OIE Aquatic Animal Health Code
and Manual of Diagnostic Tests
for Aquatic Animals

OIE Regional Workshop on Emergency Aquatic Animal Disease Response,
in collaboration with NACA
Bali, Indonesia, 6-8 November 2013

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OIE Regional Representation for Asia and the Pacific
Content

• Aquatic Code and Manual
• Aquatic Animal Health Standard Commission
• OIE PVS Tools: Aquatic
• Focal Point Seminar
• WAHIS, WAHID and QAAD
OIE Code and Manual
Countries need efficient aquatic animal health programmes to increase production of safe products in an environmentally sustainable way and to participate in international trade.

Veterinarians and other health professionals play a key role in the establishment and implementation of aquatic animal health programs; but resources and qualified/skilled professionals are often lacking.

Aquatic Animal Health Services, whether part of the Veterinary Services or not, frequently lack financial resources and infrastructure, including legislation, to implement efficient aquatic animal health programs.
One of the OIE Objectives is:

To safeguard world trade by publishing health standards for international trade in animals and animal products
Contents
Foreword
Guide to the use of the Aquatic Animal Health Code
Glossary
Section 1. Aquatic animal disease diagnosis, surveillance and notification
Section 2. Risk analysis
Section 3. Quality of Competent Authorities
Section 4. General recommendations: disease prevention and control
Section 5. Trade measures, importation/exportation procedures and health certification
Section 6. Veterinary public health
Section 7. Welfare of farmed fish
Section 8. Diseases of amphibians
Section 9. Diseases of crustaceans
Section 10. Diseases of fish
Section 11. Diseases of molluscs
Article 1.1.2.
countries shall make available to other countries, through OIE, whatever information is necessary to minimize the spread of aquatic animal diseases and their aetiological agents and to assist in achieving better world-wide control of diseases.

Article 1.1.3.
the veterinary authority shall, under the responsibility of the Delegate, send to the Headquarters of the OIE:
1) immediate notification
2) weekly reports
3) six-monthly reports
4) an annual questionnaire
1.3.1 Diseases of fish (9)
- Epizootic haematopoietic necrosis
- Infection with *Aphanomyces invadans* (Epizootic ulcerative syndrome)
- Infection with *Gyrodactylus salaris*
- Infection with HPR-detected or HPR0 infectious salmon anaemia virus
- Infectious haematopoietic necrosis
- Koi herpesvirus disease
- Red sea bream iridoviral disease
- Spring viraemia of carp
- Viral haemorrhagic septicaemia

1.3.2 Diseases of molluscs (8)
- Infection with abalone herpes virus
- Infection with *Bonamia ostreae*
- Infection with *Bonamia exitiosa*
- Infection with *Marteilia refringens*
- Infection with *osterid herpesvirus-1 micorvariant*
- Infection with *Perkinsus marinus*
- Infection with *Perkinsus olseni*
- Infection with *Xenohaliotis californiensis*

1.3.3 Diseases of crustaceans (8)
- Crayfish plague (*Aphanomyces astaci*)
- Infectious hypodermal and haematopoietic necrosis
- Infectious myonecrosis
- Necrotising hepatopancreatitis
- Taura syndrome
- White spot disease
- White tail disease
- Yellow head disease

1.3.4 Diseases of amphibians (2)
- Infection with *Batrachochytrium dendrobatidis*
- Infection with ranavirus
Chapter 2.1. Import Risk Analysis

The four components of risk analysis

- Hazard identification
- Risk assessment
- Risk management

Risk communication

Article 2.1.4. Risk assessment steps

1. Entry assessment (biological, country, commodity)
2. Exposure assessment
3. Consequence assessment (direct, indirect)
4. Risk estimation

To provide with an objective and defensible method of assessing the disease risks associated with the importation
4.4. Contingency planning

Legal provisions

Crises centre(s)

Implementation of contingency plans

Coordination of all control measures

Responsibilities, instruction on chain of command

Instruction of actions

Diagnostic laboratories

Training Programmes

Diagnostic procedures
- Standing instruction
- Handling/disposal
- Slaughtering
- Disease control at the local level
- Quarantine
- Disinfection
- Fallowing
- Surveillance etc.,

Ensure the skills in field, administrative and diagnostic procedures
- Maintain the state of readiness

Maintain the state of readiness
Where the *Aquatic Code* requires that tests are carried out for international movement, the *Aquatic Manual* should provide a recommended laboratory method.
General Consideration

• Unlike terrestrial animals, crustaceans, amphibians, fish and molluscs don’t often show specific clinical disease signs
• Therefore the best suited diagnostic is detection of the pathogen
• The methods are mainly direct, indirect methods, e.g. antibody detection, are generally not accepted
• Molluscs and crustaceans don’t produce antibodies
• General approach: pathogen isolation and identification, or
  Antigen detection by immunological or molecular techniques
• PCR is recommended for detection and confirmation but not for screening to prove absence of disease

General Consideration
Divided in two parts:

- **Part 1:**
  3 Chapters of general interest for veterinary laboratories

- **Part 2:** specific diseases
  - Amphibians: 2 diseases
  - Crustacéans: 10 diseases
  - Fish: 11 diseases (3 new in 2013)
  - Molluscs: 9 diseases (1 new in 2013)
Part 2: Recommendations applicable to specific diseases

General introduction

Diseases of amphibians
2.1.1 Infection with Batrachochytrium dendrobatidis
2.1.2 Infection with ranavirus

Diseases of crustaceans
2.2.1 Crayfish plague (Aphanomyces astaci)
2.2.2 Infectious hypodermal and naematopoietic necrosis
2.2.3 Infectious myonecrosis
2.2.4 Necrotising hepatopancreatitis
2.2.5 Taura syndrome
2.2.6 White spot disease
2.2.7 White tail disease
2.2.8 Yellowhead disease
2.2.9 Spherical baculovirus (Panaeus monodon-type baculovirus)
2.2.10 Tetrahedral baculovirosis (Baculovirus penaei)

Diseases of fish
2.3.1 Epizootic haematopoietic necrosis
2.3.2 Infection with Aphanomyces invadans (Epizootic ulcerative syndrome)
2.3.3 Gyrodactylosis (Gyrodactylus salaris)
2.3.4 Infectious haematopoietic necrosis
2.3.5 Infection with Infectious salmon anaemia virus
2.3.6 Koi herpesvirus disease
2.3.7 Red sea bream iridoviral disease
2.3.8 Spring viraemia of carp
2.3.9 Viral haemorrhagic septicaemia
2.3.10 Oncorhynchus masou virus disease
2.3.11 Viral encephalopathy and retinopathy

Diseases of molluscs
2.4.1 Infection with abalone herpesvirus
2.4.2 Infection with Bonamia exitiosa
2.4.3 Infection with Bonamia ostreae
2.4.4 Infection with Marteilia refringens
2.4.5 Infection with Perkinsus marinus
2.4.6 Infection with Perkinsus olseni
2.4.7 Infection with Xenohaliotis californiensis
2.4.8 Infection with Mikrocytos mackini
2.4.9 Infection with ostreid herpesvirus 1 microvariant
The chapters of Part 2 follow this structure:

• Scope
• Disease information
• Sampling
• Diagnostic methods
• Rating of tests against purpose of use
• Tests recommended for the declaration of disease freedom
• Corroborative diagnostic criteria
### OIE Specialist Commissions

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Aquatic Animal Health Standards Commission

http://www.oie.int/international-standard-setting/specialists-commissions-groups/aquatic-animal-commission-reports/overview/
Adopted in May 2013

- New listed disease: Infection with *Salmonid alphavirus*

- Changed name - Infection with *Aphanomyces invadans* (epizootic ulcerative syndrome)

- New listed emerging disease - Infection with ostreid herpesvirus-1 microvariant

- New Chapter 7.4. Killing of farmed fish for disease control purposes

- Revised Chapter 10.5. Infection with infectious salmon anaemia virus (pathogen differentiation, HPR0 and HPR-deleted ISAV)
Emerging Disease proposals:

- revised definition (glossary)
- clarification regarding notification and reporting obligations (Chapter 1.1.)
- deletion of article on Criteria for listing an emerging aquatic animal disease (Article 1.2.3.)

Proposals consistent with proposals made by the TAHSC
Acute hepatopancreatic necrosis syndrome (AHPNS)

Causing significant mortalities in shrimp in Asia and Latin America

Causative agent identified in July 2013 (*Vibrio parahaemolytica*)

AAC Oct 2013: ‘available information may be too fragmented to consider listing of the disease.’

‘disease meets the definition of an emerging disease, therefore Member Countries should notify the occurrence of this disease in accordance with Article 1.1.3.’

AAC Oct 2013 drafted an OIE Technical Factsheet AHPNS. To be uploaded onto the OIE web page asap
OIE PVS Tool: Aquatic

The OIE PVS Pathway

« Diagnosis »
- PVS Evaluation
- PVS Gap Analysis

« Prescription »
- Public / Private Partnerships
- Veterinary Education
- Laboratories

« Treatment »
- Capacity Building, Specific Activities, Projects and Programs
- Veterinary Legislation
- PVS Pathway Follow-Up Missions

The OIE collaborates with governments, donors and other stakeholders
PVS Tool

OIE Tool for the Evaluation of Performance of Veterinary Services

6th edition
OIE PVS Tool: Aquatic

NEW

1st edition

http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/pdf/A_PVS_Tool_aquatic_animals.pdf
New OIE PVS Tool: Aquatic

- stand alone PVS Tool for the Evaluation of AAHS;
- available on the OIE website;
- based on the 6th edition of the PVS Tool;
- still have received only a small number of requests for Evaluations of AHHS;

Encourage Members to request an Evaluation of their AAHS
Focal Point Seminar
Focal Point Seminars

3rd Cycle:
Chinese Taipei,
August 2014
WAHIS, WAHID and QAAD
WAHIS, WAHID and QAAD

- World Animal Health Information System (WAHIS)
- World Animal Health Information Database (WAHID)
- Quarterly Aquatic Animal Disease (QAAD) Report
information available at:
Thank you for your attention