supplemented with statistical and other factual information available in OIE and FAO publications and also by direct communication with the Veterinary Administration or Competent Authority in the exporting country.

C. International Health Certificates

1. It is important that international aquatic animal health certificates and international sanitary certificates are kept as simple as possible and are clearly worded so as to avoid any misunderstanding of the requirements of importing countries. It is unnecessary and against the principles of facilitating international trade to seek guarantees of freedom from ubiquitous infections which are prevalent in the importing country. There may be exceptions to this general rule, for example, where programmes exist in the importing country for the control or eradication of specific diseases, or where it is considered important to avoid the introduction of new strains of pathogens.

2. It is suggested that all international health certificates be given an official stamp and/or serial number by the Competent Authorities of exporting countries. The name and position of the signatory should be clearly legible. Certificates should be printed on officially headed paper and, where appropriate, in the languages of the exporting and importing countries. The draft certificates should be approved by the importing country before being used. Any transit through a third country should also be sanctioned by the country concerned.
3. No Personnel of a Competent Authority should sign an international health certificate for matters which they have not directly carried out or supervised, unless supporting documents signed by an authorised person are available to corroborate the facts, e.g. laboratory test results.

D. Notes of guidance for importers and exporters

In order to avoid any misunderstanding of the requirements, it is often advisable to prepare notes of guidance to assist importers and exporters. The notes should set out all the conditions concerning the importation, pre-export, transit, landing, post-import requirements, legal obligations and operational procedures. The attention of exporters should also be drawn to the relevant LATA rules for the carriage of aquatic animals and aquatic animal products by air.

The notes of guidance should also set out in detail the health certification requirements to be included in the documents which should accompany the consignment to its destination.
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SECTION 1.1.

DEFINITIONS

For the purpose of this Code:

Affected establishment  
means any aquaculture establishment in which a disease included in this Code has been diagnosed.

Aircraft  
means an aeroplane making an international flight.

Animal Health Status Report  
means a report sent by countries to the Central Bureau in accordance with Articles 1.2.0.2 and 1.2.0.3 of this Code.

Animal Health Yearbook  
means the Yearbook produced jointly by the Food and Agriculture Organisation of the United Nations (FAO) and the Office International des Epizooties (OIE) showing the occurrence of animal and aquatic animal diseases and the control measures undertaken in each country against these diseases.

Approved aquaculture establishment  
means an aquaculture establishment that fulfils the requirements for freedom from specified diseases of fish, molluscs or crustaceans included in this Code.

Approved laboratory  
means a laboratory in a Member Country that is approved by the Competent Authority to carry out diagnostic work on notifiable diseases and is responsible for health control work.

1 Note concerning the use of italics in the Code: Terms which appear in this list of definitions are italicised the first time they appear in an Article or definition, but not subsequently in the same Article or definition.
Approved zone

means a zone that fulfils the requirements for freedom from diseases notifiable to the OIE included in the Code and approved as such by a Competent Authority.

Aquacultural activities

means any activity concerning farming, marketing, processing etc. of aquatic animals.

Aquaculture establishment

means an establishment in which fish, molluscs or crustaceans for breeding or marketing are raised or kept. For molluscs the definition of establishment concerns only hatcheries and mollusc nurseries.

Aquatic animal import unit

means a live aquatic animal or its egg/gamete, or a specified weight of a product of aquatic animal origin.

Aquatic animal products

means products from aquatic animals (fish, molluscs, crustaceans) whether they are intended for farming (e.g. eggs, gametes, larvae etc.) or for human consumption, or for pharmaceutical, biological, or industrial uses.

Aquatic animals

means live fish (including eggs), molluscs and crustaceans from aquaculture establishments or aquatic animals removed from the wild, for farming purposes or for release to the aquatic environment. The definition does not cover water-living amphibia, reptiles, birds or mammals.

Aquatic animals for slaughter/harvest

means aquatic animals that are destined to be transported or taken following arrival in the importing country under the control of the relevant Competent Authority to a fish slaughtering premises or other processing plant preparing products for human consumption.

Area of direct transit

means a special area established in an international airport, port or otherwise located approved by the relevant Competent Authority and placed under its control where transport vehicles (airplanes, trucks, lorries, boats) stay for a short time when passing through the transit territory.
**Definitions**

**Biological products**
means:

a) biological reagents for use in the diagnosis of certain *diseases*;

b) sera for use in the prevention and treatment of certain diseases;

c) inactivated or modified vaccines for use in preventive vaccination against certain diseases;

d) microbial genetic material of infectious agents;

e) endocrine tissues from *fish* or used in fish.

**Breeding station**
means an *aquaculture establishment* working to improve the genetic standard and production of *aquatic animals*.

**Broodstock**
means sexually mature *fish, molluscs* or *crustaceans*.

**Bulletin**
means the monthly OIE publication.

**Central Bureau**
means the Headquarters of the Office International des Epizooties, 12, rue de Prony, 75017 PARIS, France.
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Telephone: Int. +33-1 44 15 18 88
Fax: Int. +33-1 42 67 09 87.

**Certifying official**
means a person authorised by the *Competent Authority* to sign health certificates for aquatic animals.

**Code**
means the OIE *International Aquatic Animal Health Code*.

**Committee**
means the Committee of Permanent Delegates to the OIE of the Governments which have adhered to the *International Agreement*.

**Commodity**
means *aquatic animals, aquatic animal products, aquatic animal genetic material, feedstuffs, biological products and pathological material*. 
**Definitions**

**Competent Authority**
means the National Veterinary Services, or other Authority of a Member Country, having the responsibility and competence for ensuring or supervising the implementation of the aquatic animal health measures recommended in this *Code*.

**Container**
means a transport appliance:

a) of a permanent type and sufficiently strong to enable repeated use;

b) specially constructed to facilitate transportation of *aquatic animals* or *aquatic animal products* by one or several means of transport;

c) provided with fittings which make it easy to manipulate, particularly for trans-shipment from one kind of transport to another;

d) constructed in a watertight way, easy to load and unload and capable of being cleansed and disinfected;

e) ensuring safe and optimal transport of aquatic animals.

**Crustacean products**
means *fresh crustaceans*, processed whole crustaceans or edible products of crustaceans which have been subjected to treatment such as cooking, drying, salting, brining, smoking or freezing.

**Crustaceans**
means *aquatic animals* belonging to the phylum *Arthropoda*, a large class of aquatic animals characterised by their chitinous exoskeleton and jointed appendages; e.g. crabs, lobsters, crayfish, shrimps, prawns, isopods, ostracods and amphipods.

**Diagnosis**
means determination of the nature of a *disease*.

**Discharge**
means blood or water from the slaughtering or processing of *aquatic animals*.

**Disease**
means clinical or non-clinical infection with one or more of the aetiological agents of the diseases listed in this *Code*.

**Disease agent**
means an organism which causes or contributes to the development of a disease listed in this *Code*.
Definitions

*Disease Information* means the weekly publication dispatched by the Central Bureau to communicate epidemiological data received from countries by telex, telegram or fax.

*Disease outbreak* see outbreak of disease.

*Diseases notifiable to the OIE* means the list of transmissible diseases which are considered to be of socio-economic and/or public health importance within countries and which are significant in the international trade of aquatic animals and aquatic animal products. Reports are normally submitted once a year, although more frequent reporting may in some cases be necessary to comply with Articles 1.2.0.2 and 1.2.0.3. The diseases notifiable to the OIE are set out in Part 2, Section 2.1 and 2.2 of this Code. ("Diseases notifiable to the OIE", as used in this Code, were previously known as "List B diseases").

*Disinfectants* means chemical compounds capable of destroying pathogenic microorganisms or inhibiting their growth or survival ability.

*Disinfection* means the operation, after thorough cleansing, destined to destroy the infectious agents of aquatic animal diseases, including zoonoses; this applies to aquatic animals, aquaculture establishments (i.e. hatcheries, fish farms, oyster farms, shrimp farms, nurseries etc.), vehicles, and different equipment/objects which can be directly or indirectly contaminated by aquatic animals or aquatic animal products.

*District* means a section of a territory with clearly defined boundaries and having an appropriate veterinary organisation to apply the measures which the Code permits and specifies.

*Egg* means a viable fertilised ovum of an aquatic animal. "Green eggs" means newly fertilised ova of fish. "Eyed eggs" means eggs of fish where the eyes of the embryo are visible and that the eggs may be transported.

*Embryo* means a viable fertilised ovum of an aquatic animal.
**Definitions**

**Eviscerated fish**
means fish from which internal organs, excluding the brain and gills, have been removed.

**Exporting country**
means a country from which aquatic animals or aquatic animal products, biological products or pathological material are sent to a destination in another country.

**Fish**
means fresh or salt water finfish of any age.

**Fish Diseases Commission**
means the OIE Commission responsible for up-dating this Code in the intervals between General Sessions of the Committee.

**Fish products**
means fresh fish, processed whole fish, or edible products of fish, which have been subjected to treatment such as cooking, drying, salting, brining, smoking or freezing.

**Fish slaughtering premises**
means premises used for the slaughter of fish for human consumption or other purposes and approved by the Competent Authority for export purposes.

The fish slaughtering premises must meet recognised approved standards for the structural and other veterinary hygienic requirements.

**Food hygiene**
comprises conditions and measures necessary for the production, processing, storage and distribution of food of aquatic animal origin designed to ensure a safe, sound, wholesome product fit for human or animal consumption.

**Free country**
means a country that fulfils the requirements for freedom from diseases notifiable to the OIE according to this Code and approved as such by a Competent Authority.

**Free zone**
means a clearly defined zone within a country in which no evidence of a disease included in this Code or its causative agent has been reported during the period stated for such disease in this Code.
Definitions

**Fresh crustaceans**
means crustaceans which have not been subjected to any treatment or which have been subjected to a treatment which has not irreversibly modified their organoleptic or physico-chemical characters; for the purpose of this Code, fresh crustaceans include chilled specimens.

**Fresh fish**
means fish which have not been subjected to any treatment or which have been subjected to a treatment which has not irreversibly modified their organoleptic and physico-chemical characters; for the purpose of this Code, fresh fish includes chilled and frozen fish.

**Fresh molluscs**
means oysters/mussels which have not been subjected to any treatment or which have been subjected to a treatment which has not irreversibly modified their organoleptic and physico-chemical characters; for the purpose of this Code, fresh molluscs include chilled specimens.

**Frontier post**
means any international airport or any port, railway station or road post open to international traffic.

**Gametes**
means the sperm or unfertilised eggs of fish, that are held or transported separately prior to fertilisation.

**Hatcheries**
means aquaculture establishments raising aquatic animals from fertilised eggs.

**Imported outbreak**
means an outbreak introduced into a territory from another country.

**Importing country**
means a country to which aquatic animals or aquatic animal products, biological products or pathological material are sent.

**Incidence**
means the number of new outbreaks of disease within a specified period of time in a defined aquatic animal population.

**Incubation period**
means the shortest period which elapses between the introduction of the pathogen into an aquatic animal population and the occurrence of the first clinical signs of the disease.
Definitions

Infected zone
means a clearly defined zone within a country in which a disease of aquatic animals included in this Code has been diagnosed. This area must be clearly defined and decreed by the Competent Authority in accordance with the environment, the different ecological and geographical factors, the epidemiological factors and the type of aquacultural activity being practised.

Within and at the border of an infected zone, there must be official veterinary control for aquatic animals and aquatic animal products, their transportation and slaughtering.

The time during which the infected zone designation remains in effect will vary according to the disease and to the sanitary measures and control methods applied.

Infected period
means the longest period during which an affected aquatic animal can be a source of infection.

Inspection
means the control carried out by the Competent Authority in order to ensure that an aquatic animal is/aquatic animals are free from the diseases/infections considered in this Code; the inspection may call for clinical examination, laboratory tests and, generally, the application of other procedures which could reveal an infection which may be present in an aquatic animal population.

International Agreement
means the Convention creating the Office International des Epizooties, signed in Paris on 25 January 1924.

International airport
means an airport designated by the country in the territory of which it is situated as an airport for the entry or departure of international air traffic of aquatic animals or products thereof, biological products and pathological material.

International health certificate
means a certificate issued by a member of the personnel of the Competent Authority of the exporting country, certifying the state of good health of the aquatic animals and giving particulars (where applicable) of the testing that the aquatic animals in the exporting aquaculture establishments have been subjected to and the vaccinations, if any, carried out. This definition also applies to a certificate covering gametes and eggs, giving particulars of the measures taken to prevent the spread of notifiable diseases.
Definitions

**International traffic**
means import, export or transit of *aquatic animals, aquatic animal products, biological products and pathological material.*

**Laboratory**
means a laboratory of high technical competence under direct supervision of a veterinarian or other person with competent biological training. Through quality controls and monitoring performance, the _Competent Authority_ approves such a laboratory in regard to testing requirements for export.

**List B diseases**
see _diseases notifiable to the OIE._

**Lot**
means a group of *aquatic animals* of the same species on one *aquaculture establishment* originating from the same spawning population which has always shared the same water supply.

**Manual**
means the _Diagnostic Manual for Aquatic Animal Diseases._

**Mollusc juveniles**
means the stage included from 12 to 24 months after metamorphosis.

**Mollusc nurseries**
means *aquaculture establishments* raising young molluscs from metamorphosed larvae to maximum 11 months.

**Molluscs**
means aquatic organisms belonging to the phylum *Mollusca* in the subkingdom *Metazoa* characterised by soft unsegmented bodies. Most forms are enclosed in a calcareous shell. The different development stages of molluscs are termed larvae, postlarvae, juvenile and spat.

**Notifiable diseases**
see _diseases notifiable to the OIE._

**Offal**
means visceral organs, cutoffs, condemned raw material, organs, etc. of *aquatic animals.*
Other significant diseases
means diseases which are of current or potential international significance in aquaculture but which have not been included in the list of diseases notifiable to the OIE, because they are less important than the notifiable diseases; or because their geographic distribution is limited, or it is too wide for notification to be meaningful, or it is not yet sufficiently defined; or because the aetiology of the diseases is not well enough understood.

Outbreak of disease (or disease outbreak)
means an occurrence of mortality in an aquatic animal population caused by an infectious agent (bacterial, viral, fungal, parasitic).

Ova
see eggs and gametes.

Part of the territory of a country
means a geographical or administrative entity possessing an authorised administrative veterinary organisation capable of taking and controlling the appropriate measures.

Partial stamping out
means the carrying out under the authority of the Competent Authority, on confirmation of a disease, of prophylactic animal health measures consisting of killing selected lots of the aquatic animals within an aquaculture establishment. See also stamping out policy.

Pathological material
means tissues, organs, fluids, etc. from aquatic animals, or strains of infectious organisms (which could be identified as an isolate or biovar) to be sent to an aquatic animal disease laboratory or to a reference laboratory recognised by the Office International des Epizooties (OIE), the World Health Organisation (WHO), the Food and Agriculture Organisation of the United Nations (FAO), the European Union (EU), etc.

Personnel of the Competent Authority
means any competent personnel working within the body of, or designated by, the Competent Authority.

Place of shipment
means the place where the aquatic animals, aquatic animal products, biological products and pathological material are loaded into the vehicle/other transporting units or handed to the agency which will transport them.
Definitions

**Prevalence**
means the number of diagnoses of a given disease in a given aquatic animal population over a clearly defined period of time.

**Processing**
means the subjecting of aquatic animals to actions such as gutting, cleaning, filleting, freezing, thawing, or packing.

**Products of aquatic animal origin destined for human consumption**
means fish, mollusc and crustacean products intended for human consumption.

**Products of animal origin destined for use in aquatic animal feeding**

**Resolutions**
means the resolutions formulated and approved by the Committee.

**Risk**
means the probability of an adverse event of aquatic animal health, public health or economic importance, such as a disease outbreak, and the magnitude of that event.

**Risk assessment**
means the processes of identifying and estimating the risks associated with the importation of a commodity and evaluating the consequences of taking those risks.

**Risk communication**
means the processes of communicating the risk assessment results to the regulators of the import programmes, and to other interested parties such as industry and the public.

**Risk management**
means the identification, documentation and implementation of the measures that can be applied to reduce the risks and their consequences.

**Sanitary slaughtering**
means slaughtering of aquatic animals according to particular procedures providing safety against spread of specific infectious agents.

**Sealed vehicle**
see securely closed vehicle.
**Definitions**

**Securely closed vehicle**
means a vehicle that is properly sealed so that neither water nor aquatic animals can escape during transportation without breaking the seal.

**Sexual products**
means eggs and sperm of sexually mature aquatic animals.

**Shellfish**
means fresh molluscs or crustaceans or the edible products of these species which have been subjected to treatment by cooking, drying, salting, brining or smoking.

**Shipment**
means a group of aquatic animals or products thereof destined for transportation. See also place of shipment.

**Slaughtering**
means the killing and bleeding of fish.

**Spat or young oysters**
means the stage included from metamorphosis to 11 months after this critical phase.

**Sperm**
means the male gametes of aquatic animals.

**Stamping out policy**
means the carrying out under the authority of the Competent Authority, on confirmation of a disease, of prophylactic animal health measures, consisting of killing the aquatic animals which are affected and those suspected of being affected in the population and, where appropriate, those in other populations which have been exposed to infection by direct or indirect contact of a kind likely to cause the transmission of the causal pathogen. All susceptible aquatic animals, vaccinated or unvaccinated, on an infected site should be killed and the carcasses destroyed by burning or burial, or by any other method which will eliminate the spread of infection through the carcasses or products of the aquatic animals destroyed.

This policy should be accompanied by cleansing and disinfection procedures as defined in this Code.

**Statutes**
means the Internal Statutes of the OIE, appended to the International Agreement.
 Definitions

Territory
means land and water under jurisdiction of a country.

Transit country
means a country through which aquatic animals, aquatic animal products, biological products or pathological material destined for an importing country, are transported or in which a stopover is made at a frontier post.

Transport/transportation
means movement of aquatic animals/aquatic animal products to a destination by means of aircraft, motor vehicle or boat.

Vehicle
means any method of transport by land, air or water.

Veterinary Administration
means the Central Veterinary Service (in the Ministerial Department of the Government of the country in question) having authority in the whole of one of the territories to which this Code applies, for ensuring or supervising the execution of the aquatic animal health measures which this Code recommends. (If an authority other than the Veterinary Administration acts as the Competent Authority for matters related to aquaculture and protection of the health of wild populations of fish, molluscs and crustaceans, the Veterinary Administration nonetheless remains the body which is responsible for liaison with the OIE in terms of Section 1.2 of this Code.)

Vide sanitaire
means a period during which aquatic animal premises are left empty (for pathogens or parasites to die or be killed by disinfection).

Zone
means a part of a territory in a country comprising an entire catchment area from the source of a waterway to the estuary, more than one catchment area, part of a catchment area from the sources of a waterway to a barrier, or a part of the coastal area, or an estuary with a precise geographical delimitation, which consists of a homogeneous hydrological system. In other words, a zone is a defined area within a country's territory which is established for disease control purposes.

Zoning
means dividing a country's territory into zones for disease control purposes.
SECTION 1.2.

NOTIFICATIONS AND EPIDEMIOLOGICAL INFORMATION

Article 1.2.0.1.

For the purposes of this Code and in terms of Articles 5, 9 and 10 of the Statutes, every Member Country of the OIE shall recognise the right of the Central Bureau to communicate directly with the Veterinary Administration of its territory or territories.

All notifications and all information sent by the OIE to the Veterinary Administration shall be regarded as having been sent to the country concerned and all notifications and all information sent to the OIE by the Veterinary Administration shall be regarded as having been sent by the country concerned.

Article 1.2.0.2.

1. Countries shall make available to other countries, through the OIE, whatever information is necessary to minimise the spread of important aquatic animal diseases and their aetiological agents and to assist in achieving better worldwide control of these diseases.

2. To achieve this, countries shall comply with the reporting requirements specified in Article 1.2.0.3.

3. To assist in the clear and concise exchange of information, reports shall conform as closely as possible to the format given in Animal Health Status Reports 1 to 3.

4. Recognising that scientific knowledge concerning the relationship between disease agents and diseases is constantly evolving and that the presence of an infectious agent does not necessarily imply the presence of a disease, countries shall ensure through their reports that they comply with the spirit and intention of paragraph 1 above.

5. As well as reporting specific new findings in accordance with Article 1.2.0.3, countries shall also provide information on the measures taken to prevent the spread of diseases, including possible quarantine measures and restrictions on the movement of aquatic animals, aquatic animal products, biological products and other miscellaneous objects which could by their nature be responsible for transmission of disease.
Article 1.2.0.3.

_Veterinary Administrations_ shall send to the OIE:

1. Notification by fax, telex, telegram or electronic mail, within 24 hours, of any of the following events:

   a) for _diseases notifiable to the OIE_, the first occurrence or re-occurrence of a disease, if the country or zone of the country was previously considered to be free from that particular disease;

   b) for _diseases notifiable to the OIE_, important new findings which are of epidemiological significance to other countries;

   c) for _diseases notifiable to the OIE_, a provisional diagnosis of the disease if this represents important new information of epidemiological significance to other countries;

   d) for _diseases not notifiable to the OIE_, if there are new findings which are of exceptional epidemiological significance to other countries.

In deciding whether findings justify immediate reporting, countries must ensure that they comply with the obligations of Section 1.3 (especially Article 1.3.1.1) of this _Code_, to report developments which may have implications for international trade.

2. Monthly reports by fax, telex, telegram or electronic mail subsequent to a notification under paragraph 1 above, to provide further information on the evolution of an incident which justified urgent notification. These reports should continue until the disease has been eradicated or the situation has become sufficiently stable that annual reporting under paragraph 3 will satisfy the obligation of the country to the OIE.

3. Annual reports on the absence or presence and evolution of diseases _notifiable to the OIE_, and findings of epidemiological importance to other countries with respect to diseases which are not listed.

Article 1.2.0.4.

1. The _Veterinary Administration_ or other _Competent Authority_ of a territory in which an _infected zone_ was located shall inform the _Central Bureau_ when this zone is free from the disease.
2. An infected zone of a determined disease shall be considered as such until a period exceeding the known infective period for the disease in question has elapsed after the last reported outbreak and when full prophylactic and appropriate sanitary measures have been applied to prevent possible reappearance or spread of the disease. These measures will be found in detail in the various chapters of Part 2 of this Code.

3. A country may be considered to be again free from a specific disease when all conditions given in the corresponding chapters of Part 2 of this Code have been fulfilled.

4. The Veterinary Administration or other Competent Authority of a country which sets up one or several free zones shall inform the OIE, giving necessary particulars and indicating clearly the location of the zones on a map of the country.

Article 1.2.0.5.

Veterinary Administrations shall communicate to the OIE the provisions of their importation and exportation aquatic animal health regulations.

They shall also communicate any amendments to their regulations as soon as they are made and, at the latest, before the annual General Session of the Committee.

Article 1.2.0.6.

1. The Central Bureau shall send by fax, telex, telegram or electronic mail to the Veterinary Administration concerned, all notifications received as provided in Articles 1.2.0.2 to 1.2.0.4.

2. The Central Bureau shall despatch by Bulletin the number of new outbreaks of diseases notifiable to the OIE.

3. The Central Bureau, on the basis of information received and of any official communication, shall prepare an annual report concerning the application of this Code and its effects on international traffic.

Article 1.2.0.7.

All faxes, telexes, telegrams or electronic mail sent by Veterinary Administrations in pursuance of Articles 1.2.0.3 and 1.2.0.6 shall receive
priority in accordance with the circumstances. Communications by fax, telex, telephone or telegram, sent in the case of exceptional urgency when there is danger of spread of a compulsorily notifiable epizootic disease, shall be given the highest priority accorded to these communications by the International Arrangements of Telecommunications.
SECTION 1.3.

VETERINARY ETHICS AND CERTIFICATION FOR INTERNATIONAL TRADE

CHAPTER 1.3.1.

GENERAL REQUIREMENTS

Article 1.3.1.1.

International trade in aquatic animals and aquatic animal products depends on a combination of factors which should be taken into account to ensure unimpeded trade, without incurring unacceptable risks to human and aquatic animal health.

An exporting country should be prepared to supply the following information to importing countries on request:

1. information on the aquatic animal health status and national aquatic animal health information systems to determine whether that country is free or has free zones of diseases notifiable to the OIE, including the regulations in force to maintain its free status;

2. regular and prompt information on the occurrence of transmissible diseases;

3. details of the country's ability to apply measures to control and prevent diseases notifiable to the OIE and, where appropriate, other diseases;

4. information on the structure of the Competent Authority and the authority which it exercises;

5. technical information, particularly on biological tests and vaccines used and applied in all or part of the national territory.
CHAPTER 1.3.2.

PRINCIPLES OF CERTIFICATION

Article 1.3.2.1.

Certification requirements

Because of the likely variations of sanitary situations, various options are offered by the Code to importing countries, and only by considering the sanitary situation in the exporting country and transit country or countries can the importing country precisely state the requirements which are to be met for imports.

These requirements are mentioned in the model certificates approved by the OIE which form Part 5 of this Code.

Importing countries should observe the following rules when preparing these requirements:

1. Requirements should be restricted to conditions which are justified by sanitary reasons and which are necessary to avoid the risk of transfer of one or several diseases or, at least, to reduce such risk to acceptable limits.

2. Certification requirements should be exact and concise, and should clearly convey the wishes of the importing country. For this purpose, prior consultation between Competent Authorities of importing and exporting countries is useful and may be necessary. This makes it possible to set out the exact requirements so that the signing veterinarian or other certifying personnel can, if necessary, be given a note of guidance explaining the understanding between the Competent Authorities involved.

3. Certification should be based on the highest possible ethical standards, the most important of which is that the professional integrity of the certifying official must be respected and safeguarded.

It is essential not to include in the requirements additional specific matters which cannot be accurately and honestly signed by a certifying official. For example, these requirements should not include certification of an area as being free from diseases which are not notifiable in the importing country and of the occurrence of which the signing certifying official is not necessarily informed. Equally, to require certification for events which will take place after the document is signed is unacceptable when these events are not under the direct control and supervision of the certifying official.
Certification of freedom from diseases based on purely clinical freedom and aquatic animal population history may be of limited value. This is also true of diseases for which there is no specific diagnostic test, or the value of the test as a diagnostic aid is limited.

The purpose of the note of guidance referred to in paragraph 2 above is not only to inform the certifying official but also to safeguard his/her professional integrity.

4. If the Competent Authority transmits certificates or communicates import permit requirements to persons other than the Competent Authority of another country, then copies of these documents must also be sent to the Competent Authority of that country.

This essential requirement avoids delays and difficulties which may arise between traders and Competent Authorities when the authenticity of the certificates or permits is not established.

This information is usually the responsibility of Competent Authorities (i.e. those having authority at a national level). It can be the responsibility of a local competent body directly responsible for the application of aquatic animal health measures at the place of origin of the aquatic animals, when it is agreed that the issue of certificates does not require the approval of the Competent Authority.

Additional responsibilities of exporting and importing countries

1. International trade involves a continuing ethical responsibility. Therefore, if within the normal infective periods of the various diseases subsequent to an export taking place, the Competent Authority becomes aware of the appearance or reappearance of a disease in an aquatic animal population, there is an obligation for this Authority to notify this fact to the importing country, so that the imported aquatic animals may be inspected or tested and appropriate action be taken to limit the spread of the disease should it have been inadvertently introduced.

Equally, if a disease condition appears in imported stocks of aquatic animals, the Competent Authority of the exporting country should be informed so as to enable an investigation to be made, because this may be the first available information on the occurrence of the disease in a previously free aquatic animal population. The Competent Authority of the importing country is entitled to be informed of the result of the investigation because the source of infection may not be in the exporting country.
2. When members of the Competent Authority of a country wish to visit another country for matters of professional interest to the Competent Authority of the other country, the latter should be informed.

Article 1.3.2.2.

Structure of certificates and responsibilities of signing certifying officials

Certificates should be drawn up in accordance with the following principles:

1. Certificates should be pre-printed, if possible on one sheet of paper, serially numbered, and issued by the Competent Authority on officially headed notepaper and, if possible, printed using techniques which prevent forgery.

2. They should be written in terms which are as simple, unambiguous and easy to understand as possible, without losing their legal meaning.

3. If so required, they should be written in the language of the importing country. In such circumstances, they should also be written in a language understood by the certifying official.

4. They should require appropriate identification of shipments of aquatic animals and aquatic animal products.

5. They should not require a certifying official to certify matters which are outside his/her knowledge or which cannot be ascertained by him/her.

6. Where appropriate, they should be accompanied, when presented to the certifying official, by notes of guidance indicating the extent of enquiries, tests or examinations expected to be carried out before the certificate is signed.

7. Their text should not be amended except by deletions which must be signed and stamped by the certifying official.

8. Only original certificates are acceptable.

Certifying officials should:

1. sign certificates only at the appropriate time; in particular, they should not sign blank or incomplete certificates, or certificates relating to aquatic animals or aquatic animal products which they have not inspected or which have passed out of their control;
2. ensure that certificates have been completed fully and correctly before signing; where a certificate is signed on the basis of another support certificate or attestation, the certifying official should be in possession of that document before signing;

3. have no financial interest in the aquatic animals or aquatic animal products being certified and not be in the direct employment of the owner of the aquatic animals or aquatic animal products.

**Article 1.3.2.3.**

**Electronic certification** (under study)

**Article 1.3.2.4.**

**Harmonisation of methods**

In as much as the OIE has approved or agreed standards concerning:

a) tests for the diagnosis of aquatic animal diseases;

b) the preparation, production and control of biological products for use in the diagnosis or prevention of diseases;

c) disinfection;

d) treatments intended to destroy viruses, bacteria or spores in aquatic animal products coming from countries considered infected with certain diseases;

these standards (included in the Manual or in this Code as Appendices) should be adopted by Competent Authorities with respect to international trade in aquatic animals and aquatic animal products.
SECTION 1.4.

IMPORT RISK ANALYSIS

CHAPTER 1.4.1.

GENERAL CONSIDERATIONS

Article 1.4.1.1.

Introduction

The importation of *aquatic animals* and *aquatic animal products* may involve a degree of *risk* to the *importing country*. This disease risk may be represented by one or several *diseases*.

The principal aim of import risk analysis is to provide importing countries with an objective and defensible method of assessing the risks associated with the importation of aquatic animals, aquatic animal products, aquatic animal genetic material, feedstuffs, *biological products* and *pathological material*. The analysis should be transparent in order that the *exporting country* may be provided with a clear and documented decision on the conditions imposed for importation, or refusal of importation.

Import risk analysis is preferable to a zero-risk approach because it provides a more objective decision, and enables *Competent Authorities* to discuss any differences in conclusion which may arise concerning potential risks.

Article 1.4.1.2.

Components of import risk analysis

Import risk analysis may involve the following:

1) *risk assessment, risk management and risk communication*;
2) evaluation of *Competent Authorities*;
3) *zoning* of countries.

Figure 1 gives the sequences of the import analysis process.
Figure 1
Import risk analysis process
Article 1.4.1.3.

Methodology

Countries wanting to conduct import risk analyses may design their own process for carrying out the exercise. Several countries have already developed processes. Some of these, and in particular risk assessment methods, have been published in the OIE Scientific and Technical Review and can be used for reference purposes.

Article 1.4.1.4.

Results of analysis

The analysis should be clearly documented and supported by references to scientific literature and other sources. The information reported to the OIE should form the main source of disease occurrence data for the analysis.

Article 1.4.1.5.

Bilateral consultation

It may be desirable, on occasion, to make bilateral arrangements for visits to seek additional information and resolve any outstanding issues.

Article 1.4.1.6.

Refusal to import

In the event of a decision to refuse the importation of a commodity, or to impose significant constraints on the importation, the importing country should, if requested, be prepared to justify its decision by providing details of the procedures and results of the import risk analysis exercise to the exporting country.

Article 1.4.1.7.

The OIE in-house procedure for settlement of disputes

The OIE shall maintain its existing in-house mechanisms for assisting member organisations to solve differences. In-house procedures which will apply are that:
1. Both parties agree to give the OIE a mandate to assist them in resolving their differences. The request is submitted to the OIE by the Veterinary Administrations or the Competent Authorities of the countries concerned.

2. If considered appropriate, the Director General of the OIE recommends an expert, or experts, and a chairman, as requested, agreed by both parties.

3. Both parties agree on the terms of reference and working programme, and to meet all expenses incurred by the OIE.

4. The expert or experts are entitled to seek clarification of any of the information and data provided by either country in the assessment or consultation processes, or to request additional information or data from either country.

5. The expert or experts should submit a confidential report to the Director General, who will transmit it to both parties.
CHAPTER 1.4.2.

GUIDELINES FOR RISK ASSESSMENT

Article 1.4.2.1.

Estimation of the probability of an adverse event

In the risk assessment of an importation, the risk associated with one or more disease agents may have to be considered. The importing country should elaborate the scenarios that could be involved in the introduction of a disease agent in an imported commodity and its subsequent exposure and transmission to aquatic animals and man. Each scenario would comprise a set of factors which should be identified for the estimation of the likelihood of some risk. In these guidelines the factors are loosely grouped into four categories, namely country factors, commodity factors, exposure factors and risk reduction factors. Depending on the commodity and the disease agent, any number of these factors may be used to estimate the probability of an adverse event for the importing country. Point estimates or probability distributions are employed to represent the values associated with each factor.

The number of aquatic animal import units being imported significantly influences the risk assessment. The aquatic animals for import must be fully described and aquatic animal products may be further described as to processing times, temperature, pH and storage conditions.

Article 1.4.2.2.

Country factors

Country factors principally reflect the prevalence of the disease agent in the aquatic population of the exporting country. The aquatic population represents the origin or parent population of the commodity. This population must be defined since it may comprise all aquatic animals in aquaculture establishments and/or wild aquatic animals within the exporting country or some sub-population therein. The latter may include aquatic animals in a particular body of water or other geographically defined area.

In the absence of quantitative data, a prevalence may be assigned to the occurrence of diseases notifiable to the OIE and other significant diseases as reported to the OIE in the categories of exceptional, low sporadic, enzootic and high. This quantitative assignment must be supported with scientific information on the prevalence of the disease agent in aquatic animal populations.

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The three other OIE disease occurrence designations, namely:
- suspected but not confirmed,
- serological evidence and/or isolation of causative agent, no clinical disease,
- disease exists, distribution and occurrence unknown,

are categorised as having an exceptional, low sporadic, enzootic or high level of prevalence, depending on the outcome of the evaluation of the Competent Authority of the exporting country, particularly relating to surveillance systems.

Other country factors include:
- level of surveillance and monitoring
- disease zoning
- degree of contact between farmed and wild aquatic animals and vice versa.

Commodity factors

The commodity factors are parameters specific to a particular commodity that affect the probability of disease agent presence and survival in the commodity at the time of entry into the importing country.

Some of the following factors may be involved:
- species and life-stage of aquatic animal
- water source where reared
- water salinity and temperature in the period prior to export
- disease agent predilection sites
- ease of disease agent contamination
- pH
- temperature and duration of heat processing
- temperature and duration of freezing
- other processing procedures
- temperature and duration of storage
- transit temperature and duration
- additives and treatments.

The scientific literature on agent isolation and disease transmission should be the source of information for these determinants of disease agent presence and survival. The species determinant is evaluated on the basis of information on the hosts of the disease agent. Where the literature is deficient, the available information may be supplemented by specific studies.
Exposure factors

Exposure factors are parameters specific to the use and distribution of the commodity which affects the probability that susceptible host species will be exposed and infected with a disease agent. Exposure of a particular infected commodity to aquatic animals and humans in such a way as to result in infection of one or more species may depend on a number of factors including:

- nature of the disease agent
- intended commodity use and distribution
- calendar period of importation
- distribution of the primary, secondary and intermediate hosts of the disease agent
- nature of the commodity
- mode of transmission of the disease
- customs and cultural practices
- aquatic animal health legislation and compliance
- disposal practices for unused commodity or contaminated material.

Risk reduction factors

Risk reduction factors are parameters specific to measures that are applied to reduce the probability that a disease agent will be introduced into the importing country, exposed to and/or transmitted to an aquatic or human population.

Options that exist to reduce risk associated with a particular importation include:

- choice of the origin of the commodity
- restricting the destination
- pre-and post-shipment quarantine
- diagnostic testing with tests having a high sensitivity
- vaccination
- processing, maturation and storage for a specified time and temperature
- treatments, e.g. heat treatment for a specified time and temperature, use of antibiotics and chemotherapeutics, disinfection procedures, etc.
- limiting the size and the frequency of importation.

Specific risk reduction methods for particular diseases are described in each chapter of the Code. If information on the probability of the presence or survival of a particular disease agent following application of a risk reduction option is not available, documented experience could be an alternative source of information.
Article 1.4.2.3.

Consequences

The adverse consequences affecting aquatic animal health, human health, aquatic ecology and ecosystems and the environment must be described and quantified. The scope of the adverse effects to wild populations could entail a whole range from minor to irreversible alteration to the aquatic environment and ecology.
CHAPTER 1.4.3.

EVALUATION OF COMPETENT AUTHORITIES

Article 1.4.3.1.

For the purposes of the Code, every Member Country shall recognise the right of another Member Country to undertake, or request it to undertake, an evaluation of its Competent Authority where reasons exist concerning trade in aquatic animals, aquatic animal products, aquatic animal genetic material, biological products and aquatic animal feedstuffs between the two countries.

Reasons are deemed to exist where the initiating Member Country is an actual or a prospective importer or exporter of aquatic animals, aquatic animal products, aquatic animal genetic material, biological products or aquatic animal feedstuffs and where the evaluation is to be a component of a risk assessment process which is to be used to determine or review sanitary/zoo-sanitary measures which apply to such trade.

Any evaluation should be conducted having regard to OIE guidelines.

Article 1.4.3.2.

The evaluation of Competent Authorities shall be conducted by Member Countries on a bilateral basis. The two countries concerned should consult mutually on the evaluation criteria, the information required and on the outcome of the evaluation.

A Member Country which intends to conduct an evaluation of another Member Country’s Competent Authority shall give them notice in writing. This notice should define the purpose of the evaluation and details of the information required.

The choice of criteria on which evaluation is conducted should be appropriate to the circumstances applying to the countries concerned. Criteria should be relevant to the type of the trade involved, the aquatic animal production systems in the respective countries, the difference in aquatic animal health status between the countries, and other factors which relate to the overall risk assessment.

On receipt of a formal request for information to enable an evaluation of its Competent Authority by another Member Country, and following bilateral agreement of the evaluation criteria, a Member Country should provide expeditiously to the other country meaningful and accurate information and data of the type requested.
Evaluation of Competent Authorities

The outcome of evaluation conducted by a Member Country should be provided in writing as soon as possible, and in any case within four months of receipt of the relevant information, to the Member Country which has undergone the evaluation. The evaluation report should detail any findings which affect trade prospects. The Member Country which conducts the evaluation should clarify in detail any points of the evaluation on request.

Article 1.4.3.3.

A Member Country involved in the international trade of live aquatic animals, aquatic animal products, aquatic animal genetic material, biological products or aquatic animal feedstuffs should generate and maintain current information on its Competent Authority having regard to OIE guidelines.

A Member Country can request the Director General of the OIE to arrange for an expert or experts to assist in the self-evaluation of its Competent Authority.

Article 1.4.3.4.

In the event of a dispute between two Member Countries over the appropriate evaluation criteria or the outcome of the evaluation of the Competent Authority, the matter should be dealt with having regard to procedures set out in Article 1.4.1.7.
CHAPTER 1.4.4.

ZONING

Article 1.4.4.1.

Introduction

It has been customary in the past, when evaluating the aquatic animal disease situation in a country with a view to exports of aquatic animals and/or aquatic animal products, to judge the country as a whole. If an infectious disease existed somewhere within a country's borders, or if its presence was suspected, the whole country was considered infected. As a policy of risk avoidance rather than risk assessment was usually followed, this frequently resulted in considerable, although from the point of view of aquatic animal health not always necessary, restrictions in international trade. Climatological and geographical barriers are more effective in containing aquatic animal diseases than are frontiers, and factors such as population density, aquatic animal movements and management practices are of paramount importance in determining the distribution of aquatic animal diseases, both nationally and internationally. Recognition of the biological basis of variations in the presence or extent of disease is a first step, leading to the application of the concept of zoning to aquatic animal health regulations for international trade. Application of the principles of zoning in international trade requires the establishment of internationally accepted standards with regard to terminology and such aspects as zonal boundaries, legal competence, duration of disease free periods, standards of surveillance, use of buffer zones, quarantine procedures, and other aspects of regulatory control.

Article 1.4.4.2.

General requirements for zoning

In a country wishing to set up a system of zoning for controlling an aquatic animal disease, the disease must be compulsorily notifiable.

The requirements for different types of zones vary with the disease for which they are established. Size, location and delineations will depend on the disease, its method of spread and its status in the country. Separate conditions will be developed for each disease for which zoning is considered appropriate. The extent of zones and their limits should be established by the Competent Authority and enforced by national legislation. They should be clearly delineated by natural, artificial or legal boundaries, which must be effective.
Constant supervision to prevent live aquatic animals from being transported across borders is essential, unless from a zone of equal or better aquatic animal health. In addition, it may be necessary to control movement of aquatic animal products, aquatic animal genetic material, biological products, pathological material and aquatic animal feedstuffs within and between zones.

Countries wishing to set up a system of zoning must have an effective organisation and infrastructure for disease control in aquatic animals. There must be adequate administrative structures, provided with legal and financial resources to give adequate cover for the development of the different actions required.

The Competent Authority must have the necessary resources at its disposal and must be able to supervise the boundaries, maintain clinical and epidemiological surveillance and carry out the necessary diagnostic tests. There must be prompt reporting of outbreaks of disease to the OIE, and documented evidence must be provided that an effective system of disease control and surveillance is in operation, at least in the different zones if not in the whole of the country.

Article 1.4.4.3.

Types of zones

The following types of zones are recognised:

a) disease free zone,

b) surveillance zone,

c) infected zone.

a) A disease free zone can be established in a country where the infection is still present. In the disease free zone, there must be knowledge of the location of all aquaculture establishments and populations of wild aquatic animals. Suspected outbreaks of the disease must be investigated immediately by the Competent Authority. Outbreaks must be reported to the OIE. If necessary, the disease free zone is separated from the rest of the country and from the infected neighbouring countries by a surveillance zone. Importation of aquatic animals from other parts of the country or from countries where the disease still exists into the disease free zone must take place under strict controls established by the Competent Authority.

The disease free zone should not be dependent on importation of aquatic animals or aquatic animal products from infected zones or countries which could introduce the disease.
b) A surveillance zone must have certain minimum dimensions, with a precise geographical limitation based on hydrological data and the nature of the disease. Aquatic animal movements must be controlled. The surveillance zone must have an advanced degree of disease control and surveillance.

Suspected outbreaks of the disease must be investigated immediately and, if confirmed, eliminated. A mechanism for immediate reporting to the Competent Authority must be in place. Adequate surveillance activities must follow in order to ascertain the potential spread of such outbreaks. Accordingly, it may be necessary to modify the boundaries of the zone.

Importation of susceptible aquatic animals into the surveillance zone from parts of the country or from other countries where the disease exists can only take place under suitable controls established by the Competent Authority. Freedom from infection should be confirmed by appropriate tests.

c) An infected zone is a zone where the disease is present, in an otherwise disease free country. A surveillance zone will separate the infected zone from the remainder of the country. Movement of susceptible aquatic animals out of the infected zone into the disease free parts of the country must be strictly controlled. Four alternatives can be considered:

i) no live aquatic animals may leave the zone, or

ii) aquatic animals can be moved by mechanical transport to special fish slaughtering premises/mollusc/shrimp production facilities located in the surveillance zone for immediate slaughter, or

iii) exceptionally, live aquatic animals can enter the surveillance zone under suitable controls established by the Competent Authority. For diseases in which the disease agent constitutes a surface pathogen, appropriately disinfected eggs can enter a surveillance zone. Freedom from infection of these aquatic animals must be confirmed by appropriate tests before entering the zone, or

iv) live aquatic animals can leave the infected zone if the epidemiological conditions are such that disease transmission cannot occur.

Article 1.4.4.4.

Recognition of disease free zones

Countries wishing to obtain recognition of a disease free zone must demonstrate that they have a reliable system of disease control and surveillance, that the disease is compulsorily notifiable, and that they have an effective organisation for disease control in aquaculture establishments.
(i.e. generally not possible in wild aquatic populations). The Competent Authority must accurately specify the delineations of the zone, describe how the boundaries are controlled, and supply further information about additional measures that have been taken, covering such aspects as control of aquatic animal movements, etc.

Countries which fulfil these conditions can submit the documented evidence of their status to the OIE with a request to be included in the relevant OIE list.
SECTION 1.5.

IMPORT/EXPORT PROCEDURES

CHAPTER 1.5.1.

RECOMMENDATIONS FOR TRANSPORT

Article 1.5.1.1.

General arrangements

1. These arrangements should be compulsory in all countries either by legislative or regulatory texts and methods of application should be described in a manual available to all concerned.

2. Vehicles (or containers) used for the transport of aquatic animals shall be designed, constructed and fitted in such a way as to withstand the weight of the aquatic animals and water and to ensure their safety and welfare during transportation. Vehicles shall be thoroughly cleansed and disinfected before use according to the guidelines given in this Code.

3. Vehicles (or containers) in which aquatic animals are confined during carriage by sea or by air shall be secured to maintain optimal conditions for the aquatic animals during the transport, and to allow easy access by the attendant.

Article 1.5.1.2.

Particular arrangements for containers

1. The construction of containers intended for transportation of aquatic animals shall be such that the release of water etc. is prevented during transport.

2. In the case of the transportation of aquatic animals, provision shall be made to enable preliminary observation of the contents.
3. Containers in transit in which there are aquatic animal products shall not be opened unless the Competent Authorities of the transit country consider it necessary that they should be opened, and subject to precautions being taken to avoid any risk of contamination.

4. Containers shall be loaded only with one kind of product or, at least, with products not likely to be contaminated one by another.

5. In any case, it rests with each country to decide on the facilities it requires for the transit and importation operations of aquatic animals and aquatic animal products in containers.

Article 1.5.1.3.

Particular arrangements for the transport of aquatic animals by air

1. The stocking densities for the transport of aquatic animals in aircraft or containers should be determined by taking the following into consideration:

   a) the total cubic metres of available space for each type of aquatic animal;

   b) the oxygenation capacity of the equipment attached to aircraft and containers whilst on the ground and during all stages of the flight.

   With regard to fish, molluscs and crustaceans the OIE recommends that the space reserved for each aquatic animal species in aircraft or containers which have been fitted for the separate transportation of several aquatic animals or for the transportation of groups of animals, comply with acceptable densities specified for the species in question.

2. IATA Regulations for live animals (which are approved by the OIE) may be adopted if they do not conflict with national legislative arrangements. (Copies of these Regulations are obtainable from the International Air Transport Association, 2000 Peel Building, Montreal, Quebec H3A 2R4, Canada.)

Article 1.5.1.4.

Disinfection and other sanitary measures

1. Disinfection and all zoo-sanitary work should be carried out in order to:

   a) avoid all unjustified inconvenience and to prevent damage or injury to the health of people and aquatic animals;
Transport

b) avoid damage to the structure of the vehicle or its appliances;

c) prevent, as far as possible, any damage to aquatic animal products, fish eggs, mollusc and crustacean larvae.

2. On request, the Competent Authority shall issue the transporters with a certificate indicating the measures which have been applied to all vehicles, the parts of the vehicle which have been treated, the methods used and the reasons which led to the application of the measures.

In the case of aircraft, the certificate may be replaced on request, by an entry in the General Declaration of the aircraft.

3. Likewise, the Competent Authority shall issue on request:

a) a certificate showing the date of arrival and departure of the aquatic animals;

b) a certificate to the shipper or exporter, the consignee and transporter or their representatives, indicating the measures applied.

Article 1.5.1.5.

Treatment of transportation water

During transportation of aquatic animals, the transporter should not be permitted to evacuate and replace the water in the transport tanks except on specifically designated sites in the national territory. The waste and rinsing water should not be emptied into a drainage system which is directly connected with a stream or lake in which fish are kept. The water from the tanks should therefore either be emptied into a reservoir and disinfected by a recognised process (for example, 50 mg iodine or chlorine/litre for one hour), or sprayed over land which does not drain into waters containing fish. Each country shall designate the sites in their national territories where these operations can be carried out.

In the event of a breakdown resulting in the immobilisation of the vehicle, if it is impossible to transfer the load to another vehicle for transportation to the scheduled destination, the aquatic animals should either be destroyed or handed over to a local farmer who is in a position to accept them. This farmer should keep the transferred fish, molluscs or crustaceans on his own farm if they come from an aquaculture establishment which is free from pathogens of the aquatic animal diseases included in this Code (CPF - Code Pathogen Free), in which case these aquatic animals shall have, ipso facto, the same health status as the aquatic animals already kept on the receiving farm. If the transferred aquatic animals are not CPF and they have attained the acceptable market weight, they should be released for human consumption.
Article 1.5.1.6.

Discharge of infected material

The Competent Authority shall take all practical measures to prevent the discharge of any infective material into internal or territorial waters.
CHAPTER 1.5.2.

AQUATIC ANIMAL HEALTH MEASURES APPLICABLE BEFORE AND AT DEPARTURE

Article 1.5.2.1.

1. Each country should only authorise the exportation from its territory of live aquatic animals for breeding or rearing or dead uneviscerated fish or live molluscs for consumption which are correctly identified, and inspected according to the procedures outlined in the Code and Manual.

2. In certain cases, the above-mentioned aquatic animals could, according to the wish of the importing country, be subjected to certain biological tests or to prophylactic parasitological procedures within limits of a minimum and maximum period of time before their departure.

3. Observation of the above-mentioned aquatic animals before leaving the country may be carried out in the establishment where they were reared or at the frontier post. When they have been found to be clinically healthy and free from diseases notifiable to the OIE or any other specified infectious disease by a member of the Personnel of the Competent Authority or a certifying official approved by the importing country during the period of observation, the aquatic animals should be transported to the place of shipment in specially constructed containers, previously cleansed and disinfected, without delay and without coming into contact with other susceptible aquatic animals, unless these aquatic animals have sanitary guarantees similar to those of the transported aquatic animals.

4. The transportation of the aquatic animals for breeding or rearing or slaughter from the establishment of origin shall be carried out in conformity with the conditions agreed between the importing and exporting countries directly to the place of shipment or to the processing establishment.

Article 1.5.2.2.

Each country should only undertake the exportation from its territory of eggs/gametes from breeding stations or hatcheries which are officially controlled by the Competent Authority of the district of origin and which are free from specified diseases notifiable to the OIE.
Article 1.5.2.3.

Each country exporting any stage of *aquatic animals* or *aquatic animal products* should inform the country of destination and when necessary the *transit countries* if, after exportation, *diagnosis* of a *disease notifiable to the OIE* occurs in the establishment of origin, or in aquatic animals which were in the *aquaculture establishment* or natural water body at the same time as the exported animals, within a period of time which indicates that the exported consignment may have been infected.

Article 1.5.2.4.

Before the departure of the *aquatic animals* and *aquatic animal products*, a member of the *Personnel of the Competent Authority* or a *certifying official* approved by the *importing country* should provide an international animal health certificate conforming with the models approved by the OIE (as shown in Part 5 of this *Code*) and worded in the languages agreed upon between the *exporting country* and the *importing country* and, when necessary, with the *transit countries*.

Article 1.5.2.5.

1. Before the departure of a consignment of *aquatic animals* on an international journey, the *Competent Authority* of the port, airport or district in which the *frontier post* is situated may, if it is considered necessary, have a health examination carried out on the consignment. The time and place of the examination shall be fixed taking into account customs and other formalities and in such a way as not to impede or delay departure.

2. The Competent Authority referred to in paragraph 1 above shall take necessary measures to:

   a) prevent the shipment of aquatic animals showing clinical signs of any *disease notifiable to the OIE* or other significant infectious disease;

   b) avoid entry into the *container* of possible vectors or causal agents of infection.
CHAPTER 1.5.3.

AQUATIC ANIMAL HEALTH MEASURES APPLICABLE DURING THE JOURNEY BETWEEN THE PLACE OF DEPARTURE IN THE EXPORTING COUNTRY AND THE PLACE OF ARRIVAL IN THE IMPORTING COUNTRY AND IN TRANSIT

Article 1.5.3.1.

1. Any country through which the transit of aquatic animals has to be made, and which normally conducts commercial transactions with the exporting country, should not refuse the transit, subject to the reservations mentioned herein and on condition that notification is made of the proposed transit to the Veterinary Administration or Competent Authority in charge of the frontier posts.

This notification shall state the species and quantities of aquatic animals, the methods of transport and the frontier posts of entry and exit in accordance with a previously arranged and authorised itinerary in the transit country.

2. Any country through which transit has to take place may refuse such transit if, in the exporting country or transit country which precedes it on the itinerary, certain diseases exist which are considered by the country in question as capable of being transmitted to its own aquatic animals.

3. Any transit country may require the presentation of international aquatic animal health certificates. Such a country may, in addition, cause an examination to be made by a member of the Personnel of the Competent Authority on the health status of fish, molluscs or crustaceans in transit, except in cases where transport in sealed vehicles or containers is a condition of transit.

4. Any transit country may refuse passage through its territory of aquatic animals at one of its frontier posts if an examination carried out by a member of the Personnel of the Competent Authority shows that the consignment of aquatic animals in transit is affected by or infected with any of the compulsorily notifiable epizootic diseases or a disease regarded by the transit country as exotic, or if the international aquatic animal health certificate is inaccurate and/or unsigned or does not apply to fish, molluscs or crustaceans.

In these circumstances, the Competent Authority of the exporting country shall be informed immediately, thereby providing an opportunity of checking the findings or correcting the certificate.
If the diagnosis of any disease notifiable to the OIE is confirmed or if the certificate cannot be corrected, the consignment of aquatic animals in transit shall either be returned to the exporting country if there is a common frontier with it, or be slaughtered or destroyed.

5. This Article does not apply to fish, molluscs and crustaceans if transported in securely-closed vehicles or containers.

**Article 1.5.3.2.**

1. Any transit country may require railway wagons and road vehicles used for the transit of aquatic animals through its territory to be constructed in order to prevent the escape and dispersion of waste water or other contaminated material on railway lines or roads.

2. Unloading of live fish, molluscs or crustaceans shall be permitted in the territory of the transit country only if an emergency situation arises. The importing country shall be informed of any unforeseen unloading in the transit country and the reason for it.

**Article 1.5.3.3.**

Vessels stopping in a port or passing through a canal or other navigable route situated in the territory of a country, on their way to a port situated in the territory of another country, must comply with the conditions required by the Competent Authority.

**Article 1.5.3.4.**

1. If, for reasons beyond the control of its captain, a ship or aircraft calls or lands somewhere other than at a port or airport, or at a port or airport other than that at which it should normally call or land, the captain of the ship or aircraft, or his deputy, shall immediately notify the nearest Competent Authority or any other public authority of the new port of call or landing.

2. As soon as the Competent Authority is notified of this calling or landing place, it shall take appropriate action.

3. The aquatic animals on board the ship or aircraft shall not be permitted to leave the vicinity of the docking or landing place and the removal from the vicinity of any equipment or packing material accompanying them shall not be permitted.
4. When the measures prescribed by the Competent Authority have been carried out, the ship or aircraft shall be permitted, for sanitary purposes, to proceed to the port or airport at which it would normally have called or landed or, if there are technical reasons for which this cannot be done, to a port or an airport which is more suitable.
CHAPTER 1.5.4.

FRONTIER POSTS IN THE IMPORTING COUNTRY

Article 1.5.4.1.

When justified by the amount of international traffic and by the epidemiological situation, specified frontier posts shall be provided with an office of the Competent Authority comprising personnel, equipment and premises as the case may be and, in particular, means for:

1. detecting and isolating aquatic animal populations affected with or suspected of being affected with an epizootic disease;
2. carrying out disinfection of vehicles used to transport aquatic animals and aquatic animal products;
3. making clinical examinations and obtaining specimens of material for diagnostic purposes from live aquatic animals or carcasses of aquatic animals affected or suspected of being affected with an epizootic disease, and obtaining specimens of aquatic animal products suspected of contamination.

Furthermore, each port and international airport should ideally be provided with equipment for the sterilisation or incineration of any material dangerous to aquatic animal health.

Article 1.5.4.2.

When required by international traffic in transit, airports shall be provided, as soon as possible, with areas of direct transit; these must, however, comply with the conditions required by the Veterinary Administrations or other responsible Competent Authorities.

Article 1.5.4.3.

Each Veterinary Administration shall keep at the disposal of the Central Bureau and any interested country on request:

1. a list of specified frontier posts and processing plants of aquatic animals in its territory which are approved for international traffic;
2. the period of time required for notice to be given for the application of the arrangements contained in paragraph 2 of Articles 1.5.5.1 and 1.5.5.2;

3. a list of airports in its territory which are provided with an area of direct transit.
CHAPTER 1.5.5.

AQUATIC ANIMAL HEALTH MEASURES ON ARRIVAL

Article 1.5.5.1.

1. Any importing country should only accept into its territory, live aquatic animals which have been subjected to examination by a member of the Personnel of the Competent Authority of the exporting country or a certifying official approved by the importing country, and which are accompanied by an international aquatic animal health certificate.

2. Any importing country may require sufficient advance notification regarding the proposed date of entry into its territory of aquatic animals, stating the species, quantity, means of transport and the name of the frontier post.

   In addition, any importing country shall publish a list of the specified frontier posts supplied with the equipment required for conducting control operations at importation and enabling the importation and transit procedures to be carried out in the most speedy and efficacious way.

3. Any importing country may prohibit the introduction into its territory of aquatic animals when the exporting country is considered to harbour or contain a disease/disease agent of concern to the importing country and capable of being transmitted to its own stock of aquatic animals, unless the aquatic animals are derived from an aquaculture establishment/zone with equal or better disease status for the disease in question than the zone they will be introduced to. In the case of transit countries, the prohibition should not apply to live fish, molluscs and crustaceans which are transported in securely closed vehicles or containers.

4. Any importing country may prohibit the introduction into its territory of aquatic animals, if these were found, on examination carried out at the frontier post by a member of the Personnel of the Competent Authority, to be affected, suspected of being affected or infected with a specified disease of concern to the importing country.

   Refusal of entry may also be applied to aquatic animals which are not accompanied by an international aquatic animal health certificate conforming with the requirements of the importing country.

   In these circumstances, the Competent Authority of the exporting country shall be informed immediately, thereby providing an opportunity of checking the findings or correcting the certificate.
Arrival in the importing country

However, the importing country may prescribe that the importation be placed immediately in quarantine in order to carry out clinical observation and biological examinations with a view to establishing a formal diagnosis.

If the diagnosis of a disease notifiable to the OIE is confirmed, or if the certificate cannot be corrected, the importing country may take the following measures:

a) return the aquatic animals involved to the exporting country, if this rejection does not involve transit through a third country;

b) slaughter and destroy in cases where re-shipment would be dangerous from the health point of view or impossible from a practical point of view.

5. Aquatic animals accompanied by an international aquatic animal health certificate found to be valid by the Competent Authority at the frontier post, should be permitted to be imported.

Article 1.5.5.2.

1. Any importing country should only accept into its territory raw uneviscerated products of aquatic animal origin destined for human consumption which have been subjected to examination by a member of the Personnel of the Competent Authority of the exporting country or a certifying official approved by the importing country, and which are accompanied by an international aquatic animal health certificate.

2. Any importing country may require sufficient advance notification regarding the proposed date of entry into its territory of a consignment of products of aquatic animal origin destined for human consumption, together with information on the nature, quantity and packaging of the products, and the name of the frontier post.

3. Any country may prohibit the importation into its territory of products of aquatic animal origin destined for human consumption, when a disease/disease agent of concern to the importing country exists in the exporting country and is considered by the importing country as capable of being introduced by the above-mentioned products, unless the products are derived from an aquaculture establishment/zone with equal or better disease status for the disease in question than the zone they will be introduced to. There may also be prohibition of transit through countries where these diseases exist, except where the transport is carried out in sealed vehicles or containers.
Article 1.5.5.3.

On arrival at a frontier post of a vehicle transporting aquatic animals infected with any specified disease notifiable to the OIE, the vehicle shall be considered as contaminated and the Competent Authority shall apply the following measures:

1. unloading of the vehicle and immediate transportation of any possibly contaminated material such as water or ice to an establishment assigned in advance for their destruction and the strict application of the sanitary measures required by the importing country;

2. disinfection of:

   a) outer clothes and boots of the crew on the transporting vehicle;

   b) all parts of the vehicle which were used in the transport, moving and unloading of the aquatic animals.
CHAPTER 1.5.6.

MEASURES CONCERNING INTERNATIONAL TRANSFER OF PATHOLOGICAL MATERIAL AND BIOLOGICAL PRODUCTS

Article 1.5.6.1.

The importation of pathological material and biological products which may contain infectious agents causing the diseases listed in the Code should require specific authorisation by the Competent Authority of the importing country, with the conditions of importation described.

Any material which does not satisfy these conditions should be returned or sterilised together with its packing.

Article 1.5.6.2.

1. Every consignment of pathological material or biological products should be notified by the consigner to the consignee, giving the following information:

   a) exact nature of the product 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 consignee should notify the consigner of the receipt of each consignment of infectious material or biological products on its arrival.

3. When a consignment which has been notified by the consigner fails to arrive by the anticipated date, the consignee should notify the Competent Authority of the receiving country and, at the same time, the consigner in the country of origin, so that any necessary action can be taken for investigation to be made without delay.
Pathological material and biological products

Article 1.5.6.3.

For the purposes of this Code:

the sending of pathological material and biological products should be subject to the special rules concerning packaging stipulated for perishable biological material by the Universal Postal Convention established by the Universal Postal Union.

Article 1.5.6.4.

For the purposes of this Code:

vaccines containing live attenuated microorganisms, or live attenuated (modified) viruses packaged or in bulk and sent in large quantities which render the conditions described in Article 1.5.6.3 inapplicable in practice, should be packed in such a way that no outside contamination is possible (solid, well-sealed internal containers, solid and securely fastened protective boxes or cases, a sufficient amount of absorbent material, and labels marked: Perishable biological products - Dangerous - Not to be opened during transportation).

Article 1.5.6.5.

1. Each receiving country should only accept vaccines for veterinary use for which a certificate is provided stating that the vaccines were officially controlled in the exporting country.

2. Vaccines for which the authorisation described in Article 1.5.6.1 has been made and whose identity and conformity with the certificates of origin have been verified, should be permitted entry.

3. However, if inspection of the consignment shows any change in the vaccines for veterinary use which could endanger the health of human beings or aquatic animals, the Competent Authority of the receiving country should cause these vaccines to be seized and destroyed.
PART 2

DISEASES NOTIFIABLE TO THE OIE

An annual report on the occurrence of diseases notifiable to the OIE should be sent to the Central Bureau in accordance with Article 1.2.0.3 of this Code.

When a new outbreak occurs in a previously free country or zone, notification to the Central Bureau should be made within 24 hours.

Introduction

The Chapters that follow cover a number of diseases which are generally regarded as having the potential for serious damage to the national aquacultural industries for, or wild populations of, fish, molluscs and crustaceans. Introduction of these diseases into countries free from them or into countries with national control or eradication programmes could cause significant economic loss. The Veterinary Administrations or other responsible Competent Authorities of such importing countries have an obligation to ensure that new infectious agents are not introduced through imports, and to seek adequate protection in veterinary health certificates.

As mentioned in the Guide to the Use of this Code, it is unnecessary and against the principles of facilitating international trade to seek guarantees of freedom from ubiquitous infections which are prevalent in the importing country. There may be exceptions to this general rule, for example, where programmes exist in the importing country for the control or eradication of specific diseases, or where it is considered important to avoid the introduction of new strains of pathogens.
DISEASES NOTIFIABLE TO THE OIE

SECTION 2.1. Diseases of fish

Chapter 2.1.1. Epizootic haematopoietic necrosis

Chapter 2.1.2. Infectious haematopoietic necrosis

Chapter 2.1.3. *Oncorhynchus masou* virus disease (salmonid herpesvirus type 2)

Chapter 2.1.4. Spring viraemia of carp

Chapter 2.1.5. Viral haemorrhagic septicaemia (Egtved virus)
EPIZOOTIC HAEMATOPOIETIC NECROSIS (EHN)

Preamble: For diagnostic tests, refer to Chapter 2 in the Manual.

Susceptible hosts: redfin perch (Perca fluviatilis), rainbow trout (Oncorhynchus mykiss) and Atlantic salmon (Salmo salar).

Article 2.1.1.1.

For the purposes of this Code:

EHN: free country

A country may be considered free from EHN when:

1) no recorded outbreak of EHN disease has occurred within its territory, for at least the previous two years;

2) epizootic haematopoietic necrosis virus (EHNV) has not been detected in any fish tested during operation of a national fish health surveillance scheme, using the procedures described in the OIE Manual;

3) it is observing the conditions referred to in Articles 2.1.1.2, 2.1.1.3 and 2.1.1.4.

EHN: free zone

An EHN free zone may be a part of the territory of a country where the virus is present, but such a zone can only comprise aquaculture establishments and wild populations:

1) which have been tested in an official fish health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual;

2) in which EHNV has not been detected during this two-year period.
Such EHN free zones must comprise:

1) one or more entire water catchment areas from the sources of the waterways to the sea, or

2) part of a catchment area from the source(s) to a natural or artificial barrier which prevents the upward migration of fish from lower stretches of the waterway.

Such zones must be clearly delineated on a map of the territory of the country concerned by the Competent Authority and must be observing the conditions referred to in Articles 2.1.1.2, 2.1.1.3 and 2.1.1.4.

EHN: free aquaculture establishment

An EHN free aquaculture establishment may be located not only within an EHN free country or zone but also within an EHN infected zone provided that:

1) it has been tested in an official fish health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual, without detection of EHNV;

2) it is supplied by water only from a spring, well or borehole and free of stocks of wild fish;

3) there is a natural or artificial barrier which prevents the migration of fish from lower stretches of the waterway into the farm or its water supply;

4) it is observing the conditions referred to in Articles 2.1.1.2, 2.1.1.3 and 2.1.1.4.

EHN: restoration of free status

A country, a zone or an aquaculture establishment may be restored to EHN free status if EHNV has not been detected for the last two years of a surveillance scheme using the procedures described in the OIE Manual.

Article 2.1.1.2.

When importing live fish of any susceptible species, or their spawning products (eggs and gametes), the Competent Authority of the importing country should require that the consignment be accompanied by an international aquatic animal health certificate issued by the Competent Authority of the exporting country, or an approved certifying official by the importing country.
This certificate must certify, on the basis of an official fish health surveillance scheme comprising inspection and laboratory tests on susceptible species conducted according to the OIE Manual, whether or not the consignment originates from a country officially declared EHN free.

If the country of origin is not officially declared to be EHN free, the certificate must state whether the consignment originates:

1) from a zone officially declared EHN free, or
2) from an aquaculture establishment officially declared EHN free.

The certificate shall be in accordance with Model Certificate No. 1 given in Part 5 of this Code.

Article 2.1.1.3.

Importing countries which are officially declared to be EHN free should only accept for importation live fish or sexual products of fish from exporting countries declared EHN free, or from clearly defined EHN free zones in countries not declared EHN free.

Importing countries not regarded as EHN free but which have officially recognised EHN free zones, should only import live fish and sexual products of fish into such zones from other countries or zones which are officially declared EHN free.

For aquaculture establishments officially declared EHN free which exist in infected zones, the Competent Authority of the country concerned should allow importation of live fish or sexual products only from officially declared EHN free aquaculture establishments in other countries.

Article 2.1.1.4.

For dead fish

The Competent Authorities in countries officially declared to be EHN free should demand that dead fish for importation from countries not free from EHN be eviscerated before transit.

In general, the Competent Authority of a country importing uneviscerated dead fish should require that the consignment be accompanied by an international health certificate, conforming to the Model Certificate No. 2, issued by the Competent Authority in the country of origin.
Epizootic haematopoietic necrosis

This certificate should declare the health status of the country in respect of EHN and the other fish diseases listed in this Code.
CHAPTER 2.1.2.

INFECTIOUS HAEMATOPOIETIC NECROSIS (IHN)

Preamble: For diagnostic tests, refer to Chapter 3 in the Manual.

Susceptible hosts: salmonids (Oncorhynchus spp. and Salmo spp.).

Article 2.1.2.1.

For the purposes of this Code:

IHN: free country

A country may be considered free from IHN when:

1) no recorded outbreak of IHN disease has occurred within its territory, for at least the previous two years;

2) infectious haematopoietic necrosis virus (IHNV) has not been detected in any fish tested during operation of a national fish health surveillance scheme, using the procedures described in the OIE Manual;

3) it is observing the conditions referred to in Articles 2.1.2.2, 2.1.2.3 and 2.1.2.4.

IHN: free zone

An IHN free zone may be a part of the territory of a country where the virus is present, but such a zone can only comprise aquaculture establishments and wild populations:

1) which have been tested in an official fish health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual;

2) in which IHNV has not been detected during this two-year period.
Infectious haematopoietic necrosis

Such IHN free zones must comprise:

1) one or more entire water catchment areas from the sources of the waterways to the sea, or

2) part of a catchment area from the source(s) to a natural or artificial barrier which prevents the upward migration of fish from lower stretches of the waterway.

Such zones must be clearly delineated on a map of the territory of the country concerned by the Competent Authority and must be observing the conditions referred to in Articles 2.1.2.2, 2.1.2.3 and 2.1.2.4.

IHN: free aquaculture establishment

An IHN free aquaculture establishment may be located not only within an IHN free country or zone but also within an IHN infected zone provided that:

1) it has been tested in an official fish health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual, without detection of IHNV;

2) it is supplied by water only from a spring, well or borehole and free of stocks of wild fish;

3) there is a natural or artificial barrier which prevents the migration of fish from lower stretches of the waterway into the farm or its water supply;

4) it is observing the conditions referred to in Articles 2.1.2.2, 2.1.2.3 and 2.1.2.4.

IHN: restoration of free status

A country, a zone or an aquaculture establishment may be restored to IHN free status if IHNV has not been detected for the last two years of a surveillance scheme using the procedures described in the OIE Manual.

Article 2.1.2.2.

When importing live fish of any susceptible species, or their spawning products (eggs and gametes), the Competent Authority of the importing country should require that the consignment be accompanied by an international aquatic animal health certificate issued by the Competent Authority of the exporting country, or an approved certifying official by the importing country.
This certificate must certify, on the basis of an official fish health surveillance scheme comprising inspection and laboratory tests on susceptible species conducted according to the OIE Manual, whether or not the consignment originates from a country officially declared IHN free.

If the country of origin is not officially declared to be IHN free, the certificate must state whether the consignment originates:

1) from a zone officially declared IHN free, or

2) from an aquaculture establishment officially declared IHN free.

The certificate shall be in accordance with Model Certificate No. 1 given in Part 5 of this Code.

Article 2.1.2.3.

Importing countries which are officially declared to be IHN free should only accept for importation live fish or sexual products of fish from exporting countries declared IHN free, or from clearly defined IHN free zones in countries not declared IHN free.

Importing countries not regarded as IHN free, but which have officially recognised IHN free zones, should only import live fish and sexual products of fish into such zones from other countries or zones which are officially declared IHN free.

For aquaculture establishments officially declared IHN free which exist in infected zones, the Competent Authority of the country concerned should allow importation of live fish or sexual products only from officially declared IHN free aquaculture establishments in other countries.

Article 2.1.2.4.

For dead fish

The Competent Authorities in countries officially declared to be IHN free should demand that dead fish for importation from countries not free from IHN be eviscerated before transit.

In general, the Competent Authority of a country importing uneviscerated dead fish should require that the consignment be accompanied by an international health certificate, conforming to the Model Certificate No. 2, issued by the Competent Authority in the country of origin.
Infectious haematopoietic necrosis

This certificate should declare the health status of the country in respect of IHN and the other fish diseases listed in this *Code.*
CHAPTER 2.1.3.

ONCORHYNCHUS MASOU VIRUS DISEASE
(OMV)
(Synonym: salmonid herpesvirus type 2)

Preamble: For diagnostic tests, refer to Chapter 4 in the Manual.

Susceptible hosts: salmonids (Oncorhynchus spp.).

Article 2.1.3.1.

For the purposes of this Code:

Oncorhynchus masou virus disease: free country

A country may be considered free from Oncorhynchus masou virus disease when:

1) no recorded outbreak of Oncorhynchus masou virus disease has occurred within its territory, for at least the previous two years;

2) salmonid herpesvirus type 2 has not been detected in any fish tested during operation of a national fish health surveillance scheme, using the procedures described in the OIE Manual;

3) it is observing the conditions referred to in Articles 2.1.3.2, 2.1.3.3 and 2.1.3.4.

Oncorhynchus masou virus disease: free zone

An Oncorhynchus masou virus disease free zone may be a part of the territory of a country where the virus is present, but such a zone can only comprise aquaculture establishments and wild populations:

1) which have been tested in an official fish health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual;

2) in which salmonid herpesvirus type 2 has not been detected during this two-year period.
Such salmonid herpesvirus type 2 free zones must comprise:

1) one or more entire water catchment areas from the sources of the waterways to the sea, or

2) part of a catchment area from the source(s) to a natural or artificial barrier which prevents the upward migration of fish from lower stretches of the waterway.

Such zones must be clearly delineated on a map of the territory of the country concerned by the Competent Authority and must be observing the conditions referred to in Articles 2.1.3.2, 2.1.3.3 and 2.1.3.4.

**Oncorhynchus masou virus disease: free aquaculture establishment**

An *Oncorhynchus masou* virus disease free aquaculture establishment may be located not only within a salmonid herpesvirus free country or zone but also within a salmonid herpesvirus type 2 infected zone provided that:

1) it has been tested in an official fish health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual, without detection of salmonid herpesvirus type 2;

2) it is supplied by water only from a spring, well or borehole and free of stocks of wild fish;

3) there is a natural or artificial barrier which prevents the migration of fish from lower stretches of the waterway into the farm or its water supply;

4) it is observing the conditions referred to in Articles 2.1.3.2, 2.1.3.3 and 2.1.3.4.

**Oncorhynchus masou virus disease: restoration of free status**

A country, a zone or an aquaculture establishment may be restored to *Oncorhynchus masou* virus disease free status if salmonid herpesvirus type 2 has not been detected for the last two years of a surveillance scheme using the procedures described in the OIE Manual.

**Article 2.1.3.2.**

When importing live fish of any susceptible species, or their spawning products (eggs and gametes), the Competent Authority of the importing country should require that the consignment be accompanied by an international aquatic animal health certificate issued by the Competent Authority of the exporting country, or an approved certifying official by the importing country.
This certificate must certify, on the basis of an official fish health surveillance scheme comprising inspection and laboratory tests on susceptible species conducted according to the OIE Manual, whether or not the consignment originates from a country officially declared free from Oncorhynchus masou virus disease.

If the country of origin is not officially declared to be salmonid herpesvirus type 2 free, the certificate must state whether the consignment originates:

1) from a zone officially declared salmonid herpesvirus type 2 free, or

2) from an aquaculture establishment officially declared salmonid herpesvirus type 2 free.

The certificate shall be in accordance with Model Certificate No. 1 given in Part 5 of this Code.

Article 2.1.3.3.

Importing countries which are officially declared to be Oncorhynchus masou virus disease free should only accept for importation live fish or sexual products of fish from exporting countries declared Oncorhynchus masou virus disease free, or from clearly defined salmonid herpesvirus free zones in countries not declared salmonid herpesvirus type 2 free.

Importing countries not regarded as Oncorhynchus masou virus disease free, but which have officially recognised Oncorhynchus masou virus disease free zones, should only import live fish and sexual products of fish into such zones from other countries or zones which are officially declared salmonid herpesvirus type 2 free.

For aquaculture establishments officially declared Oncorhynchus masou virus disease free which exist in infected zones, the Competent Authority of the country concerned should allow importation of live fish or sexual products only from officially declared salmonid herpesvirus type 2 free aquaculture establishments in other countries.

Article 2.1.3.4.

For dead fish

The Competent Authorities in countries officially declared to be Oncorhynchus masou virus disease free should demand that dead fish for importation from countries not free from salmonid herpesvirus type 2 be eviscerated before transit.
In general, the Competent Authority of a country importing uneviscerated dead fish should require that the consignment be accompanied by an *international aquatic animal health certificate*, conforming to the Model Certificate No. 2, issued by the Competent Authority in the country of origin.

This certificate should declare the health status of the country in respect of *Oncorhynchus masou* virus disease and the other fish diseases listed in this *Code*. 
CHAPTER 2.1.4.

SPRING VIRAEMIA OF CARP
(SVC)

Preamble: For diagnostic tests, refer to Chapter 5 in the Manual.

Susceptible hosts: common carp (Cyprinus carpio), grass carp (Ctenopharyngodon idellus), silver carp (Hypophthalmichthys molitrix), bighead carp (Aristichthys nobilis), crucian carp (Carassius carassius), goldfish (C. auratus), tench (Tinca tinca) and sheatfish (Silurus glanis).

Article 2.1.4.1.

For the purposes of this Code:

SVC: free country

A country may be considered free from SVC when:

1) no recorded outbreak of SVC disease has occurred within its territory, for at least the previous two years;

2) spring viraemia of carp virus (SVCV) has not been detected in any fish tested during operation of a national fish health surveillance scheme, using the procedures described in the OIE Manual;

3) it is observing the conditions referred to in Articles 2.1.4.2, 2.1.4.3 and 2.1.4.4.

SVC: free zone

An SVC free zone may be a part of the territory of a country where the virus is present, but such a zone can only comprise aquaculture establishments and wild populations:

1) which have been tested in an official fish health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual;

2) in which SVCV has not been detected during this two-year period.
Such SVC free zones must comprise:

1) one or more entire water catchment areas from the sources of the waterways to the sea, or

2) part of a catchment area from the source(s) to a natural or artificial barrier which prevents the upward migration of fish from lower stretches of the waterway.

Such zones must be clearly delineated on a map of the territory of the country concerned by the Competent Authority and must be observing the conditions referred to in Articles 2.1.4.2, 2.1.4.3 and 2.1.4.4.

SVC: free aquaculture establishment

An SVC free aquaculture establishment may be located not only within an SVC free country but also within an SVC infected country provided that:

1) it has been tested in an official fish health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual, without detection of SVCV;

2) it is supplied by water only from a spring, well or borehole and free of stocks of wild fish;

3) it is not connected to a watercourse or there is a natural or artificial barrier which prevents the migration of fish from lower stretches of the waterway into the farm or its water supply;

4) it is observing the conditions referred to in Articles 2.1.4.2, 2.1.4.3 and 2.1.4.4.

SVC: restoration of free status

A country, a zone or an aquaculture establishment may be restored to SVC free status if SVCV has not been detected for the last two years of a surveillance scheme using the procedures described in the OIE Manual.

Article 2.1.4.2.

When importing live fish of any susceptible species, or their spawning products (eggs and gametes), the Competent Authority of the importing country should require that the consignment be accompanied by an international aquatic animal health certificate issued by the Competent Authority of the exporting country, or an approved certifying official by the importing country.
This certificate must certify, on the basis of an official fish health surveillance scheme comprising inspection and laboratory tests on susceptible species conducted according to the OIE Manual, whether or not the consignment originates from a country officially declared SVC free.

If the country of origin is not officially declared to be SVC free, the certificate must state whether the consignment originates:

1) from a zone officially declared SVC free, or
2) from an aquaculture establishment officially declared SVC free.

The certificate shall be in accordance with Model Certificate No. 1 given in Part 5 of this Code.

Article 2.1.4.3.

Importing countries which are officially declared to be SVC free should only accept for importation live fish or sexual products of fish from exporting countries declared SVC free, or from clearly defined SVC free zones in countries not declared SVC free.

Importing countries not regarded as SVC free, but which have officially recognised SVC free zones, should only import live fish or sexual products of fish into such zones from other countries or zones which are officially declared SVC free.

For aquaculture establishments officially declared SVC free which exist in infected zones, the Competent Authority of the country concerned should allow importation of live fish or sexual products only from officially declared SVC free aquaculture establishments in other countries.

Article 2.1.4.4.

For dead fish

The Competent Authorities in countries officially declared to be SVC free should demand that dead fish for importation from countries not free from SVC be eviscerated before transit.

In general, the Competent Authority of a country importing uneviscerated dead fish should require that the consignment be accompanied by an international health certificate, conforming to the Model Certificate No. 2, issued by the Competent Authority in the country of origin.
Spring viraemia of carp

This certificate should declare the health status of the country in respect of SVC and the other fish diseases listed in this *Code.*
CHAPTER 2.1.5.

VIRAL HAEMORRHAGIC SEPTICAEMIA
(VHS)
(Synonym: Egtved virus)

Preamble: For diagnostic tests, refer to Chapter 6 in the Manual.

Susceptible hosts: rainbow trout (Oncorhynchus mykiss), pike (Esox lucius), turbot (Psetta maxima), brown trout (Salmo trutta), herring (Clupea harengus), coregonids (Coregonus spp.), grayling (Thymallus thymallus), Pacific salmon (Oncorhynchus spp.) and Pacific cod (Gadus macrocephalus).

Article 2.1.5.1.

For the purposes of this Code:

VHS: free country

A country may be considered free from VHS when:

1) no recorded outbreak of VHS disease has occurred within its territory, for at least the previous two years;

2) viral haemorrhagic septicaemia virus (VHSV) has not been detected in any fish tested during operation of a national fish health surveillance scheme, using the procedures described in the OIE Manual;

3) it is observing the conditions referred to in Articles 2.1.5.2, 2.1.5.3 and 2.1.5.4.

VHS: free zone

A VHS free zone may be a part of the territory of a country where the virus is present, but such a zone can only comprise aquaculture establishments and wild populations:

1) which have been tested in an official fish health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual;

2) in which VHSV has not been detected during this two-year period.
Such VHS free zones must comprise:

1) one or more entire water catchment areas from the sources of the waterways to the sea, or

2) part of a catchment area from the source(s) to a natural or artificial barrier which prevents the upward migration of fish from lower stretches of the waterway.

Such zones must be clearly delineated on a map of the territory of the country concerned by the Competent Authority and must be observing the conditions referred to in Articles 2.1.5.2, 2.1.5.3 and 2.1.5.4.

**VHS: free aquaculture establishment**

A VHS free aquaculture establishment may be located not only within a VHS free country or zone but also within a VHS infected zone provided that:

1) it has been tested in an official fish health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual, without detection of VHSV:

2) it is supplied by water only from a spring, well or borehole and free of stocks of wild fish;

3) there is a natural or artificial barrier which prevents the migration of fish from lower stretches of the waterway into the farm or its water supply;

4) it is observing the conditions referred to in Articles 2.1.5.2, 2.1.5.3 and 2.1.5.4.

**VHS: restoration of free status**

A country, a zone or an aquaculture establishment may be restored to VHS free status if VHSV has not been detected for the last two years of a surveillance scheme using the procedures described in the OIE Manual.

Article 2.1.5.2.

When importing live fish of any susceptible species, or their spawning products (eggs and gametes), the Competent Authority of the importing country should require that the consignment be accompanied by an international aquatic animal health certificate issued by the Competent Authority of the exporting country, or an approved certifying official by the importing country.
This certificate must certify, on the basis of an official fish health surveillance scheme comprising inspection and laboratory tests on susceptible species conducted according to the OIE Manual, whether or not the consignment originates from a country officially declared VHS free.

If the country of origin is not officially declared to be VHS free, the certificate must state whether the consignment originates:

1) from a zone officially declared VHS free, or
2) from an aquaculture establishment officially declared VHS free.

The certificate shall be in accordance with Model Certificate No. 1 given in Part 5 of this Code.

Article 2.1.5.3.

Importing countries which are officially declared to be VHS free should only accept for importation live fish or sexual products of fish from exporting countries declared VHS free, or from clearly defined VHS free zones in countries not declared VHS free.

Importing countries not regarded as VHS free, but which have officially recognised VHS free zones, should only import live fish and sexual products of fish into such zones from other countries or zones which are officially declared VHS free.

For aquaculture establishments officially declared VHS free which exist in infected zones, the Competent Authority of the country concerned should allow importation of live fish or sexual products only from officially declared VHS free aquaculture establishments in other countries.

Article 2.1.5.4.

For dead fish

The Competent Authorities in countries officially declared to be VHS free should demand that dead fish for importation from countries not free from VHS be eviscerated before transit.

In general, the Competent Authority of a country importing uneviscerated dead fish should require that the consignment be accompanied by an international health certificate, conforming to the Model Certificate No. 2, issued by the Competent Authority in the country of origin.
This certificate should declare the health status of the country in respect of VHS and the other fish diseases listed in this *Code*. 
SECTION 2.2. Diseases of molluscs

Chapter 2.2.1. Bonamiosis
(Bonamia ostreae, B. spp.)

Chapter 2.2.2. Haplosporidiosis
(Haplosporidium nelsoni)

Chapter 2.2.3. Marteiliosis
(Marteilia refringens, M. sydneyi)

Chapter 2.2.4. Mikrocytosis
(Mikrocytos mackini, M. roughleyi)

Chapter 2.2.5. Perkinsiosis
(Perkinsus marinus, P. atlanticus, P. olseni)

Chapter 2.2.6. Iridovirosis
(Iridovirus)
CHAPTER 2.2.1.

BONAMIOSIS

Preamble: For diagnostic tests, refer to Chapter 16 in the Manual.

Bonamia ostreae:
   Susceptible hosts: O. edulis, Ostrea conchaphila = O. lurida, O. angasi, O. puelchana, O. denselammellosa and Tiostrea chilensis.

Bonamia spp.:
   Susceptible host: Tiostrea chilensis.

Article 2.2.1.1.

For the purposes of this Code:

Bonamiosis: free country

A country may be considered free from bonamiosis when:

1) no recorded outbreak of bonamiosis has occurred within its territory, for at least the previous two years;

2) Bonamia has not been detected in any mollusc tested during operation of a national mollusc health surveillance scheme, using the procedures described in the OIE Manual.

Bonamiosis: free zone

A zone is a well-defined part of the coastal territory of a country, as defined by the Competent Authorities, in which fishing and/or mollusc farming takes place. The area covered by a zone is based on evidence from the maritime traditions, hydrographic characteristics and geographical features.

Such zones must be clearly delineated on a map of the territory of the country concerned by the Competent Authority.

A zone of a country may be considered free from bonamiosis when the parasite has never been detected under the conditions defined under "free country".
Bonamiosis: *free aquaculture establishment*

A bonamiosis free aquaculture establishment may be located not only within a bonamiosis *free country* or *zone* but also within a bonamiosis infected zone provided that it has been tested in an official aquatic animal health surveillance scheme for at least the previous two years, using the procedures described in the OIE *Manual*, without detection of parasites of the genus *Bonamia*, and that it is supplied with water by a means which ensures removal or destruction of any *B. ostreae* present.

**Bonamiosis: restoration of free status**

A country, a zone or an aquaculture establishment may be restored to bonamiosis free status if *Bonamia* spp. has not been detected for the last two years of a surveillance scheme using the procedures described in the OIE *Manual*.

Article 2.2.1.2.

*Competent Authorities* of importing countries should require:

for free-living and farmed oysters of commercial size (24 months or more), juveniles (12-24 months), young oysters (spat, from metamorphosed larvae to 11 months), and larvae destined for breeding or rearing

the presentation of an *international aquatic animal health certificate* attesting that:

1) the molluscs listed as hosts of *diseases notifiable to the OIE* come from either a country, a zone or an aquaculture establishment free from bonamiosis;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3 given in Part 5 of this Code.

Article 2.2.1.3.

*Competent Authorities* of importing countries should require:

for molluscs of commercial size destined for human consumption

the presentation of an *international aquatic animal health certificate* attesting that:
1) the molluscs listed as hosts of *diseases notifiable to the OIE* come from either a country, a zone or an aquaculture establishment free from bonamiosis;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3.

This certificate may not be required for molluscs listed as hosts of diseases notifiable to the OIE coming from an infected zone if they are destined:

1) directly for human consumption without any re-immersion, or

2) for storage, during a short period before consumption, in a tank located in an infected zone.

**Article 2.2.1.4.**

Certificates are optional for molluscs not listed as natural or experimental hosts of *diseases notifiable to the OIE*, even if the molluscs come from an infected country, zone or aquaculture establishment.
CHAPTER 2.2.2.

HAPLOSPORIDIOSIS

Preamble: For diagnostic tests, refer to Chapter 17 in the Manual.

Haplosporidium nelsoni:
Susceptible host: Crassostrea virginica.

Article 2.2.2.1. For the purposes of this Code:

Haplosporidiosis: free country
A country may be considered free from haplosporidiosis when:
1) no recorded outbreak of haplosporidiosis has occurred within its territory, for at least the previous two years;
2) haplosporidiosis has not been detected in any mollusc tested during operation of a national mollusc health surveillance scheme, using the procedures described in the OIE Manual.

Haplosporidiosis: free zone
A zone is a well-defined part of the coastal territory of a country, as defined by the Competent Authorities, in which fishing and/or mollusc farming takes place. The area covered by a zone is based on evidence from the maritime traditions, hydrographic characteristics and geographical features.

Such zones must be clearly delineated on a map of the territory of the country concerned by the Competent Authority.

A zone of a country may be considered free from haplosporidiosis when Haplosporidium nelsoni has never been detected under the conditions defined under "free country".

Haplosporidiosis: free aquaculture establishment
A haplosporidiosis free aquaculture establishment may be located not only within a haplosporidiosis free country or zone but also within a haplosporidiosis infected zone provided that it has been tested in an official aquatic health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual, without detection of parasites of the genus Haplosporidium; and that it is supplied with water by a means which ensures removal or destruction of any Haplosporidium present.
Haplosporidiosis: restoration of free status

A country, a zone or an aquaculture establishment may be restored to haplosporidiosis free status if Haplosporidium nelsoni has not been detected for the last two years of a surveillance scheme using the procedures described in the OIE Manual.

Article 2.2.2.2.

Competent Authorities of importing countries should require:

for free-living and farmed oysters of commercial size (24 months or more), juveniles (12-24 months), young oysters (spat, from metamorphosed larvae to 11 months), and larvae destined for breeding or rearing

the presentation of an international aquatic animal health certificate attesting that:

1) the molluscs listed as hosts of diseases notifiable to the OIE come from either a country, a zone or an aquaculture establishment free from haplosporidiosis;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3 given in Part 5 of this Code.

Article 2.2.2.3.

Competent Authorities of importing countries should require:

for molluscs of commercial size destined for human consumption

the presentation of an international aquatic animal health certificate attesting that:

1) the molluscs listed as hosts of diseases notifiable to the OIE come from either a country, a zone or an aquaculture establishment free from haplosporidiosis;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3.
This certificate may not be required for molluscs listed as hosts of diseases notifiable to the OIE coming from an infected zone if they are destined:

1) directly for human consumption without any re-immersion, or

2) for storage, during a short period before consumption, in a tank located in an infected zone.

Article 2.2.2.4.

Certificates are optional for molluscs not listed as natural or experimental hosts of diseases notifiable to the OIE, even if the molluscs come from an infected country, zone or aquaculture establishment.
CHAPTER 2.2.3.

MARTIELIOSIS

Preamble: For diagnostic tests, refer to Chapter 18 in the Manual.

*Marteilia refringens*:  
**Susceptible hosts**: *Ostrea edulis*, *O. angasi*, *O. puelchana*, *O. denselamellosa* and *Tiostraea chilensis*.

*M. sydneyi*:  
**Susceptible host**: *Saccostrea commercialis*.

Article 2.2.3.1.

For the purposes of this *Code*:

Marteiliosis: *free country*

A country may be considered free from marteiliosis when:

1) no recorded *outbreak* of marteiliosis has occurred within its territory, for at least the previous two years;

2) *Marteilia* spp. has not been detected in any mollusc tested during operation of a national mollusc health surveillance scheme, using the procedures described in the OIE *Manual*.

Marteiliosis: *free zone*

A zone is a well-defined part of the coastal territory of a country, as defined by the *Competent Authorities*, in which fishing and/or mollusc farming takes place. The area covered by a zone is based on evidence from the maritime traditions, hydrographic characteristics and geographical features.

Such zones must be clearly delineated on a map of the territory of the country concerned by the Competent Authority.

A zone of a country may be considered free from marteiliosis when *Marteilia* spp. has never been detected under the conditions defined under "free country".
Marteiliosis: free aquaculture establishment

A marteiliosis free aquaculture establishment may be located not only within a marteiliosis free country or zone but also within a marteiliosis infected zone provided that it has been tested in an official aquatic health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual, without detection of parasites of the genus Marteilia; and that it is supplied with water by a means which ensures removal or destruction of any Marteilia present.

Marteiliosis: restoration of free status

A country, a zone or an aquaculture establishment may be restored to marteiliosis free status if Marteilia spp. has not been detected for the last two years of a surveillance scheme using the procedures described in the OIE Manual.

Article 2.2.3.2.

Competent Authorities of importing countries should require:

for free-living and farmed oysters of commercial size (24 months or more), juveniles (12-24 months), young oysters (spat, from metamorphosed larvae to 11 months), and larvae destined for breeding or rearing

the presentation of an international aquatic animal health certificate attesting that:

1) the molluscs listed as hosts of diseases notifiable to the OIE come from either a country, a zone or an aquaculture establishment free from marteiliosis;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3 given in Part 5 of this Code.

Article 2.2.3.3.

Competent Authorities of importing countries should require:

for molluscs of commercial size destined for human consumption

the presentation of an international aquatic animal health certificate attesting that:
1) the molluscs listed as hosts of *diseases notifiable to the OIE* come from either a country, a zone or an aquaculture establishment free from marteiliosis;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3.

This certificate may not be required for molluscs listed as hosts of diseases notifiable to the OIE coming from an infected zone if they are destined:

1) directly for human consumption without any re-immersion, or

2) for storage, during a short period before consumption, in a tank located in an infected zone.

**Article 2.2.3.4.**

Certificates are optional for molluscs not listed as natural or experimental hosts of *diseases notifiable to the OIE*, even if the molluscs come from an infected country, zone or aquaculture establishment.
CHAPTER 2.2.4.

MIKROCYTOSIS

Preamble: For diagnostic tests, refer to Chapter 19 in the Manual.

*Mikrocytos mackini:*

_Susceptible hosts:_ *Crassostrea gigas, Ostrea edulis, O. conchaphila* and *Crassostrea virginica._

*Mikrocytos roughleyi:*

_Susceptible host:_ *Saccostrea commercialis._

Article 2.2.4.1.

For the purposes of this _Code:_

*Mikrocytosis: free country*

A country may be considered free from mikrocytosis when:

1) no recorded _outbreak_ of mikrocytosis has occurred within its territory, for at least the previous two years;

2) _Mikrocytos_ spp. has not been detected in any mollusc tested during operation of a national mollusc health surveillance scheme, using the procedures described in the OIE Manual.

*Mikrocytosis: free zone*

A zone is a well-defined part of the coastal territory of a country, as defined by the Competent Authorities, in which fishing and/or mollusc farming takes place. The area covered by a zone is based on evidence from the maritime traditions, hydrographic characteristics and geographical features.

Such zones must be clearly delineated on a map of the territory of the country concerned by the Competent Authority.

A zone of a country may be considered free from mikrocytosis when _Mikrocytos_ spp. has never been detected under the conditions defined under "free country".
Mikrocytosis: *free aquaculture establishment*

A mikrocytosis free aquaculture establishment may be located not only within a mikrocytosis *free country* or *zone* but also within a mikrocytosis infected zone provided that it has been tested in an official aquatic health surveillance scheme for at least the previous two years, using the procedures described in the OIE *Manual*, without detection of parasites of the genus *Mikrocytos*; and that it is supplied with water by a means which ensures removal or destruction of any *Mikrocytos* present.

Mikrocytosis: *restoration of free status*

A country, a zone or an aquaculture establishment may be restored to mikrocytosis free status if the parasite has not been detected for the last two years of a surveillance scheme using the procedures described in the OIE *Manual*.

Article 2.2.4.2.

*Competent Authorities* of importing countries should require:

for free-living and farmed oysters of commercial size (24 months or more), juveniles (12-24 months), young oysters (spat, from metamorphosed larvae to 11 months), and larvae destined for breeding or rearing

the presentation of an *international aquatic animal health certificate* attesting that:

1) the molluscs listed as hosts of *diseases notifiable to the OIE* come from either a country, a zone or an aquaculture establishment free from mikrocytosis;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3 given in Part 5 of this *Code*.

Article 2.2.4.3.

*Competent Authorities* of importing countries should require:

for molluscs of commercial size destined for human consumption

the presentation of an *international aquatic animal health certificate* attesting that:
1) the molluscs listed as hosts of *diseases notifiable to the OIE* come from either a country, a zone or an aquaculture establishment free from mikrocytosis;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3.

This certificate may not be required for molluscs listed as hosts of diseases notifiable to the OIE coming from an infected zone if they are destined:

1) directly for human consumption without any re-immersion, or

2) for storage, during a short period before consumption, in a tank located in an infected zone.

**Article 2.2.4.4.**

Certificates are optional for molluscs not listed as natural or experimental hosts of *diseases notifiable to the OIE*, even if the molluscs come from an infected country, zone or aquaculture establishment.
CHAPTER 2.2.5.

PERKINSOSIS

Preamble: For diagnostic tests, refer to Chapter 20 in the Manual.

*Perkinsus marinus:*
  Susceptible host: *Crassostrea virginica.*

*P. atlanticus:*
  Susceptible hosts: *Ruditapes decussatus* and *R. philippinarum.*

*P. olseni:*
  Susceptible hosts: *Haliotis rubra* and *H. laevigata.*

Article 2.2.5.1.

For the purposes of this Code:

**Perkinsosis: free country**

A country may be considered free from perkinsosis when:

1) no recorded outbreak of perkinsosis has occurred within its territory, for at least the previous two years;

2) *Perkinsus* spp. has not been detected in any mollusc tested during operation of a national mollusc health surveillance scheme, using the procedures described in the OIE Manual.

**Perkinsosis: free zone**

A zone is a well-defined part of the coastal territory of a country, as defined by the Competent Authorities, in which fishing and/or mollusc farming takes place. The area covered by a zone is based on evidence from the maritime traditions, hydrographic characteristics and geographical features.

Such zones must be clearly delineated on a map of the territory of the country concerned by the Competent Authority.

A zone of a country may be considered free from perkinsosis when *Perkinsus* spp. has never been detected under the conditions defined under "free country".
Perkinsosis: free aquaculture establishment

A perkinsosis free aquaculture establishment may be located not only within a perkinsosis free country or zone but also within a perkinsosis infected zone provided that it has been tested in an official aquatic health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual, without detection of parasites of the genus *Perkinsus*; and that it is supplied with water by a means which ensures removal or destruction of any *Perkinsus* present.

Perkinsosis: restoration of free status

A country, a zone or an aquaculture establishment may be restored to perkinsosis free status if the parasite has not been detected for the last two years of a surveillance scheme using the procedures described in the OIE Manual.

Article 2.2.5.2.

*Competent Authorities of importing countries* should require:

for free-living and farmed oysters of commercial size (24 months or more), juveniles (12-24 months), young oysters (spat, from metamorphosed larvae to 11 months), and larvae destined for breeding or rearing

the presentation of an *international aquatic animal health certificate* attesting that:

1) the molluscs listed as hosts of *diseases notifiable to the OIE* come from either a country, a zone or an aquaculture establishment free from *Perkinsus*;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3 given in Part 5 of this *Code*.

Article 2.2.5.3.

*Competent Authorities of importing countries* should require:

for molluscs of commercial size destined for human consumption

the presentation of an *international aquatic animal health certificate* attesting that:
1) the molluscs listed as hosts of *diseases notifiable to the OIE* come from either a country, a zone or an aquaculture establishment free from perkinsosis;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3.

This certificate may not be required for molluscs listed as hosts of diseases notifiable to the OIE coming from an infected zone if they are destined:

1) directly for human consumption without any re-immersion, or

2) for storage, during a short period before consumption, in a tank located in an infected zone.

**Article 2.2.5.4.**

Certificates are optional for molluscs not listed as natural or experimental hosts of *diseases notifiable to the OIE*, even if the molluscs come from an infected country, zone or aquaculture establishment.
CHAPTER 2.2.6.

IRIDOVIROSIS

Preamble: For diagnostic tests, refer to Chapter 21 in the Manual.

Iridovirus:
Susceptible hosts: Crassostrea angulata and C. gigas.

Article 2.2.6.1.

For the purposes of this Code:

Iridoviroisis: free country

A country may be considered free from iridovirosis when:

1) no recorded outbreak of an iridovirosis has occurred within its territory, for at least the previous two years;

2) iridoviruses have not been detected in any mollusc tested during operation of a national mollusc health surveillance scheme, using the procedures described in the OIE Manual.

Iridoviroisis: free zone

A zone is a well-defined part of the coastal territory of a country, as defined by the Competent Authorities, in which fishing and/or mollusc farming takes place. The area covered by a zone is based on evidence from the maritime traditions, hydrographic characteristics and geographical features.

Such zones must be clearly delineated on a map of the territory of the country concerned by the Competent Authority.

A zone of a country may be considered free from iridoviruses when the virus has never been detected under the conditions defined under "free country".

Iridoviroisis: free aquaculture establishment

An iridoviroisis free aquaculture establishment may be located not only within an iridoviroisis free country or zone but also within an iridoviroisis infected zone provided that it has been tested in an official aquatic health surveillance scheme for at least the previous two years, using the procedures described in the OIE Manual, without detection of iridoviruses; and that it is supplied with water by a means which ensures removal or destruction of any iridoviruses present.
Iridovirosis: restoration of free status

A country, a zone or an aquaculture establishment may be restored to an iridovirosis free status if the virus has not been detected for the last two years of a surveillance scheme using the procedures described in the OIE Manual.

Article 2.2.6.2.

Competent Authorities of importing countries should require:

for free-living and farmed oysters of commercial size (24 months or more), juveniles (12-24 months), young oysters (spat, from metamorphosed larvae to 11 months), and larvae destined for breeding or rearing

the presentation of an international aquatic animal health certificate attesting that:

1) the molluscs listed as hosts of diseases notifiable to the OIE come from either a country, a zone or an aquaculture establishment free from iridovirosis;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3 given in Part 5 of this Code.

Article 2.2.6.3.

Competent Authorities of importing countries should require:

for molluscs of commercial size destined for human consumption

the presentation of an international aquatic animal health certificate attesting that:

1) the molluscs listed as hosts of diseases notifiable to the OIE come from either a country, a zone or an aquaculture establishment free from iridovirosis;

2) there has been no unexplained mortality during the past six months.

The certificate shall be in accordance with Model Certificate No. 3.
Iridovirosis

This certificate may not be required for molluscs listed as hosts of diseases notifiable to the OIE coming from an infected zone if they are destined:

1) directly for human consumption without any re-immersion, or

2) for storage, during a short period before consumption, in a tank located in an infected zone.

Article 2.2.6.4.

Importation of larvae of the genus *Crassostrea gigas* and oysters of the genus *Crassostrea angulata* from aquaculture establishments where iridoviruses are present should be forbidden.

Certificates are optional for molluscs not listed as natural or experimental hosts of iridovirosis.
PART 3

OTHER SIGNIFICANT DISEASES

Introduction

Because the list of notifiable diseases of aquatic animals includes only major diseases of proven aetiology and limited geographic range, the OIE Fish Diseases Commission has recommended the creation of the following list of Other Significant Diseases. The diseases on this list include:

1) those which are serious, but have a broad geographic distribution;

2) those causing significant mortality, transmissible, and of limited geographic range, but for which the aetiological agent has not yet been identified;

3) those with the potential for causing large losses, but which are too new for the geographic range to be defined or for the essential epidemiological elements to be understood.

It is expected that the diseases on this list will either be elevated to notifiable status or dropped from the list as new information is obtained.
OTHER SIGNIFICANT DISEASES

SECTION 3.1. Diseases of fish

Chapter 3.1.1. Channel catfish virus disease
(Herpesvirus of Ictaluridae type 1)

Chapter 3.1.2. Viral encephalopathy and retinopathy

Chapter 3.1.3. Infectious pancreatic necrosis

Chapter 3.1.4. Infectious salmon anaemia

Chapter 3.1.5. Epizootic ulcerative syndrome

Chapter 3.1.6. Bacterial kidney disease
(Renibacterium salmoninarum)

Chapter 3.1.7. Enteric septicaemia in catfish
(Edwardsiella ictaluri)

Chapter 3.1.8. Piscirickettsiosis
(Piscirickettsia salmoninarum)
CHAPTER 3.1.1.

CHANNEL CATFISH VIRUS DISEASE
(Herpesvirus of Ictaluridae type 1)

Preamble: See Chapter 7 in the Manual for general information on the disease.

When importing live channel catfish and dead uneviscerated fish, the Competent Authority of the importing country with a national control policy for channel catfish virus disease may wish to require the presentation of an international aquatic animal health certificate issued by the Competent Authority in the exporting country, attesting that the site of origin has been regularly tested virologically and no evidence found for the presence of channel catfish virus.
CHAPTER 3.1.2.

VIRAL ENCEPHALOPATHY AND RETINOPATHY

Preamble: See Chapter 8 in the Manual for general information on the disease.

When importing larvae/juveniles of the species listed in Chapter 8 of the Manual, the Competent Authority of the importing country may wish to require the presentation of an international aquatic animal health certificate issued by the Competent Authority in the exporting country, attesting that the disease has not been diagnosed in the site of origin. The same applies to eggs and broodfish of P. dentex.
CHAPTER 3.1.3.

INFECTIOUS PANCREATIC NECROSIS

Preamble: See Chapter 9 in the *Manual* for general information on the disease.

When importing fish of the species listed in Chapter 9 of the *Manual* and their spawning products (eggs and gametes), the Competent Authority of the importing country with a national control policy for infectious pancreatic necrosis may wish to require the presentation of an international aquatic animal health certificate issued by the Competent Authority in the exporting country, attesting that the site of origin has been regularly tested virologically and no evidence found for the presence of the virus of infectious pancreatic necrosis.
CHAPTER 3.1.4.

INFECTIOUS SALMON ANAEMIA

Preamble: See Chapter 10 in the Manual for general information on the disease.

When importing live Atlantic salmon and spawning products (eggs and gametes) and dead uneviscerated fish, the Competent Authority of the importing country may wish to require the presentation of an international aquatic animal health certificate issued by the Competent Authority in the exporting country, attesting that the site of origin has been regularly tested and that infectious salmon anaemia has not been detected.
CHAPTER 3.1.5.

EPIZOOTIC ULCERATIVE SYNDROME

Preamble: See Chapter 11 in the Manual for general information on the disease.

When importing live juvenile and adult fish of the species listed in Chapter 11 of the Manual, the Competent Authority of the importing country may wish to require the presentation of an international aquatic animal health certificate issued by the Competent Authority in the exporting country, attesting that the fish showed no sign of epizootic ulcerative syndrome on the day of shipment.
CHAPTER 3.1.6.

BACTERIAL KIDNEY DISEASE
(Renibacterium salmoninarum)

Preamble: See Chapter 12 in the Manual for general information on the disease.

When importing live fish, their spawning products (eggs and sperm), and dead uneviscerated fish of the family Salmonidae, the Competent Authority of the importing country with a national or zonal control policy for bacterial kidney disease may wish to require the presentation of an international aquatic animal health certificate issued by the Competent Authority in the exporting country, attesting that the site of origin has been tested regularly and found to be free of Renibacterium salmoninarum.
CHAPTER 3.1.7.

ENTERIC SEPTICAEMIA OF CATFISH
(Edwardsiella ictaluri)

Preamble: See Chapter 13 in the Manual for general information on the disease.

When importing live fish or dead uneviscerated fish of the family Ictaluridae, the Competent Authority of the importing country with a national control policy for enteric septicaemia of catfish may wish to require the presentation of an international aquatic animal health certificate issued by the Competent Authority in the exporting country, attesting that the site of origin has been tested regularly and found to be free of Edwardsiella ictaluri.
CHAPTER 3.1.8.

PISCIRICKETTSIOSIS

(Piscirickettsia salmoninarum)

Preamble: See Chapter 14 in the Manual for general information on the disease.

When importing live salmonids and their eggs and dead uneviscerated fish, the Competent Authority of the importing country may wish to require the presentation of an international aquatic animal health certificate issued by the Competent Authority in the exporting country, attesting that the site of origin has been tested regularly and found to be free of piscirickettsiosis.
OTHER SIGNIFICANT DISEASES

SECTION 3.2. Diseases of bivalve molluscs

None at present.
OTHER SIGNIFICANT DISEASES

SECTION 3.3. Diseases of crustaceans

Chapter 3.3.1. Baculoviral midgut gland necrosis

Chapter 3.3.2. Nuclear polyhedrosis baculoviroses
(Penaeus monodon-type baculovirus and Baculovirus penaei)

Chapter 3.3.3. Infectious hypodermal and haematopoietic necrosis virus

Chapter 3.3.4. Yellowhead disease

Chapter 3.3.5. Crayfish plague
(Aphanomyces astaci)
CHAPTER 3.3.1.

BACULOVIRAL MIDGUT GLAND NECROSIS

Preamble: See Chapter 22 in the Manual for general information on the disease.

Competent Authorities of importing countries may require:

for live larvae, postlarvae and juveniles

the presentation of an international aquatic animal health certificate attesting that:

1) the shrimps showed no sign of baculoviral midgut gland necrosis (BMN) on the day of shipment;

2) randomly selected shrimps showed no sign of BMN using wet-mount and histopathological examination of hepatopancreatocytes.
CHAPTER 3.3.2.

NUCLEAR POLYHEDROSIS BACULOVIROSES
(Penaeus monodon-type baculovirus and Baculovirus penaei)

Preamble: See Chapter 23 in the Manual for general information on the disease.

Competent Authorities of importing countries may require:

for live broodstocks, postlarvae and juveniles

the presentation of an international aquatic animal health certificate attesting that:

1) the broodstocks showed no sign of Baculovirus penaei (BP) or Penaeus monodon-type baculovirus by the examination of faeces;

2) randomly selected postlarvae or juveniles showed no BP infection using wet-mount and histopathological examination of hepatopancreatocytes.
CHAPTER 3.3.3.

INFECTIOUS HYPODERMAL AND
HAEMATOPOIETIC NECROSIS VIRUS

Preamble: See Chapter 24 in the Manual for general information on the disease.

Competent Authorities of importing countries may require:

for live broodstocks, larvae, postlarvae and juveniles

the presentation of an international aquatic animal health certificate attesting that:

1) the shrimps showed no sign of infectious hypodermal and haematopoietic necrosis (IHNN) on the day of shipment;

2) randomly selected shrimps showed no sign of IHNN using bioassay and histopathological techniques.
CHAPTER 3.3.4.

YELLOWHEAD DISEASE


Competent Authorities of importing countries may require:

for live broodstocks, larvae, postlarvae and juveniles

the presentation of an international aquatic animal health certificate attesting that:

1) the shrimps showed no sign of yellowhead virus (YHV) infection on the day of shipment;

2) randomly selected shrimps showed no sign of YHV infection using histopathological techniques.
CHAPTER 3.3.5.

CRAYFISH PLAGUE

(Aphanomyces astaci)

Preamble: See Chapter 26 in the Manual for general information on the disease.

Competent Authorities in countries with disease free populations of crayfish should prohibit live imports of crayfish from infected countries since there is no means by which stocks of crayfish, particularly North American species, may be demonstrated unequivocally to be free of crayfish plague.
PART 4

APPENDICES

SECTION 4.1. Blood sampling and vaccination

SECTION 4.2. Destruction of pathogens
SECTION 4.1.  Blood sampling and vaccination

Appendix 4.1.1. Hygienic precautions
4.1. BLOOD SAMPLING AND VACCINATION

Appendix 4.1.1.

HYGIENIC PRECAUTIONS

The use of needles and syringes in routine veterinary work in aquaculture establishments for procedures such as blood sampling and vaccination should be carried out in a highly professional manner, ensuring that appropriate hygienic precautions are observed.

The use of unsterilised needles or syringes or of opened bottles of vaccines for intraperitoneal use in aquaculture animals in different aquaculture establishments should be professionally unacceptable.

The use of unsterilised or contaminated equipment or products is especially unacceptable between different aquaculture establishments and for live aquaculture animals to be exported. It is a requirement, particularly applicable for aquaculture animals to be exported live, that necessary care is taken to ensure the sterility of equipment and products used.

The range of organisms capable of being transmitted includes viruses, bacteria and protozoa. The list of infectious agents transmissible in the context of this Appendix continues to expand for all species of aquatic animals.
SECTION 4.2.  Destruction of pathogens

Appendix 4.2.1. Disinfection of eggs

Appendix 4.2.2. Disinfection of fish farms

Appendix 4.2.3. Disinfection of mollusc farms

Appendix 4.2.4. Disinfection of crustacean farms
4.2. DESTRUCTION OF PATHOGENS

Appendix 4.2.1.

DISINFECTION OF EGGS

A. DISINFECTION OF EGGS WITH IODINE

The recommended concentration of active iodine given in Table I is 100 mg/litre for ten minutes.

B. CONDITIONS OF USE

The pH of the solutions of the iodophor products must be between 6 and 8. At a pH of 6 or less, the toxicity for eggs increases and at 8 or more the antiseptic efficacy decreases. It is therefore essential to control the pH, and 100 mg/litre of NaHCO₃ must be added to water of low alkalinity value. It is recommended that the eggs be rinsed in fresh water before and after disinfection or that the iodine be neutralised with sodium thiosulfate and that water free of organic matter be used to prepare the iodophor solution. Generous amounts of this solution should be used and the solution should be replaced when it turns pale yellow and before the colour disappears. One litre of solution at a concentration of 100 mg/l disinfectant will disinfect 2,000 salmonid eggs.

Finally, in the case of eggs which have been transported, the packaging should also be disinfected or, better still, destroyed in a manner that will not pose a contamination or health risk to water and/or other fish at the receiving end.

Certain precautions must be taken prior to the use of iodophors as the products on the market contain a variable quantity of detergents which can give rise to toxic effects. It is therefore recommended that preliminary tests be carried out among the products on the market. It is advisable to build up stocks of the most satisfactory product, but expiry dates must be considered.

Disinfection of eggs with iodine can be carried out for the various fish species but it is most commonly used for fish of the Salmonidae family. For the other species, preliminary tests should be conducted to determine when and at what concentration disinfection can be carried out safely.
C. EFFICACY LIMITS

Disinfection of eggs with iodine is ineffective when trying to avoid vertical transmission of infectious pancreatic necrosis, renibacteriosis and even infectious haematopoietic necrosis, for which this method was recommended initially. The ineffectiveness of iodine has been proved by epidemiological surveys and laboratory tests.

D. NEUTRALISATION OF HALOGENS

See Appendix 4.2.2.
4.2. DESTRUCTION OF PATHOGENS

Appendix 4.2.2.

DISINFECTION OF FISH FARMS

A. GENERAL

The choice of disinfection procedures depends on the size, type and nature of the materials and sites to be disinfected. With the exception of the skin of personnel and the eggs, which must be disinfected with non-corrosive products, the surfaces to be disinfected consist of fabric or woven material (clothes, nets), hard surfaces (plastic, cement) or permeable materials (earth, gravel). Disinfection is more difficult for permeable surfaces and requires more time. Table I indicates the methods to be used on the basis of these criteria.

The use of chemical methods entails the implementation of measures to protect personnel. It is first necessary to protect the skin and eyes from contact with dangerous substances by using impermeable clothing, boots, glasses and a hat. The respiratory tract must be protected by a mask and the operator must not touch any food without having thoroughly washed his hands. Finally, the products must be stored in such a way as not to present direct or indirect danger to animal/fish or human life.

The material must be thoroughly cleaned before being disinfected.

B. DISINFECTION

See Table I.

C. NEUTRALISATION OF HALOGENS

Chlorine and iodine are highly toxic for fish and, in order to prevent serious accidents which could result from a manipulation error, it is recommended to neutralise these products with sodium thiosulfate.

\[ 5\text{Na}_2\text{S}_2\text{O}_3 + 4\text{Cl}_2 + 5\text{H}_2\text{O} \rightarrow 2\text{HSO}_4^- + 8\text{Cl}^- + 4\text{H}_2\text{O} + 4\text{S} + 4\text{SO}_2 + 10\text{Na}^+ \]
Therefore, according to the chemical reaction, five moles of thiosulfate neutralise four moles of chlorine. The molecular proportions are the same for iodine.

Accordingly in order to inactivate chlorine, the amount of thiosulphate should be 2.85 times the amount of chlorine in grams:

\[ \text{No. of g thiosulphate} = 2.85 \times \text{no. of g chlorine}. \]

For iodine, the amount of thiosulphate should be 0.78 times the amount of iodine in grams:

\[ \text{No. of g thiosulphate} = 0.78 \times \text{no. of g iodine}. \]

It is also possible to prepare a thiosulfate solution at 1% by weight, in which case the neutralising volumes will be as follows (in ml):

1) for chlorine:

\[ \frac{28.5 \times \text{[number of litres of the disinfecting solution x concentration mg/litre]}}{100} \]

2) for iodine:

it is necessary to multiply by 7.8 instead of by 28.5.
## Table I

**Disinfectants and method of use**

<table>
<thead>
<tr>
<th>Processes</th>
<th>Indications</th>
<th>Method of use*</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desiccation, light</td>
<td>Fish pathogens on earthen bottoms</td>
<td>Dry for 3 months at an average temperature of 18°C</td>
<td>Drying period can be reduced by the use of a chemical disinfectant</td>
</tr>
<tr>
<td>Dry heat</td>
<td>Fish pathogens on concrete, stone, iron, ceramic surfaces</td>
<td>Flame-blower, blow-lamp</td>
<td></td>
</tr>
<tr>
<td>Damp heat</td>
<td>Fish pathogens in transportation vehicle tanks</td>
<td>Steam at 100°C or more for 5 min</td>
<td></td>
</tr>
</tbody>
</table>
| **Ultraviolet light** | Viruses and bacteria  
Myxosporidia spores in water  
IPN virus in water | 5 mJ/cm²  
35 mJ/cm²  
125 mJ/cm² | Minimum lethal dose                                        |
| **Chemical**     |                                                  |                                                    |                                                                          |
| Quaternary ammonia | Viruses, bacteria, hands  
Gill bacteria, plastic surfaces | 1 mg/litre for 1 min  
2 mg/litre for 15 min | IPN virus resistant                                                    |
| Calcium oxide    | Fish pathogens on dried earth-base               | 0.5 kg/m² for 4 weeks                              | Replace in water and empty disinfected pools keeping the effluents at pH <8.5 |

.../cont.
### Table I
Disinfectants and method of use (cont.)

<table>
<thead>
<tr>
<th>Processes</th>
<th>Indications</th>
<th>Method of use*</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium(^a) (hypochlorite)</td>
<td>Bacteria and viruses on all clean surfaces and in water</td>
<td>Solution with chlorometric degree of 0.01, i.e. 30 mg chlorine/litre left to inactivate for several days</td>
<td>Can be neutralised with sodium thiosulphate. See special recommendations</td>
</tr>
<tr>
<td>Calcium(^a) cyanamide</td>
<td>Spores on earthen bottoms</td>
<td>3,000 kg/ha on dry surfaces; leave in contact for one month</td>
<td></td>
</tr>
<tr>
<td>Formalin</td>
<td>Fish pathogens in sealed premises</td>
<td>Released from formogenic substances, generally trioxymethylene. Comply with instructions</td>
<td></td>
</tr>
</tbody>
</table>
| Iodine (iodophors)       | Bacteria, viruses                                | >200 mg/litre a few secs
Hands, smooth surfaces
Eyed eggs
Gametes during fertilisation
tanks | See special recommendations |
| Ozone                    | Sterilisation of water, fish pathogens           | 1 mg/litre for 1 minute                                                      | Costly                                                                  |

*Method of use includes instructions for concentration and contact time necessary for inactivation of specific pathogens.
<table>
<thead>
<tr>
<th>Processes</th>
<th>Indications</th>
<th>Method of use*</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium(^a)</td>
<td>Fish pathogens on resistant surfaces with cracks</td>
<td>Mixture:</td>
<td>The most active disinfectant Ca(OH)(_2) stains the surfaces treated; teepol is a tensio-active agent. Turn water on, checking pH</td>
</tr>
<tr>
<td>(hydroxide)</td>
<td></td>
<td>Sodium hydroxide 100 g, Teepol 10 g, Calcium hydroxide 500 g, Water 10 litres,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spray 1 litre/10 m(^2), Leave for 48 h</td>
<td></td>
</tr>
<tr>
<td>Sodium(^a)</td>
<td>Bacteria and viruses on all clean surfaces and in water</td>
<td>Based on bleach Chlorometric degree of solution 0.01, i.e. 30 mg/litre chlorine. Leave to inactivate for a few days or neutralise with sodium thiosulphate after 3 hours.</td>
<td></td>
</tr>
<tr>
<td>(hypochlorite)</td>
<td>Nets, boots, clothing, hands</td>
<td>Chlorometric degree of solution 0.06, 20 to 30 secs. Rinse with clean water or neutralise with thiosulfate.</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Dangerous - See precautions indicated in general recommendations

* The concentrations indicated are those for the active substance. N.B. The chemicals must be approved for the prescribed use and used according to the manufacturer's specifications.
4.2. DESTRUCTION OF PATHOGENS

Appendix 4.2.3.  

DISINFECTION OF MOLLUSC FARMS

See Appendix 4.2.2 for general information on disinfection.

A. GENERAL

The general principles pertaining to disinfection of mollusc farms (hatcheries, holding facilities) involve the application of chemical treatments in sufficient concentrations, and for sufficient periods, to kill all harmful organisms that would otherwise gain access to surrounding water systems. Since the inherent toxicity of disinfectants prohibits safe use in open water, or open water systems, disinfection can only reasonably be applied to hatcheries and tank holding facilities, and, as a rule, all disinfectants must be neutralised before release into the surrounding environment. In addition, as mollusc farms are generally seawater based, compounds produced during seawater disinfection (residual oxidants) also have to be dealt with.

Disinfection of eggs and larval stages is not considered practical for most molluscan systems. In addition, there is little information on specific disinfection procedures for pathogens of molluscs (i.e. Marteiliads, Haplosporidians, Bonamias, Perkinsids, iridoviruses and pathogenic levels of marine microbes) or seawater applications. Therefore, disinfectants and concentrations are based on related pathogens or seawater sterilisation. Three stages of disinfection can be applied to hatcheries:

1) pre-treatment of influent water, e.g. filters (1.0 and 0.22 μm) or chemical disinfection (see point B) = protection of stock;

2) treatment within the facilities (especially recycling systems) = protection of stock;

3) treatment of effluent water = protection of the environment.
Disinfection of mollusc farms

B. DISINFECTANTS* – PIPELINES AND TANKS

Routine disinfection of pipelines and tanks is highly recommended; the frequency of disinfection will vary with the turnover of molluscs. High concentrations of molluscs should be rotated between disinfected tanks as frequently as practical and/or kept in seawater which has been disinfected with ozone (see paragraph 1 of point C) or chlorine (see paragraph 2 of point C) and subsequently neutralised. Each new batch of molluscs introduced to a facility should be placed in pre-disinfected tanks.

Since the presence of organic matter will reduce the disinfection capacity of most disinfectants, filtering influent water (see paragraph 1 of point A) is recommended. In addition, all surfaces must be thoroughly cleaned prior to disinfection. The detergent used must be compatible with the disinfectant and both must be compatible with the surface being treated (e.g. iodophors are acidic so cannot be used on concrete, which is alkaline). Ensure that the waste produced from washing is disinfected before disposal. Complete coverage of the surfaces is required, e.g. using a high pressure spray or soak. Wear appropriate protective clothing when working with any disinfectant (see point A of Appendix 4.2.2 on disinfection of fish farms).

Regular air- or heat-drying of pipelines (daily), tanks and other equipment (e.g. algal culture carboys), in addition to disinfection of their surfaces, is also recommended (especially for disease outbreaks of unidentified aetiology).

1) Chlorine is usually applied as sodium hypochlorite (Chlorox®, household bleach, etc.). Fill all pipelines with 50 mg/litre chlorine (= 50 ppm). Allow an exposure time of at least 30 minutes before flushing with clean seawater. This solution is effective against most microbial agents as well as labyrinthulid protozoans. Chlorinated seawater must be neutralised prior to release from the holding facility. Optimal neutralisation is achieved by passage through activated charcoal (removes excess chlorine and chloramines). Reducing agents such as sodium thiosulphate or aeration (which do not remove toxic chloramines) may also be used.

2) Iodophors are applied as alkaline solutions (Wescodyne®, Betadine®) at 200-250 mg I₂/litre (ppm) with a contact time of at least 10 minutes.

   Note: Iodophors are not effective against certain protozoans in suspension, e.g. over 1,000 mg/litre is tolerated by Labyrinthuloides haliotidis of abalone. May be effective against protozoan parasites following air or heat drying of tank surfaces and pipelines.

* The products specified have proven satisfactory for the purposes indicated; however, this does not imply that other products may not be equally satisfactory.
C. DISINFECTANTS – EFFLUENT WATER

1) Ozone is a stronger oxidant than either ultraviolet (UV) light or chlorine and has been used successfully in controlling microbial content of effluent water from quarantine facilities. Residual compounds, formed as a result of the interaction of ozone with seawater (residual oxidants), at levels of 0.08-1.0 mg/litre are considered sufficient to significantly reduce live microbes (principally bacteria).

*Note: the measurement of residual ozone in seawater is impossible due to the rapid and continuous formation of oxidant products in seawater. Residuals formed between ozone and seawater (hypo-bromite, bromine or hypobromous acid) are toxic to oyster larvae (and possibly other mollusc larvae) and should be removed using a charcoal filter before passing through/out of the mollusc facility. UV treatment of seawater post-ozonation may be required for complete sterilisation, e.g. for quarantine.*

2) Chlorine administered as sodium hypochlorite at a concentration of 25 mg/litre is effective against certain protozoans (*L. haliotidis*); however, 50 mg/litre is recommended for complete microbial sterilisation (as for pipelines and tanks – see paragraph 1 of point B above. Higher concentrations may be used under certain conditions (e.g. quarantine); however, these require proportionately greater neutralisation treatments and exhaust systems to deal with the toxic fumes produced.

3) Iodophors are not as effective as the above two treatments for killing protozoans.

D. DISINFECTANTS – CLOTHING AND EQUIPMENT

Clean surfaces with detergent and disinfectant prior to proper disinfection.

1) Iodophors (e.g. Wescodyne®, Betadine®) at 200-250 mg/litre can be used as a footbath. (*Note: they will stain clothing.*)

2) Chlorine (household bleach solution at 50 mg Cl/litre) is also an effective footbath or equipment wash.

3) Sodium hydroxide (1% NaOH + 0.1% Teepol® or other detergent) makes an effective footbath for rubber boots. (*Note: do NOT use for dress shoes/boots.*)

E. SPECIAL RECOMMENDATIONS

1) Both chlorine and ozone produce long-lived residual oxidant compounds in seawater. Seawater at 35 ppt salinity contains 60 ppm bromide ion which
Disinfection of mollusc farms

produces hypo-bromite in the presence of ozone. Disinfected artificial seawater, at the same salinity, produces bromine and hypobromous acid. Since these, along with other residual compounds, are toxic to larval oysters (and possibly other molluscs) treated seawater must be passed through an activated charcoal filter before being used for live mollusc larvae.

Alternative protocols for halogen neutralisation involve treatment with sodium or potassium thiosulphate (as described in point C of Appendix 4.2.2).

2) Monitoring of residual oxidants must be carried out regularly, especially where temperature fluctuations occur. Since residual ozone cannot be measured accurately in seawater, alternative monitoring protocols must be installed, such as a feed-back loop.

Exhaust systems should also be in place to remove toxic fumes (produced during disinfection) from enclosed work areas. Ensure compliance with local atmospheric regulations when discharging toxic fumes.

3) The following management practices can be used to reduce opportunistic pathogen proliferation within a mollusc hatchery or holding facility:

a) maintain pathogen-free algal stocks and cultures;

b) use appropriate water filtration, regular disinfection of tanks, pipes and equipment, footbaths and water changes;

c) isolate infected stocks and associated equipment at the first sign of disease;

d) discard infected stock and sterilise equipment;

e) identify the source of infection within the holding facility to prevent further infection (algal stocks, seawater influent system, broodstock, larval stock).
4.2. DESTRUCTION OF PATHOGENS

Appendix 4.2.4.

DISINFECTION OF CRUSTACEAN FARMS

See Appendix 4.2.2 for general information on disinfection.

1. Decontamination of virus in ponds and in material may be achieved by treating the surfaces with 50 ppm (parts per million) of sodium or calcium hypochloride.

2. Prevention of monodon baculovirus and Baculovirus penaei infections in hatcheries may be achieved by prior washing of nauplii or fertilised eggs with formalin, iodophore and filtered clean seawater as described in the following figure.

<table>
<thead>
<tr>
<th>a) Nauplii*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection of nauplii using plankton net ⇒ Running sea water for 1-2 minutes ⇒ Formalin 400 ppm for 30 seconds to 1 minute</td>
</tr>
<tr>
<td>Iodophore 0.1 ppm for 1 minute ⇒ Running sea water for 3-5 minutes ⇒ Hatchery ponds</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>b) Fertilised eggs**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection of fertilised eggs ⇒ Running sea water for 1-2 minutes ⇒ Formalin 100 ppm for 1 minute</td>
</tr>
<tr>
<td>Iodophore 0.1 ppm for 1 minute ⇒ Running sea water for 3-5 minutes ⇒ Hatchery ponds</td>
</tr>
</tbody>
</table>

* Nauplii are much easier to collect than are fertilised eggs in hatcheries.
** Fertilised eggs are more sensitive than nauplii to formalin.
3. Prevention of infection by infectious hypodermal and hematopoietic necrosis virus may be achieved by using specific pathogen free crustacean populations. Although this approach has proven to be useful, it is still in the experimental phase.
PART 5

MODEL INTERNATIONAL HEALTH CERTIFICATES
APPROVED BY THE OIE

No. 1. International Health Certificate for live fish and gametes
No. 2. International Health Certificate for dead uneviscerated fish
No. 3. International Health Certificate for live molluscs and larvae
No. 4. International Health Certificate for live shrimps or prawns and their larvae
Model Certificate No. 1

INTERNATIONAL HEALTH CERTIFICATE
FOR LIVE FISH AND GAMETES
LIVE FISH AND GAMETES

Exporting country: ........................................................................................................
Competent Authority: .................................................................................................

Note: Mark all the relevant items with a cross in the appropriate space.

I. Identification of the products

A. Wild stocks

Fish □  Sperm □  Unfertilised eggs □
Fertilised eggs □  Larvae □

1) Harvesting zone: .................................................................................................

2) Species: Latin name: ..........................................................................................
   Common name: .................................................................................................

3) Age:  Unknown □  0+ □  1+ □  2+ □  >2+ □

4) Total weight (kg): ..............................................................................................
   or  Number (x1,000): .........................................................................................

B. Cultured stocks

Farm of origin (name and address) ............................................................................

Fish □  Sperm □  Unfertilised eggs □
Fertilised eggs □  Larvae □

1) Cultivation unit: ...................................................................................................

2) Species: Latin name: ..........................................................................................
   Common name: .................................................................................................

3) Age:  Unknown □  0+ □  1+ □  2+ □  >2+ □

4) Total weight (kg): ..............................................................................................
   or  Number (x1,000): .........................................................................................
II. Destination

Country of destination: .................................................................

Zone of destination: .................................................................

Name and address of consignee: ..................................................

Nature and identification of means of transport: ................................

III. National fish health status

Based on the official health surveillance scheme employing laboratory tests of susceptible species, is the exporting country, zone or farm considered to be free of:

<table>
<thead>
<tr>
<th></th>
<th>Country</th>
<th>Zone</th>
<th>Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Epizootic haematopoietic necrosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infectious haematopoietic necrosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oncorhynchus masou virus disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring viraemia of carp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viral haemorrhagic septicaemia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other serious diseases (to be specified)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IV. Declaration

Note: In the following statements, delete phrases as appropriate.

I, the undersigned, certify that the live fish or/and fish larvae, fish gametes, ova and fertilised eggs in the present consignment, originate from a zone subjected to official health surveillance and,

1) according to the procedures described in the OIE Diagnostic Manual for Aquatic Animal Diseases:
International certificates

a) that this whole zone
OR
b) that the particular cultivation unit mentioned in Section I B and located in the above zone

is officially recognised as being free from:

a) all the pathogens causing the diseases listed in the Code, as identified in Part III above
OR
b) the following diseases/pathogens

........................................................................................................................................
........................................................................................................................................

2) In addition:

a) no unexplained mortality has been observed during the three months prior to shipment
OR
b) no other diseases/pathogens have been detected
OR
c) the following diseases/pathogens have been detected (give dates)

........................................................................................................................................
........................................................................................................................................

Stamp:

Issued at................. on....................... (date)
Name and address of Health Inspector:
..............................................................................................................................
..............................................................................................................................

Signature: ......................................................

IMPORTANT NOTE:

THIS CERTIFICATE MUST BE COMPLETED NO MORE THAN SEVEN DAYS PRIOR TO SHIPMENT.
Model Certificate No. 2

INTERNATIONAL HEALTH CERTIFICATE

FOR DEAD UNEVIScerated FISH
International certificates

DEAD UNEVISERATED FISH

Exporting country: ........................................................................................................................................
Competent Authority: .................................................................................................................................

Note: Mark all the relevant items with a cross in the appropriate space.

I. National fish health status

Based on the official health surveillance scheme employing laboratory tests of susceptible species, is the exporting country, zone or farm considered to be free of:

<table>
<thead>
<tr>
<th></th>
<th>Country</th>
<th>Zone</th>
<th>Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Epizootic haematopoietic necrosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infectious haematopoietic necrosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oncorhynchus masou virus disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring viraemia of carp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viral haemorrhagic septicaemia</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II. Declaration

I, the undersigned, certify that the dead fish or fish products in the present consignment, originate from a country, zone or farm which has been recognised to be free from the above diseases.

Stamp:

Issued at.................... on.................... (date)
Name and address of Health Inspector:
..............................................................................
..............................................................................
..............................................................................

Signature: ..............................................................
# International certificates

**LIVE MOLLUSCS AND LARVAE**

**Exporting country:**...........................................................................................................
**Competent Authority:**........................................................................................................

**Note:** Mark all the relevant items with a cross in the appropriate space.

## I. Identification of the products

### A. Wild stocks

1) **Harvesting zone:** ...........................................................................................................

2) **Species:** Latin name: ....................................................................................................
   **Common name:** .............................................................................................................

3) **Age:**
   - Unknown □
   - >24 months □
   - 12-24 months □
   - 0-11 months □
   - larvae □

4) **Total weight (kg):** ........................................................................................................
   or
   **Number (x1,000):** ........................................................................................................

### B. Cultured stocks

1) **Farm of origin (name and address):** ..........................................................................

2) **Zone:** ..........................................................................................................................

3) **Cultivation unit:** ..........................................................................................................

4) **Species:** Latin name: ....................................................................................................
   **Common name:** .............................................................................................................

5) **Age:**
   - Unknown □
   - >24 months □
   - 12-24 months □
   - 0-11 months □
   - larvae □

6) **Total weight (kg):** ........................................................................................................
   or
   **Number (x1,000):** ........................................................................................................

## II. Destination

**Country of destination:** .....................................................................................................

**Zone of destination:** .........................................................................................................
**Name and address of consignee:** ..........................................................................................

..........................................................................................................................................

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Nature and identification of means of transport: ................................................................. 
........................................................................................................................................

III. National mollusc health status

Based on the official health surveillance scheme employing laboratory tests of susceptible species, is the exporting country, zone or farm considered to be free of:

<table>
<thead>
<tr>
<th>Country</th>
<th>Zone</th>
<th>Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonamia ostreae, B. sp. of Tiostra chilensis and Ostrea angasi</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Haplosporidium nelsoni</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marteilia refringens and M. sydneyi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mikrocystos mackini and M. roughleyi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P. marinus, P. atlanticus and P. olseni</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iridovirus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IV. Declaration

Note: In the following statements, delete phrases as appropriate.

A. Live molluscs

I, the undersigned, certify that the live molluscs in the present consignment originate from a zone/farm subjected to official health surveillance and,

1) according to the procedures described in the OIE Diagnostic Manual for Aquatic Animal Diseases, that this zone/farm is officially recognised as being free from:

   a) all the pathogens listed in the Code, as identified in Part III above OR
   b) the following pathogens

   ........................................................................................................................................
   ........................................................................................................................................
2) In addition to the above pathogens:

   a) no unexplained mortality has been observed during the six months prior to shipment
   OR
   b) no other pathogens have been detected/the following pathogens have been detected (give dates)

B. Mollusc larvae

I, the undersigned, certify that the live molluscs in the present consignment originate from a zone/hatchery subjected to official health surveillance and,

1) according to the procedures described in the OIE Diagnostic Manual for Aquatic Animal Diseases, that this zone/hatchery is officially recognised as being free from iridoviruses.

2) In addition to point 1:

   a) no unexplained mortality has been observed during the six months prior to shipment
   OR
   b) no other pathogens have been detected/the following pathogens have been detected (give dates)
Stamp:

Issued at................. on.................. (date)
Name and address of Health Inspector:
........................................................................
........................................................................

Signature: ..........................................................

IMPORTANT NOTE:

THIS CERTIFICATE MUST BE COMPLETED NO MORE THAN SEVEN DAYS PRIOR TO SHIPMENT.
Model Certificate No. 4

INTERNATIONAL HEALTH CERTIFICATE
FOR LIVE SHRIMPS OR PRAWNS AND THEIR LARVAE
LIVE SHRIMPS OR PRAWNS AND THEIR LARVAE

Exporting country: ............................................................................................................
Competent Authority: ...........................................................................................................

Note: Mark all the relevant items with a cross in the appropriate space.

I. Identification of the products

A. Wild stocks

1) Harvesting zone: ...........................................................................................................

2) Species: Latin name: .................................................................................................
   Common name: .............................................................................................................

3) Age:  Shrimps or prawns ☐  Broodstocks ☐  Juveniles ☐
   Postlarvae  ☐  Fertile eggs or nauplii  ☐

4) Total weight (kg): ......................................................................................................
   or Number (x1,000): ....................................................................................................

B. Cultured stocks

1) Farm of origin (name and address): ............................................................................

2) Zone: ..........................................................................................................................

3) Cultivation unit: .........................................................................................................

4) Species: Latin name: .................................................................................................
   Common name: .............................................................................................................

5) Age:  Shrimps or prawns ☐  Broodstocks ☐  Juveniles ☐
   Postlarvae  ☐  Fertile eggs or nauplii  ☐

6) Total weight (kg): ......................................................................................................
   or Number (x1,000): ....................................................................................................

II. Destination

Country of destination: ......................................................................................................

Zone of destination: .........................................................................................................
III. National crustacean health status

Based on the official health surveillance scheme employing laboratory tests of susceptible species, is the exporting country, zone or farm considered to be free of:

<table>
<thead>
<tr>
<th>Disease/Pathogen</th>
<th>Country</th>
<th>Zone</th>
<th>Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baculoviral midgut gland necrosis</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Baculoviroses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infectious hypodermal and haemopoietic necrosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other serious diseases (to be specified)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IV. Declaration

Note: In the following statements, delete phrases as appropriate.

A. Live crustaceans

I, the undersigned, certify that the live crustaceans in the present consignment originate from a zone/farm subjected to official health surveillance and,

1) according to the procedures described in the OIE Diagnostic Manual for Aquatic Animal Diseases, that this zone/farm is officially recognised as being free from:

   a) all the diseases identified in Part III above
   OR
   b) the following diseases/pathogens

   ........................................................................................................

   ........................................................................................................

   ........................................................................................................
2) In addition to the above diseases/pathogens:

   a) no unexplained mortality has been observed during the three months prior to shipment
   OR
   b) no other diseases/pathogens have been detected
   OR
   c) the following diseases/pathogens have been detected (give dates)

   ........................................................................................................................................
   ........................................................................................................................................

Stamp:

Issued at ................ on .................... (date)
Name and address of Health Inspector:
........................................................................................................................................
........................................................................................................................................

Signature: ..............................................................

IMPORTANT NOTE:

THIS CERTIFICATE MUST BE COMPLETED NO MORE THAN SEVEN DAYS PRIOR TO SHIPMENT.
# ALPHABETICAL LIST OF
# DISEASES/CAUSATIVE ORGANISMS COVERED IN THE CODE

<table>
<thead>
<tr>
<th>Disease/organism</th>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Aphanomyces astaci</em></td>
<td>3.3.5.</td>
<td>141</td>
</tr>
<tr>
<td>Bacterial kidney disease</td>
<td>3.1.6.</td>
<td>123</td>
</tr>
<tr>
<td>Baculoviral midgut gland necrosis</td>
<td>3.3.1.</td>
<td>133</td>
</tr>
<tr>
<td><em>Baculovirus penaei</em></td>
<td>3.3.2.</td>
<td>135</td>
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<tr>
<td><em>Bonamia ostreae</em></td>
<td>2.2.1.</td>
<td>85</td>
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<tr>
<td><em>Bonamia</em> sp.</td>
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<td>85</td>
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<td>Bonamiosis</td>
<td>2.2.1.</td>
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<tr>
<td>Channel catfish virus disease</td>
<td>3.1.1.</td>
<td>113</td>
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<td>Crayfish plague</td>
<td>3.3.5.</td>
<td>141</td>
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<td><em>Edwardsiella ictaluri</em></td>
<td>3.1.7.</td>
<td>125</td>
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<td>Enteric septicaemia of catfish</td>
<td>3.1.7.</td>
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<tr>
<td>Epizootic haematopoietic necrosis</td>
<td>2.1.1.</td>
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<td>2.2.2.</td>
<td>89</td>
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<td>89</td>
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<tr>
<td>Herpesvirus of <em>Ictaluridae</em> type I</td>
<td>3.1.1.</td>
<td>113</td>
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<tr>
<td>Infectious haematopoietic necrosis</td>
<td>2.1.2.</td>
<td>67</td>
</tr>
<tr>
<td>Infectious hypodermal and haematopoietic necrosis</td>
<td>3.3.3.</td>
<td>137</td>
</tr>
<tr>
<td>necrosis virus</td>
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<td>Infectious pancreatic necrosis</td>
<td>3.1.3.</td>
<td>117</td>
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<td>Infectious salmon anaemia</td>
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<td>119</td>
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<td>Iridovirosis</td>
<td>2.2.6.</td>
<td>105</td>
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<tr>
<td><em>Iridovirus</em></td>
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<tr>
<td><em>Marteilia refringens</em></td>
<td>2.2.3.</td>
<td>93</td>
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<td><em>Marteilia sydneyi</em></td>
<td>2.2.3.</td>
<td>93</td>
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<td>2.2.3.</td>
<td>93</td>
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<td><em>Mikrocytos mackini</em></td>
<td>2.2.4.</td>
<td>97</td>
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<tr>
<td><em>Mikrocytos roughleyi</em></td>
<td>2.2.4.</td>
<td>97</td>
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<td>Mikrocytosis</td>
<td>2.2.4.</td>
<td>97</td>
</tr>
<tr>
<td>Disease</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------</td>
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<tr>
<td>Nuclear polyhedrosis baculiviroses</td>
<td>3.3.2.</td>
<td>135</td>
</tr>
<tr>
<td>Oncorhynchus masou virus disease</td>
<td>2.1.3.</td>
<td>71</td>
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<td>Penaeus monodon-type baculovirus</td>
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<td>135</td>
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<td>Perkinsosis</td>
<td>2.2.5.</td>
<td>101</td>
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<td>101</td>
</tr>
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<td>Perkinsus marinus</td>
<td>2.2.5.</td>
<td>101</td>
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<td>Perkinsus olseni</td>
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<td>101</td>
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<tr>
<td>Piscirickettsia salmoninarum</td>
<td>3.1.8.</td>
<td>127</td>
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<tr>
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<td>3.1.8.</td>
<td>127</td>
</tr>
<tr>
<td>Renibacterium salmoninarum</td>
<td>3.1.6.</td>
<td>123</td>
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<tr>
<td>Salmonid herpesvirus type 2</td>
<td>2.1.3.</td>
<td>71</td>
</tr>
<tr>
<td>Spring viraemia of carp</td>
<td>2.1.4.</td>
<td>75</td>
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<tr>
<td>Viral encephalopathy and retinopathy</td>
<td>3.1.2.</td>
<td>115</td>
</tr>
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<td>2.1.5.</td>
<td>79</td>
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<tr>
<td>Yellowhead disease</td>
<td>3.3.4.</td>
<td>139</td>
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