Organisation Mondiale de la Santé Animale | World Organisation for Animal Health | Organización Mundial de Sanidad Animal

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EXTRACT FROM THE

REPORT OF THE MEETING OF THE OIE AQUATIC ANIMAL HEALTH STANDARDS COMMISSION

Paris, 5–9 March 2012

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The OIE Aquatic Animal Health Standards Commission (the Aquatic Animals Commission) met at the OIE Headquarters in Paris from 5 to 9 March 2012.

Details of participants and the adopted agenda are given at Annexes 1 and 2.

On behalf of Dr Bernard Vallat, Director General of the OIE, Dr Gillian Mylrea, Deputy Head of the OIE International Trade Department, welcomed members and thanked them for their on-going work in support of the OIE. Dr Monique Eloit, OIE Deputy Director General, joined the meeting later in the week to acknowledge Dr Barry Hill's enormous contribution to the OIE work in aquatic animals. He has been a member of the Aquatic Animals Commission since 1988 and will end his term as President of the Commission in May this year.

The Aquatic Animals Commission strongly encouraged Members to participate in the development of the OIE's international standards by sending comments on this report. The Aquatic Animals Commission reiterated that it would be very helpful if comments were submitted as specific proposed text changes, supported by a scientific rationale. Members are requested not to use the automatic 'track-change' function provided by word processing software in preparation of their comments. The Commission also reminded Members that they should follow the established convention in recommending modification of text in the OIE *Aquatic Animal Health Code* (hereinafter referred to as the *Aquatic Code*), i.e. propose new text (shown as double underline) and propose text deletions (shown as ~~strike-through~~) and provide a scientific justification for all changes proposed.

The Aquatic Animals Commission reviewed various *Aquatic Code* draft texts from its October 2011 report in the light of Member comments. The outcome of the Commission's work is presented at Annexes 3 to 23 in this report. Amendments made to the *Aquatic Code* chapters during the October 2011 meeting are shown as double underlined text, with deleted text in ~~strike-through~~, while amendments made at this meeting (March 2012) are shown in a similar manner but with coloured background to distinguish the two groups of amendments.

Members are invited to comment on the proposed amendments. The Aquatic Animals Commission emphasised that Members need only comment on non-amended text where there is an error or need for significant change to remove ambiguity or to take account of new scientific information.

The table below summarises the texts as presented in the Annexes. Annexes 3 to 16 are proposed texts for adoption at the 80th General Session in May 2012; Annex 17 to 19 are presented for Member comments; Annexes 20 to 25 for Members information.

Members are invited to submit their comments to the OIE on Annexes 17 to 19 of this report. Comments must reach OIE Headquarters prior to **27 August 2012** in order to be considered at the next meeting of the Aquatic Animals

Commission, which will be held on 24–28 September 2012. Comments should be sent to the International Trade Department at: trade.dept@oie.int.

Texts proposed for adoption	**Annex number**
Glossary	Annex 3
Criteria for listing aquatic animal diseases (Chapter 1.2.)	Annex 4
Diseases listed by the OIE (Chapter 1.3.): - revision of Article 1.3.2. (listing Infection with ostreid herpesvirus [OsHV-1 and OsHV-1 µvar] as an emerging disease) - revision of Article 1.3.2. (Infection with abalone herpes virus)	Annex 5
Import risk analysis (Chapter 2.2.)	Annex 6
Communication (new Chapter 3.2.)	Annex 7
Example article to be applied to all disease specific chapters under point 1 of Articles X.X.12. (amphibian and fish disease chapters) and X.X.11. (crustacean and mollusc disease chapters)	Annex 8
Monitoring of the quantities and usage patterns of antimicrobial agents used in aquatic animals (new Chapter 6.4.)	Annex 9
Development and harmonisation of national antimicrobial resistance surveillance and monitoring programmes for aquatic animals (new Chapter 6.5.)	Annex 10
Welfare of farmed fish during transport (Chapter 7.2.)	Annex 11
Welfare aspects of stunning and killing of farmed fish for human consumption (Chapter 7.3.)	Annex 12
Killing of farmed fish for disease control purposes (new Chapter 7.4.)	Annex 13
Disinfection of salmonid eggs (Article 10.4.13., Article 10.5.13. and Article 10.9.13.)	Annex 14
Revision of Article 2.1.2. (Obligation of WTO Members)	Annex 15
Chapter 1.1. Notification of Diseases and Epidemiological Information	Annex 16
Texts for Members' comment	**Annex number**
Control of hazards in aquatic animal feeds (Chapter 6.1.)	Annex 17
Revision of Article 1.3.1. (Infectious salmon anaemia)	Annex 18
Infectious salmon anaemia (Chapter 10.5.)	Annex 19
Annexes for Members' information	**Annex number**
Aquatic Animal Health Standards Commission Work Plan for 2012/2013	Annex 20
Report of the *ad hoc* Group on the OIE List of Aquatic Animal Diseases (Finfish Team)	Annex 21
Report of the *ad hoc* Group on Responsible Use of Antimicrobials in Aquatic Animals	Annex 22
Report of the *ad hoc* Group on Assessing the criteria for Listing Aquatic Animal Species as Susceptible to Infection with a Specific Pathogen	Annex 23
Report of the OIE *ad hoc* Group on Veterinary Education	Annex 24
Report of the OIE Expert Meeting: Brainstorming on invasive alien species	Annex 25

1. Activities and progress of *ad hoc* groups

1.1. Report of the *ad hoc* Group on the OIE List of Aquatic Animal Diseases (Finfish Team)

Dr Barry Hill, Aquatic Animals Commission representative in this *ad hoc* Group, gave a summary of work undertaken during the *ad hoc* Group's electronic consultations, which were held in January and February 2012.

The Aquatic Animals Commission considered the report of the *ad hoc* Group. The *ad hoc* Group reviewed the additional information provided by Chile for criteria 6 and 7 of the Criteria for Listing Aquatic Animal Diseases provided in Article 1.2.1. of the *Aquatic Animal Health Code* (*Aquatic Code*) in support of the listing of pancreas disease. The *ad hoc* Group also considered other information obtained on recent international trade and concluded that there is evidence that there is trade that could spread the virus, so criterion 6 was therefore met. Concerning criterion 7, the *ad hoc* Group concluded that while the information provided by Chile suggested that several countries or zones could possibly be in a position to declare freedom, the evidence presented remained insufficient to conclusively demonstrate pancreas disease freedom for any of the countries identified.

The Commission recommended that countries that consider themselves to be free of pancreas disease, make available scientific evidence regarding the absence of the disease. This information would be used to further evaluate pancreas disease against criterion 7.

The Commission noted the *ad hoc* Group's comment that criteria 6 and 7, and the explanatory notes in Article 1.2.1. use words such as 'may be', 'likely' and 'likelihood' and that these are rather vague and need to be replaced by more precise terms or expansion of explanatory notes. The Commission agreed to review these criteria once the revised criteria in Chapter 1.2. of the OIE *Terrestrial Animal Health Code* (the *Terrestrial Code*) are adopted (see Item 2.3.).

The Commission agreed with the conclusion of the *ad hoc* Group that there was insufficient evidence to satisfy criterion 7 and therefore pancreas disease does not meet the criteria for listing.

The report of the *ad hoc* Group is at Annex 21 for information.

1.2. Report of the OIE *ad hoc* Group on Responsible Use of Antimicrobials in Aquatic Animals

Dr Ricardo Enriquez, Aquatic Animals Commission representative in this *ad hoc* Group, gave a summary of work undertaken during the *ad hoc* Group's meeting, which was held from 31 January to 2 February 2012.

The Aquatic Animals Commission reviewed the report of the *ad hoc* Group on Responsible Use of Antimicrobials in Aquatic Animals and addressed the following issues:

Chapter 6.4. Monitoring of the quantities and usage patterns of antimicrobial agents used in aquatic animals: Refer to agenda Item 2.9. for details on this draft chapter.

Chapter 6.5. Development and harmonisation of national antimicrobial resistance surveillance and monitoring programmes for aquatic animals: Refer to agenda Item 2.10. for details on this draft chapter.

Antimicrobial resistance risk analysis in aquaculture: The Commission noted the *ad hoc* Group's view that work on a new chapter in the *Aquatic Code* on risk analysis in aquaculture was important to progress and agreed that this work should be advanced by the *ad hoc* Group.

The report of the *ad hoc* Group is at Annex 22 for information.

1.3. Report of the OIE *ad hoc* Group on Assessing the Criteria for Listing Aquatic Animal Species as Susceptible to Infection with a Specific Pathogen

Dr Olga Haenen, Aquatic Animals Commission representative in this *ad hoc* Group, gave a summary of work undertaken electronically by the *ad hoc* Group since the Commission's last meeting in October 2011.

The Commission, at its October 2011 meeting, had provided a number of comments for the *ad hoc* Group to consider when further developing, reviewing and refining the criteria for listing aquatic animal species as susceptible to infection with a specific pathogen and expanding the explanatory notes. Dr Haenen presented the document that had been revised by the *ad hoc* Group in light of the Commission's input and drew attention to the worked example applying the criteria to koi herpes virus. The Commission agreed that it was now sufficiently advanced to seek comments from the OIE Reference Laboratory experts, some of whom were also the authors of the *Manual of Diagnostic Tests for Aquatic Animals* (*Aquatic Manual*) chapters. It considered that the best format for the final document would be a guidance document with explanatory text that would eventually be published on the OIE web site. The authors of the specific disease chapters of the *Aquatic Manual* would then be asked to apply the criteria at the next update of relevant chapters in the *Aquatic Manual*.

The report of the *ad hoc* Group is at Annex 23 for information.

2. OIE *Aquatic Animal Health Code* – Member Country comments

2.1. General comments

The Aquatic Animals Commission welcomed the contribution of African Member Countries, Australia, Canada, Chile, China (People's Republic of), Chinese Taipei, European Union (EU), Japan, New Zealand, Norway, Switzerland, Thailand and the United States of America (USA), OIE experts and the International Council for Animal Welfare (ICFAW).

The Aquatic Animals Commission noted that some Member Country comments were on the proposed amendments to the text while others were comments on text not proposed for amendment. The Commission wished to emphasis that Member Countries should comment on proposed amendments and only on other text where there is an error or need for significant change to remove ambiguity or to take account of new scientific information. The Commission proposed to prepare a schedule for periodical full review of adopted chapters which will provide the opportunity for Member Countries to propose additions, deletions or other amendments to any part of the text.

In response to Member Country comments requesting consideration be given to the drafting of a new chapter on the welfare of aquatic animals used in research, education and training, the Aquatic Animals Commission re-iterated its previous consideration on this issue (Commission's October, 2011 report), that the use of aquatic animals in scientific studies can be an important aid to research. However, given that the focus of animal welfare standards in the *Aquatic Code* is currently on farmed fish, and that there is still work to be done to finalise relevant chapters and to encourage Member Countries to implement them, the Commission was of the view that this should take priority before drafting new text on the welfare of aquatic animals used in research and education.

2.2. Glossary

Whilst reviewing Member Country comments and relevant chapters, the Aquatic Animals Commission amended several definitions:

1. The definition for *'Aquaculture establishment'* was amended to include amphibians as they are included in the definition of aquatic animals, and marketing was changed to sale to clarify the meaning of this term.

Aquaculture establishment

means an establishment in which amphibians, fish, molluscs or crustaceans for breeding, stocking or ~~marketing~~ sale are raised or kept.

2. The Commission drew to the attention of Member countries the need to define the term 'aquatic animal health professional' which is used throughout the *Aquatic Code*. This is important in the context of work that will be undertaken in 2012 by a new *ad hoc* Group on the Evaluation of Aquatic Animal Health Services.

In response to several Member Country comments, the Commission changed 'animal sciences' to 'biological sciences' as this was considered to be a more inclusive term. The Commission noted that both 'animal sciences' and 'biological sciences' could include veterinarians. However, a veterinarian, in order to meet the proposed definition of 'aquatic animal health professional' would need to have received post graduate training in aquatic animal health or to have several years practical experience in aquatic animal health.

The Commission did not agree with a proposal to include, as an essential requirement, several scientific publications in peer reviewed journals as it did not consider that this was appropriate for inclusion in the definition.

Aquatic animal health professional

means an individual holding a tertiary (university) level qualification in ~~animal~~ biological sciences and who has had post graduate training in *aquatic animal* health or has had several years practical experience in *aquatic animal* health.

3. A number of Member Country comments were received that indicated there was some confusion about the definition for 'disease' used in the *Aquatic Code*. The Aquatic Animals Commission had proposed the deletion of the reference to the *Aquatic Code* in the definition because this term is used throughout the *Aquatic Code* in relation to both OIE listed diseases and the horizontal chapters. The Commission did not agree with a proposal to delete the reference to 'non clinical' infection because infection without clinical signs is common in aquatic animals and presents a significant risk of spreading pathogens through trade.

Disease

means clinical or non clinical *infection* with one or more ~~of the~~ aetiological agents ~~of the *diseases* referred to in the *Aquatic Code*~~.

4. In response to several Member Country comments, the Commission amended the definition for *feed* to harmonise it with the definitions used in the *Terrestrial Code* and Codex Alimentarius, with the exception of the inclusion of live organisms, which are specific to aquaculture.

Feed

means any ~~material~~ material ~~product~~ (single or multiple), ~~of~~ whether ~~whether~~ processed, semi-processed or raw ~~unprocessed plant or animal material~~, as well as live organisms, ~~that~~ which is intended to be fed directly to *aquatic animals*.

5. No Member Country comments were received regarding the proposal to delete the definition for *live feed*.

~~*Live feed*~~

~~means live farmed or wild caught animals and algae used as *feed* for *aquatic animals*. Live feed is often fed to *aquatic animal* species at an early life-stage and to *aquatic animal* species that have been cultured for a relatively *short* time.~~

6. No Member Country comments were received regarding the proposed amendments to *self-declaration of freedom from disease*.

Self-declaration of freedom from disease

means declaration by the *Competent Authority* of the country concerned that the country, *zone* or *compartment* is free from a *listed disease* based on implementation of the provisions of the *Aquatic Code* and the *Aquatic Manual*. [NOTE: The Member is encouraged to inform the OIE of its claimed status and the OIE may publish the claim but publication does not imply OIE endorsement of the claim.] ~~The *Veterinary Authority* of the country may wish to transmit this information to the OIE *Headquarters*, which may publish the information.~~

The revised Glossary, proposed for adoption, is at Annex 3.

2.3. Criteria for listing aquatic animal diseases (Chapter 1.2.)

The Aquatic Animals Commission considered Member Country comments and made relevant amendments.

Noting that the OIE Terrestrial Animal Health Standards Commission (the Code Commission) is in the process of modifying the disease listing criteria in the *Terrestrial Code* (Chapter 1.2.), the Aquatic Animals Commission proposed to await the decision of Member Countries on this work before proposing any major modifications to the equivalent text in the *Aquatic Code*. Member Country comments on non-amended text would be held over for future consideration.

The revised Chapter 1.2., proposed for adoption, is at Annex 4.

2.4. Diseases listed by the OIE (Chapter 1.3.)

2.4.1. Assessment for listing Infection with ostreid herpesvirus (OsHV-1 and OsHV-1 µvar) as an emerging disease

The Aquatic Animals Commission reviewed comments received from Japan, Norway, EU, Canada, USA, New Zealand, and Australia. The Commission noted the opposing positions amongst some Member Countries on the proposal to list Infection with ostreid herpesvirus-1 as an emerging disease. However, no Member Countries opposed the listing of OsHV-1 µvar as an emerging disease.

The Commission reiterated that:

- Following notification by several Member Countries to the OIE on significant epidemiological changes in relation to infection with OsHV-1 µvar, the Commission proposed its listing under the provisions of Article 1.2.2., as emerging aquatic animal disease.
- Since the causative agent is a variant of the otherwise known oyster herpes virus OsHV-1, the Commission has proposed to follow the approach recommended by the *ad hoc* Group on Pathogen Differentiation (see details in the *ad hoc* Group in Annex 22 at http://www.oie.int/fileadmin/Home/eng/Internationa_Standard_Setting/docs/pdf/Aquatic_Commission/A_AAC_Feb_2011.pdf), that is, to ensure gathering of epidemiological information, as per the proposed case definition, for all variants over a period of time before making a decision on the listing of certain variants.

Against this background, the Commission wished to clarify that the objectives of listing of both forms (OsHV-1 and OsHV-1 µvar) are to:

1. Enable the collection of epidemiological information in a harmonised and systematic way in areas that may be affected by OsHV-1 µvar; and
2. Provide objective information on the respective role of OsHV-1 µvar compared to OsHV-1 as well as other possible variants of the virus.

To this effect, a *Manual* chapter was drafted to provide guidance on diagnosis, typing, and reporting of increased mortality of Pacific oysters associated with OsHV-1 and OsHV-1 µvar. This chapter was circulated to Member Countries and will be proposed for adoption at the 80th General Session in May 2012.

Some Member Countries commented that reporting of all types of OsHV-1 would lead to the submission of a large amount of information about types of the virus that are widespread and known to have little impact on the host. The Commission noted that the case definition was specifically designed such that Member Countries need only report outbreaks with increased mortality.

Some Member Countries proposed that the reporting obligations should focus on OsHV-1 µvar only. The Commission noted that there is some evidence suggesting that the mortality events involving herpesvirus in Pacific oyster have mostly been caused by OsHV-1 µvar. However it cannot be excluded that other variants of the virus may also have played a role in recent mortality events.

For these reasons, the Commission proposed the listing of Infection with ostreid herpesvirus (OsHV-1 and OsHV- µvar) as an emerging disease.

The revised Article 1.3.2., proposed for adoption, is at Annex 5.

2.4.2. Infection with abalone herpes-like virus

The Aquatic Animals Commission agreed with a Member proposal to amend the name to 'Infection with abalone herpes~~-like~~ virus' since there is now sufficient evidence to justify that this virus can be classified as a herpesvirus *bona fide* (Savin K.W., Cocks B.G., Wong F., Sawbridge T., Cogan N., Savage D. & Warne S. [2010]. A neurotropic herpesvirus infecting the gastropod, abalone, shares ancestry with oyster herpesvirus and a herpesvirus associated with the amphioxus genome. *Virological Journal*, **7**, 308).

The revised Article 1.3.2., proposed for adoption, is at Annex 5.

2.4.3. Epizootic ulcerative syndrome

The Aquatic Animals Commission considered the assessment provided by Canada in support of its proposal that epizootic ulcerative syndrome be delisted. The Commission was unable to reach a decision regarding the case made by Canada because it had concerns about some of the reasoning used in the assessment.

The Commission was mindful of the recent large scale EUS disease outbreaks in southern Africa which caused serious socio-economic impacts to the affected countries in the Zambezi river basin (FAO. 2009. Report of the International Emergency Disease Investigation Task Force on a Serious Finfish Disease in Southern Africa, 18–26 May 2007. Rome, FAO).

The Commission recommended that an *ad hoc* Group be convened to reassess EUS against the criteria for listing in Chapter 1.2.

2.4.4. Infectious salmon anaemia

As a consequence of proposed changes to Chapter 10.5. (see also Item 2.14. in this report) and following consideration of the approach taken in the *Terrestrial Code*, for the high and low virulent forms of avian influenza, the Commission amended the listed disease name for infectious salmon anaemia (ISA) in Article 1.3.1. as follows: 'Infectious salmon anaemia (infection with HPR-deleted or HPR0 forms of ISAV)' to clarify that for the purpose of notification ISA means infection with ISAV, including its pathogenic forms (having deletions in the HPR region: HPR-deleted) and its non pathogenic form (HPR0).

The revised Article 1.3.1. is at Annex 18 for Member Country comment.

2.5. Import risk analysis (Chapter 2.2.)

The Aquatic Animals Commission noted that Member Countries had supported the amendment proposed to this chapter in October 2011. The Commission will make the same amendment in other relevant parts of the *Aquatic Code* as appropriate upon the adoption of this chapter.

The Commission also noted several more extensive amendments proposed by a Member Country. However, because the Commission considered that these would not significantly improve the current text and were already well covered by the OIE *Handbook on Import Risk Analysis for Animals and Animal Products*, the Commission decided not to make the proposed amendments. A proposal to include a new diagram was not accepted because it illustrated a process different from that of the OIE and used some terms not used by the OIE.

The revised Chapter 2.2., proposed for adoption, is at Annex 6.

2.6. Communication (new Chapter 3.2.)

The Commission reviewed the comments from several Member Countries including amendments proposed by the Code Commission relevant to the *Terrestrial Code* Chapter 3.3.

The Commission amended the text accordingly, to ensure harmonisation with the *Terrestrial Code* Chapter 3.3.

The revised text of the new Chapter 3.2., proposed for adoption, is at Annex 7.

2.7. Example article to be applied to all disease specific chapters under point 1 of Articles X.X.12. (amphibian and fish disease chapters) and X.X.11. (crustacean and mollusc disease chapters)

The Aquatic Animals Commission agreed with a Member Country proposal to add a new sentence in all disease specific chapters under point 1 of Articles X.X.12. (amphibian and fish disease chapters) and X.X.11. (crustacean and mollusc disease chapters). This new text is to recognise that aquatic animal products listed in these articles are safe only under certain conditions where the assumptions of Article 5.3.2. apply. The proposed new text is:

'Certain assumptions have been made in assessing the safety of aquatic animals and aquatic animal products listed above. Member Countries should refer to these assumptions at Article 5.3.2. and consider whether the assumptions apply to their conditions.'

The Aquatic Animals Commission drafted an 'example article' to be included in all disease chapters under point 1 of Articles X.X.12. (amphibian and fish disease chapters) and X.X.11. (crustacean and mollusc disease chapters).

The draft 'example article', proposed for adoption, is at Annex 8.

2.8. Control of hazards in aquatic animal feeds (Chapter 6.1.)

In response to Member Country comments, the Aquatic Animals Commission, at its October 2011 meeting, had asked an expert to review Chapter 6.1. and to provide advice to the Commission on whether the animal production food safety risks had been comprehensively addressed. The Commission reviewed the advice provided by the expert and amended the chapter as appropriate.

The revised Chapter 6.1., for Member Country comment, is at Annex 17.

2.9. Monitoring of the quantities and usage patterns of antimicrobial agents used in aquatic animals (draft new Chapter 6.4.)

The Aquatic Animals Commission considered the recommendations of the *ad hoc* Group on Responsible Use of Antimicrobial Agents in Aquatic Animals, which had reviewed the draft new Chapter 6.4. 'Monitoring of the quantities and usage patterns of antimicrobial agents used in aquatic animals' to address Member Country comments. The Commission agreed with the proposed amendments – see Item 1.2. for details.

The revised text of the new Chapter 6.4., proposed for adoption, is at Annex 9.

2.10. Development and harmonisation of national antimicrobial resistance surveillance and monitoring programmes for aquatic animals (new draft Chapter 6.5.)

The Aquatic Animals Commission considered the recommendations of the *ad hoc* Group on Responsible Use of Antimicrobial Agents in Aquatic Animals, which had reviewed the draft new Chapter 6.5. 'Development and harmonisation of national antimicrobial resistance surveillance and monitoring programmes for aquatic animals' to address Member Country comments. The Commission agreed with the proposed amendments – see Item 1.2. for details.

The revised text of the new Chapter 6.5., proposed for adoption, is at Annex 10.

2.11. Welfare of farmed fish during transport (Chapter 7.2.)

The Aquatic Animals Commission received Member Country comments on this chapter, some of which were suggested changes to the proposed amendments to the text while others were comments on text not proposed for amendment. The Commission reviewed comments on the proposed amendments to the text and amended the text accordingly but decided not to consider any comments made on adopted text and will hold these for future consideration.

The revised Chapter 7.2., proposed for adoption, is at Annex 11.

2.12. Welfare aspects of stunning and killing of farmed fish for human consumption (Chapter 7.3.)

The Aquatic Animals Commission received Member Country comments on this chapter, some of which were suggested changes to the proposed amendments to the text while others were comments on adopted text, which had not been proposed for amendment. The Commission reviewed comments on the proposed amendments to the text and amended the text accordingly, but decided not to consider any comments made on adopted text and will hold these for future consideration.

The revised Chapter 7.3., proposed for adoption, is at Annex 12.

2.13. Killing of farmed fish for disease control purposes (new Chapter 7.4.)

The Aquatic Animals Commission reviewed Member Country comments and made relevant amendments.

In response to a Member Country's comment that words "pain" and "anxiety" are unsuitable terms for use in the fish welfare chapters as there is a lack of evidence that these states occur in fish, the Commission agreed to delete the word 'anxiety' but did not agree to delete 'pain' as there is scientific evidence that some fish species have brain structures potentially capable of experiencing pain (see: EFSA, 2009 General approach to fish welfare and the concept of sentience in fish).

The Commission did not agree with a Member Country's proposal to delete the text in point 3 of Article 7.4.2. referring to 'aversive'. The Commission noted that although some methods are clearly aversive (e.g. use of CO_2, leading to very low pH of the water), other methods (such as isoeugenol) may or may not be aversive. Therefore, the article states that the recommended methods should be as non aversive as possible.

A Member Country proposed amending point 6 of Article 7.4.3. to clarify the example provided regarding legal issues, i.e. use anaesthetic agents. The Commission did not agree with the proposal, noting that the purpose of this example is to highlight issues not directly related to the welfare of fish that may need to be considered and anaesthetic use was provided as an example of a legal issue.

The Aquatic Animals Commission did not agree with some of the other proposed amendments as the intent was already covered or the proposals did not significantly improve the existing text.

A Member Country proposed that killing with the use of disinfectant chemicals was an applicable method and it be added to Article 7.4.5. The Commission requested that the Member Country provide the scientific rationale for this proposed amendment, including references.

The revised text of the new Chapter 7.4., proposed for adoption, is at Annex 13.

2.14. Infectious salmon anaemia (Chapter 10.5.)

The Aquatic Animals Commission reviewed comments received from Canada, Chile, China (People's Republic of), Chinese Taipei, EU, New Zealand, Norway, Thailand and United States of America. The Commission noted that all commenting Member Countries supported the proposal to include in this chapter at least HPR-deleted forms of ISA virus (ISAV). However, some Member Countries did not support the inclusion of articles specifically dealing with HPR0 with regard to declaration of zone or country freedom. The Commission proposed to follow the approach recommended by the *ad hoc* Group on Pathogen Differentiation **(see details in the *ad hoc* Group report in Annex 22 at: http://www.oie.int/fileadmin/Home/eng/Internationa_Standard_Setting/docs/pdf/Aquatic_Commission/A_AAC_Feb_2011.pdf),** that is, to ensure gathering of epidemiological information over a period of time before making a decision on the delisting of certain forms of ISAV.

Following consideration of the approach taken in the *Terrestrial Code*, the Commission amended the listed disease name for infectious salmon anaemia (ISA) in Article 1.3.1. as follows: 'Infectious salmon anaemia (HPR-deleted and HPR0 ISAV)', to clarify that for the purpose of notification ISA means infection with ISAV, including its pathogenic forms (having deletions in the HPR region: HPR-deleted) and its non pathogenic form (HPR0).

In Chapter 10.5. the Commission added new text 'The provisions in this chapter only apply to the pathogenic forms of ISAV (HPR-deleted)'.

The Commission amended Chapter 1.3. (see also Item 2.4.4. in this report) and Chapter 10.5. to reflect this approach.

The revised Article 1.3.1., for Member Country comment, is at Annex 18.

The revised Chapter 10.5., for Member Country comment, is at Annex19.

2.15. Disinfection of salmonid eggs (Article 10.4.13., Article 10.5.13. and Article 10.9.13.)

The Aquatic Animals Commission reviewed Member Country comments and made relevant amendments.

The revised Articles 10.4.13., 10.5.13. and 10.9.13., proposed for adoption, are at Annex 14.

3. OIE *Aquatic Animal Health Code* – other items

3.1. Proposed revision of Article 2.1.2.

The Aquatic Animals Commission reviewed the Code Commission's proposal to modify Article 5.3.1. (Obligations of WTO Members), noting that this arose from concerns raised by the Secretariat of the World Trade Organization (WTO) Sanitary and Phytosanitary Committee. The Commission noted that the obligation of notification was for WTO Members only, and that not all OIE Member Countries are WTO Members. The Commission revised the proposed text for better alignment with the obligation in the WTO SPS Agreement.

The Aquatic Animals Commission also noted that the *Terrestrial Code* Chapter 5.3. includes several articles on equivalence which do not appear in the *Aquatic Code* and that this text was included in a separate chapter in the *Terrestrial Code.* The Commission requested that OIE Headquarters consider inclusion of the relevant articles on equivalence in the *Aquatic Code* and harmonisation with the relevant chapter in the *Terrestrial Code*.

The revised Chapter 2.1., proposed for adoption, is at Annex 15.

3.2. Harmonisation of chapters with the OIE Terrestrial Animal Health Code where relevant

3.2.1. Chapter 1.1. Notification of Diseases and Epidemiological Information

The Aquatic Animals Commission was informed by the OIE Animal Health Information Department that some text in point 1 of Article 1.1.3. required amendment to harmonise the two Codes.

The revised Chapter 1.1., proposed for adoption, is at Annex 16.

4. *Manual of Diagnostic Tests for Aquatic Animals*, seventh edition 2012

Ms Sara Linnane, Scientific Editor, from the Scientific and Technical Department, joined the meeting for this agenda item.

4.1. Review of the authors' responses to comments received on the draft chapters

Responses to the Member Country comments had been received from all the authors of the 34 draft chapters for the next edition of the *Aquatic Manual.* For those comments that had been taken into account, the text was amended and the changes highlighted for ease of reference. Where the comments were rejected, a table had been put at the end of the chapter with the rejected comments and the author's rationale for not accepting them. The Commission discussed and further amended some of the chapters. All the revised chapters would shortly be made available on the OIE website and would be proposed for adoption by the World Assembly of Delegates of the OIE in May 2012. Once adopted, the hard copy version of the seventh edition of the *Aquatic Manual* would be published.

4.2. Draft sampling texts on the three model diseases (white spot disease, viral haemorrhagic septicaemia, *Bonamia*)

Dr Hill informed the Commission that the experts involved were still working on drafting the texts on sampling for the three chapters, and that two of the chapters were close to completion. Given the difficulty the six authors were experiencing in coordinating the contents of the three chapters through electronic communication, the Commission decided to ask the Director General to reconvene the *ad hoc* Group to bring the authors together to finalise the chapters.

5. OIE Reference Centres

5.1. New applications for Reference Centre status

No applications had been received.

5.2. Review nominations for replacement experts

The OIE had been notified of the following change of expert at an OIE Reference Laboratory. The Commission recommended its acceptance:

Viral encephalopathy and retinopathy

Dr Giovanni Cattoli to replace Dr Giuseppe Bovo at the Istituto Zooprofilattico Sperimentale delle Venezie, Legnaro, PD, ITALY.

5.3. Review of annual reports of OIE Reference Centre activities in 2011

Reports had been received from all 43 Reference Laboratories and from the two Collaborating Centres. The Commission expressed its on-going appreciation of the enthusiastic support and expert advice given to the OIE by the Reference Centres. It was noted that it had been decided by OIE Headquarters to discontinue routine distribution of the CD-ROM and to keep the annual reports available on line.

The Aquatic Animals Commission carefully reviewed the reports received. It was impressed, in general, with the quality of the work carried out by the laboratories. Once again however, the Commission noted significant differences across the reports in the nature of the information provided under different headings, the amount of content and the style. The Commission suggested that question 7 on quality assurance, biosafety and biosecurity should be divided into three parts to avoid confusion or misreporting.

The Commission was joined by Dr Rafaella Nisi of the OIE Scientific and Technical Department, who, as part of a USAID-funded project, had analysed the 2010 reports of 62 OIE Reference Laboratories covering 13 terrestrial animal diseases. Dr Nisi gave a presentation of her analysis, which, while highlighting the high level of activities, particularly capacity building activities, carried out by OIE Reference Laboratories to the benefit of Member Countries, also revealed a number of shortcomings with the current annual report template.

The Commission agreed that the template needed to be re-evaluated to better fit the mandate and to increase the usefulness of the information gathered. The Commission was interested in the proposal to develop a web-based format with more close-ended questions for quantitative analyses and looked forward to reviewing a revised template should it be available at its next meeting.

6. Laboratory Twinning Projects

Dr Keith Hamilton (Scientific and Technical Department of the OIE) provided an update on OIE Laboratory Twinning. OIE Laboratory Twinning projects for aquatic animal diseases were considerably under represented when compared to terrestrial animal diseases. Out of 35 twinning projects so far approved only one covered an aquatic animal disease (Canada with Chile for infectious salmon anaemia). The Commission decided that OIE should further promote OIE Laboratory Twinning in the aquatic animal health sector. Dr Hamilton agreed that he would contact Dr Kibenge (lead expert in the only active aquatic twinning) with the aim of drafting a case study and seeking publication. OIE focal point trainings and aquatic animal health meetings also provided opportunities to promote twinning. The new and improved Twinning Guide was circulated to the Commission members and is available on the OIE website at:

http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/docs/pdf/Twinning_Guide2012.pdf

7. Other relevant activities

7.1. OIE *PVS Tool*: Application to Aquatic Animal Health Services

Dr Sarah Kahn advised the Commission of the state of play with the PVS evaluation of Aquatic Animal Health Services (AAHS). Since the Panama conference on 'The Contribution of Aquatic Animal Health Programmes to Food Security', the OIE has been pleased to receive more requests for PVS evaluations of AAHS and is prioritising such missions. To date, most requests have been for Member Countries with relatively small aquaculture activities.

The Commission agreed that the OIE should take steps to encourage OIE Members to engage on the PVS Pathway with respect to national Aquatic Animal Health Services (AAHS). The Commission noted that the

Director General has agreed to convene an *ad hoc* Group on the Evaluation of AAHS to make recommendations on refining the OIE *PVS Tool* to facilitate application to AAHS. This Group will review the existing PVS Tool and draft additions and modifications as appropriate, including the development of specific indicators, using the experience gained from missions conducted to date.

The Commission noted that the definition of an aquatic animal health professional proposed for adoption this year (see Item 2.2.) is an important step. In the fullness of time, the OIE should consider the competencies and educational qualifications that aquatic animal health professionals should have.

The Commission endorsed these developments and again encouraged Member Countries to request OIE PVS evaluations of AAHS with a view to obtaining needed investments on the parts of governments and donors to strengthen governance of AAHS.

7.2. OIE *ad hoc* Group on Veterinary Education – update

Dr Sarah Kahn outlined the work of the *ad hoc* Group on Veterinary Education, which had finalised a document 'Minimum Competencies expected of Day 1 Veterinary Graduates to assure delivery of high quality National Veterinary Services.'

Dr Sarah Kahn explained that OIE Headquarters was in the process of preparing a publication of the Day 1 Competencies, for distribution to Delegates at the 80th General Session in May 2012.

OIE Headquarters is also producing Guidelines on Twinning for Veterinary Education Establishments, based on the successful Laboratory Twinning Programme.

The Commission noted the report of the *ad hoc* Group, including the proposed future work on the core veterinary curriculum, and was pleased to see that aquatic animal health was included in the 'Day 1 Competencies' and in the draft document on Graduate and Continuing Education for Graduate Veterinarians. The Commission requested that they be kept informed on this matter.

The report of the *ad hoc* Group is at Annex 24 for information.

7.3. OIE ad hoc Group on Veterinary Legislation – update

Dr Sarah Kahn outlined the work of the *ad hoc* Group on Veterinary Legislation, which most recently met in January 2012. This Group has developed a new draft Chapter 3.4. 'Veterinary Legislation' for inclusion in the *Terrestrial Code* Section 3 'Quality of Veterinary Services'. Dr Sarah Kahn noted that this text would be proposed for adoption at the 80th General Session (2012).

The Commission noted the report of the *ad hoc* Group.

7.4. OIE Brainstorming meeting on invasive alien species

Dr Sarah Kahn briefly reported on the brainstorming meeting convened by the OIE, with participation of representatives of the Secretariat of the Convention on Biological Diversity and the Secretariat of the WTO SPS Committee. This meeting produced 'OIE Guidelines for assessment of the risk of non-native animal species becoming invasive'.

Dr Kahn advised that the Guidelines would be published on the OIE website later this year for guidance of Member Countries. She also informed the Commission that the OIE was collaborating with the WTO Standards and Trade Development Facility on a seminar to be held on 12–13 July 2012 in Geneva, on 'Invasive alien species and international trade'. More information can be obtained at the WTO/STDF website: http://www.standardsfacility.org/en/TAIAS.htm

The Commission reviewed the Guidelines and concluded that they appear to satisfactorily address the issue in the aquatic context.

The report of the brainstorming meeting, including the 'Guidelines for assessment of the risk of non-native animal species becoming invasive', is at Annex 25 for information.

8. OIE Regional Aquatic Animal Focal Points Seminars

Dr Gillian Mylrea reported that 162 Member Countries have nominated National Focal Points for aquatic animals. The OIE continues to hold regional seminars for focal points in aquatic animals as part of the OIE's global programme of capacity building for Aquatic Animal Health Services. A Member of the Aquatic Animals Commission will attend and deliver presentations at the OIE regional aquatic animal focal points seminars for African countries (that are not members of SADC) in Accra (Ghana) on 20–22 March 2012.

9. Cooperation with FAO

Dr Subasinghe gave a brief account of FAO's current aquatic animal health management activities worldwide. He mentioned that there will be three main FAO projects will become operational soon; (a) in Viet Nam assisting the recent outbreak of shrimp disease, (b) in Western Balkan region assisting six countries to improve their capacities in compliance to international standards on aquatic animal health, and (c) an inter-regional project linking ten countries in Latin America and Asia. He also mentioned and appreciated the close collaboration between FAO and OIE during recent investigations of the shrimp disease outbreaks in Viet Nam and Mozambique. He stressed the importance of continuing assistance to Zambezi basin countries on the current EUS outbreak and its potential spread. Dr Subasinghe said that the Sixth Session of the FAO Committee on Fisheries, Sub-Committee on Aquaculture, will be held in Cape Town (South Africa) from 26–30 March 2012 and that OIE has been invited.

10. Review of the Commission's work plan for 2011/2012

The Aquatic Animals Commission reviewed and updated its work plan, which is provided at Annex 20 for Member Countries' information.

11. Date of the next meeting

The next meeting will take place on 24–28 September 2012.

.../Annexes

Annex 1

MEETING OF THE OIE

AQUATIC ANIMAL HEALTH STANDARDS COMMISSION

Paris, 5–9 March 2012

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List of participants

MEMBERS OF THE COMMISSION

Dr Barry Hill
(President)
CEFAS - Weymouth Laboratory
Barrack Road, The Nothe
Weymouth, Dorset DT4 8UB
UNITED KINGDOM
Tel.: (44-1305) 20.66.00
Fax: (44-1305) 20.66.01
E-mail: b.j.hill@cefas.co.uk

Dr Ricardo Enriquez
(Vice President)
Patología Animal / Lab. Biotecnología & Patología Acuática
Universidad Austral de Chile
Casilla 567 - Valdivia
CHILE
Tel.: (56-63) 22.11.20
Fax: (56-63) 22.15.10
E-mail: renrique@uach.cl

Dr Franck Berthe
(Secretary General)
Senior Scientific Officer
European Food Safety Authority - EFSA
Animal Health and Animal Welfare unit
Largo N. Palli 5/A, 43100 Parma
ITALY
Tel.: + 39 0521 036 870
Fax: + 39 0521 036 0870
E-mail:
Franck.Berthe@efsa.europa.eu

Dr Olga Haenen
Central Veterinary Institute (CVI) of Wageningen UR
Bacteriology and TSE's Dept.
Fish and Shellfish Diseases Laboratory,
P.O. Box 65
8200 AB Lelystad
NETHERLANDS
Tel.: +31 320 238352
Fax: +31 320 238153
E-mail: Olga.Haenen@wur.nl

Dr Jie Huang
Maricultural Organism Diseases Control & Molecular Pathology Laboratory,
Yellow Sea Fisheries Research Institute,
Chinese Academy of Fishery Sciences
106 Nanjing Road
Qingdao, SD 266071
PEOPLE'S REPUBLIC OF CHINA
Tel.: +86-532-5823062
Mobile: +86-138-05421513
Fax: +86-532-5811514
E-mail: aqudis@ysfri.ac.cn
huangjie@ysfri.ac.cn

Dr Victor Manuel Vidal Martinez
Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional
Carretera Antigua a Progreso Km. 6
Apartado Postal 73 Cordemex
Mérida,
Yucatán C.P. 97310
MÉXICO
Tel: +52 99 99 42 94 72
Fax: +52 99 81 29 17
E-mail: vvidal@mda.cinvestav.mx

OTHER PARTICIPANTS

Prof. Donald V. Lightner (Apologies)
(Crustacean disease expert)
Aquaculture Pathology Section,
Department of Veterinary Science & Microbiology,
University of Arizona, Building 90,
Room 202,
Tucson, AZ 85721
UNITED STATES OF AMERICA
Tel.: (1.520) 621.84.14
Fax: (1-520) 621.48.99
E-mail: dvl@u.arizona.edu

Dr Rohana P. Subasinghe
Senior Fishery Resources Officer (Aquaculture)
Fisheries Department
Food and Agriculture Organization of the UN
Viale delle Terme di Caracalla
00100 Rome
ITALY
Tel.: 39 06 570 56473
Fax: 39 06 570 53020
E-mail: Rohana.Subasinghe@fao.org

Prof. Eli Katunguka-Rwakishaya
Director
Directorate of Research and Graduate Training
Makerere University,
P.O. Box 7062,
Kampala
UGANDA
Tel.: (256.41) 53.0983
(256) 772 754 685
Fax: (256-41) 533809
E-mail:
erkatunguka@vetmed.mak.ac.ug
ekatunguka@gmail.com

Annex 1 (contd)

OIE HEADQUARTERS

Dr Bernard Vallat
Director General
OIE
12, rue de Prony
75017 Paris
FRANCE
Tel.: 33 - (0)1 44 15 18 88
Fax: 33 - (0)1 42 67 09 87
E-mail: oie@oie.int

Dr Sarah Kahn
Head
International Trade Department
OIE
E-mail: s.kahn@oie.int

Ms Sara Linnane
Scientific editor
Scientific and Technical Department
OIE
E-mail: s.linnane@oie.int

Dr Gillian Mylrea
Deputy Head
International Trade Department
OIE
E-mail: g.mylrea@oie.int

Annex 2

MEETING OF THE OIE
AQUATIC ANIMAL HEALTH STANDARDS COMMISSION

Paris, 5–9 March 2012

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Adopted agenda

1. Activities and progress of *ad hoc* groups

1.1. Report of the *ad hoc* Group on the OIE List of Aquatic Animals Diseases (Finfish Team)

1.2. Report of the OIE *ad hoc* Group on Responsible Use of Antimicrobials in Aquatic Animals

1.3. Report of the OIE *ad hoc* Group on Assessing the Criteria for Listing Aquatic Animal Species as Susceptible to Infection with a Specific Pathogen

2. OIE *Aquatic Animal Health Code* – Member Country comments

2.1. General comments

2.2. Glossary

2.3. Criteria for listing aquatic animal diseases (Chapter 1.2.)

2.4. Diseases listed by the OIE (Chapter 1.3.)

2.4.1. Assessment for listing Infection with ostreid herpesvirus (OsHV-1 and OsHV-1 µvar) as an emerging disease

2.4.2. Infection with abalone herpes-like virus

2.4.3. Epizootic ulcerative syndrome

2.4.4. Infectious salmon anaemia

2.5. Import risk analysis (Chapter 2.2.)

2.6. Communication (new Chapter 3.2.)

2.7. Criteria to assess safety of aquatic animal commodities (Chapter 5.3.)

2.8. Control of hazards in aquatic animal feeds (Chapter 6.1.)

2.9. Monitoring of the quantities and usage patterns of antimicrobial agents used in aquatic animals (new Chapter 6.4.)

2.10. Development and harmonisation of national antimicrobial resistance surveillance and monitoring programmes for aquatic animals (new Chapter 6.5.)

2.11. Welfare of farmed fish during transport (Chapter 7.2.)

2.12. Welfare aspects of stunning and killing of farmed fish for human consumption (Chapter 7.3.)

2.13. Killing of farmed fish for disease control purposes (new Chapter 7.4.)

Annex 2 (contd)

2.14. Infectious salmon anaemia (Chapter 10.5.)

2.15. Disinfection of salmonid eggs (Article 10.4.13., Article 10.5.13. and Article 10.9.13.)

3. OIE *Aquatic Animal Health Code* – other items

3.1. Proposed revision of Article 2.1.2. (Obligation of WTO Members)

3.2. Harmonisation of chapters with the OIE *Terrestrial Animal Health Code* where relevant

3.2.1. Chapter 1.1. Notification of Diseases and Epidemiological Information

4. *Manual of Diagnostic Tests for Aquatic Animals*, seventh edition 2012

4.1. Review of the authors' responses to comments received on the draft chapters

4.2. Draft sampling texts on the three model diseases (white spot disease, viral haemorrhagic septicaemia, *Bonamia*)

5. OIE Reference Centres

5.1. New applications for Reference Centre status

5.2. Review nominations for replacement experts

5.3. Review of annual reports of OIE Reference Centre activities in 2010

6. Laboratory Twinning Projects

7. Other relevant activities

7.1. OIE *PVS Tool*: Application to Aquatic Animal Health Services

7.2. OIE *ad hoc* Group on Veterinary Education – update

7.3. OIE *ad hoc* Group on Veterinary Legislation – update

7.4. OIE *ad hoc* Group on Invasive alien species – update

8. OIE Regional Aquatic Animal Focal Points Seminars

9. Cooperation with FAO

10. Review of the OIE Aquatic Animal Health Standards Commission's work plan for 2011/2012

11. Date of the next meeting

Annex 3

GLOSSARY

Aquaculture establishment

means an establishment in which amphibians, fish, molluscs or crustaceans for breeding, stocking or ~~marketing~~ sale are raised or kept.

Aquatic animal health professional

means an individual holding a tertiary (university) level qualification in ~~animal~~ biological sciences ~~(including veterinary science)~~ and who has had post graduate training in *aquatic animal* health or has had several years practical experience in *aquatic animal* health.

Disease

means clinical or non clinical *infection* with one or more ~~of the~~ aetiological agents ~~of the *diseases* referred to in the *Aquatic Code*~~.

Feed

means any ~~material~~ material ~~product~~ (single or multiple), ~~of~~ whether ~~whether~~ processed, semi-processed or raw ~~raw unprocessed plant or animal material~~, as well as live organisms, ~~that~~ which is intended to be fed directly to *aquatic animals*.

~~***Live feed***~~

~~means live farmed or wild caught animals and algae used as *feed* for *aquatic animals*. Live feed is often fed to *aquatic animal* species at an early life-stage and to *aquatic animal* species that have been cultured for a relatively short time.~~

Self-declaration of freedom from disease

means declaration by the *Competent Authority* of the country concerned that the country, *zone* or *compartment* is free from a *listed disease* based on implementation of the provisions of the *Aquatic Code* and the *Aquatic Manual*. [NOTE: The Member is encouraged to inform the OIE of its claimed status and the OIE may publish the claim but publication does not imply OIE endorsement of the claim.] ~~The *Veterinary Authority* of the country may wish to transmit this information to the OIE *Headquarters*, which may publish the information.~~

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— Text deleted

Annex 5

CHAPTER 1.3.

DISEASES LISTED BY THE OIE

Preamble: The following *diseases* are listed by the OIE according to the criteria for listing an *aquatic animal disease* (see Article 1.2.1.) or criteria for listing an *emerging aquatic animal disease* (see Article 1.2.2.).

In case of modifications of this list of *aquatic animal diseases* adopted by the ~~General Assembly~~ World Assembly of Delegates, the new list comes into force on 1 January of the following year.

[…]

Article 1.3.2.

The following *diseases* of molluscs are listed by the OIE:

– Infection with abalone herpes~~-like~~ virus

– Infection with *Bonamia ostreae*

– Infection with *Bonamia exitiosa*

– Infection with *Marteilia refringens*

– Infection with *Perkinsus marinus*

– Infection with *Perkinsus olseni*

– Infection with *Xenohaliotis californiensis*

– Infection with ostreid herpesvirus (OsHV-1 and OsHV- µvar)[1].

[…]

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[1]Listed according to Article 1.2.2.

Annex 17

CHAPTER 6.1.

CONTROL OF HAZARDS IN AQUATIC ANIMAL FEEDS

Article 6.1.1.

Introduction

One of the key objectives of the *Aquatic Code* is to help OIE Members trade safely in *aquatic animals* and *aquatic animal products* by developing relevant *aquatic animal* health and animal production food safety measures. These recommendations address *aquatic animal* health hazards and food safety *hazards* in *aquatic animal feed*. A key objective is to prevent the entry and spread, via *aquatic animal feed*, of *diseases*, including foodborne *diseases*, from an infected country, *zone* or *compartment* to a *free country*, a *free zone* or a *free compartment*.

These recommendations complement the Codex Alimentarius Commission (CAC) Code of Practice on Good Animal Feeding (CAC/RCP 54-2004). The FAO Technical Guidelines for Responsible Fisheries: Aquaculture Development: 1. Good aquaculture feed manufacturing practice (2001) and the FAO/ IFIF Good Practices for the Feed Industry (2010) may be relevant sources of guidance. OIE Members are encouraged to consult these publications.

Key considerations relevant to *aquatic animal feed* are as follows:

1. Concentration of *aquaculture establishments* heightens the *risk* of *disease* transmission, whether the pathogen enters the culture system via *feed* or other means. Under certain conditions, concentration of *aquaculture establishments* may lead to public health *risks* e.g. via effluent contaminating ground water.

2. For many *aquatic animal* species, predation (including cannibalism) is their natural way of feeding in their natural habitat.

3. Historically, animal proteins used in *feed* were mainly sourced from the marine environment, due to the nutritional needs of *aquatic animals* and for reasons of economy. This practice increases the *risk* of *disease* transmission, especially when *aquatic animals* are fed live or whole *aquatic animals* of the same or related species. There are many examples of this type of practice, e.g. early stage crustaceans fed on *Artemia* species and *aquaculture* tuna fed on whole wild caught fish.

4. The usage of *feed* in moist form (moisture content equal to or greater than 70%), semi-moist form (moisture content between 15 and 70%), and dry form (a moisture content equal to or less than 15%) implies different levels of *risk* due to the processing applied to the *feed*, its storage and shelf life.

5. With the increasing number of species being farmed ~~(especially marine finfish),~~ the use of *live feed* and moist feed has increased. It is likely that these industries will in future use formulated *feed* as appropriate technologies are developed.

6. Hazards may be transmitted from *feed* to *aquatic animals* via direct or indirect means. Direct transmission occurs when the cultured species consumes *feed* containing a *pathogenic agent* (e.g. shrimp larvae consuming rotifer contaminated with white spot syndrome virus) while indirect transmission refers to pathogens in *feed* entering the aquatic environment or infecting non target species, and thereby establishing a mechanism for indirect *infection* of the species of commercial interest. Pathogens that are less host-specific (e.g. white spot syndrome virus, *Vibrio* species) present a greater *risk* of indirect transmission as they can establish reservoirs of *infection* in multiple species.

Annex 17 (contd)

7. As new species become the subject of *aquaculture*, new pathogens emerge in association with these hosts. The expression of *disease* may be facilitated by culturing species under intensive and novel conditions. Also, it is necessary to conduct research and develop new *feed* (and *feed ingredients*) that are appropriate to the species and its culture system. As more and more *aquatic animal* species are being cultured it is difficult to make recommendations for all *pathogenic agent*/host species combinations, therefore, needs and sources of *feed* should be evaluated on a case-by-case basis.

Article 6.1.2.

Scope

These recommendations document *risk* mitigation measures, including traceability and certification, to deal with *aquatic animal* health *risks* and public health *risks* associated with trade in *aquatic animal feed* and *feed ingredients*. They recommend the control of hazards through adherence to recommended practices during the production (harvest, handling, storage, processing and distribution) and use of both commercial and on-farm produced *feed* (and *feed ingredients*) for *aquatic animals*. While *aquatic animals* grown for food are the main focus, the same principles apply to *feed* for *aquatic animals* used for other purposes.

Article 6.1.3.

General principles

1. Roles and responsibilities

   The *Competent Authority* has the legal power to set and enforce regulatory requirements related to animal *feed*, and has final responsibility for verifying that these requirements are met. The *Competent Authority* may establish regulatory requirements for relevant parties, including requirements to provide information and assistance. Refer to Chapter 3.1. of the *Aquatic Code*.

   It is a particular responsibility of the *Competent Authority* to set and enforce the regulatory requirements pertaining to the use of veterinary products, *aquatic animal disease* control and the food safety aspects that relate to the management of live *aquatic animals* on farm.

   Those involved in the production and use of animal *feed* and *feed ingredients* have the responsibility to ensure that these products meet regulatory requirements. All personnel involved in the harvest, manufacture, storage and handling of *feed* and *feed ingredients* should be adequately trained and aware of their role and responsibility in preventing the spread of hazards. Appropriate *contingency plans* should be developed in case of a *feed*-borne *outbreak* of *disease*. Equipment for producing, storing and transporting *feed* should be kept clean and maintained in good working order.

   Private veterinarians and others (e.g. laboratories) providing specialist services to producers and to the *feed* industry may be required to meet specific regulatory requirements pertaining to the services they provide (e.g. *disease* reporting, quality standards, transparency).

2. Regulatory standards for feed safety

   All *feed* and *feed ingredients* should meet regulatory standards for *feed* safety. Scientific evidence, including the sensitivity of analytical methods, and on the characterisation of *risks*, should be taken into account in defining limits and tolerances for *hazards*.

3. Risk analysis

   Internationally accepted principles and practices for *risk analysis* (see Section 2. of the *Aquatic Code* and relevant Codex texts) should be used in developing and applying the regulatory framework.

A generic *risk analysis* framework should be applied to provide a systematic and consistent process for managing hazards.

4. Good practices

Where national guidelines exist, good *aquaculture* practices and good manufacturing practices (including good hygienic practices) should be followed. Countries without such guidelines are encouraged to develop them or adopt suitable international standards or recommendations.

Where appropriate, Hazard Analysis and Critical Control Point (HACCP; as defined in the Annex to the Recommended International Code of Practice on General Principles of Food Hygiene [CAC/RCP 1-1969]) principles should be followed to control hazards that may occur in *feed.*

5. Relationship between prions and aquatic animal species

Scientific knowledge ~~is lacking on~~ regarding the relationship between prions and *aquatic animal* species is limited. ~~There is no evidence to suggest~~ However, it cannot be ruled out that the use of terrestrial animal by-products as ingredients in *aquatic animal feed* as currently practiced in *aquaculture* may give~~s~~ rise to public health *risks* in respect of prion *diseases* in fish. More scientific information is desirable to enable *aquaculture* industries to utilise more terrestrial animal by-products as a means of reducing dependency on aquatic protein and lipid sources.

6. Bioaccumulation

Chemical hazards such as heavy metals, dioxins and polychlorinated biphenyls (PCB) persist in certain tissues and therefore tend to accumulate through the food chain. In particular, the use of fish oil should be carefully considered because a high level of dioxin-like PCB can accumulate in it.

7. Geographic and environmental considerations

Aquatic and terrestrial harvest areas for *feed* should not be located in proximity to sources of animal health or food safety hazards. Where this cannot be avoided, preventive measures should be applied to control *risk*. The same recommendations apply for the processing of *feed* and the location of *aquaculture establishments*.

Aquatic animal health considerations include factors such as disease status, location of quarantined premises, existence of processing plants without proper biosecurity measures and the existence of *zones/compartments* of specified health status.

Public health considerations include factors such as the use of fertiliser in the production of microalgae, industrial operations and waste treatment plants that generate pollutants and other hazardous products. The potential accumulation of pollutants in the food chain through *feed* needs to be considered.

8. Zoning and compartmentalisation

Feed is an important component~~s~~ of biosecurity and needs to be considered when defining a *compartment* or *zone* in accordance with Chapter 4.1. of the *Aquatic Code*.

9. Sampling and analysis

Sampling and analytical protocols for *feed* should be based on scientific principles and procedures, and OIE standards where applicable.

Annex 17 (contd)

10. Labelling

Labelling should be informative, unambiguous, legible and easily visible on the package if sold in package form and on accompanying documents if sold in bulk, un-packaged form, and should comply with regulatory requirements and Section 4.2. Labelling of Codex Code of Practice on Good Animal Feeding (CAC/RCP 54-2004), including listing of ingredients and instructions on the handling, storing and use. All claims made on a label should be able to be substantiated.

11. Design and management of inspection programmes

In meeting animal and public health objectives prescribed in national legislation or required by *importing countries*, *Competent Authorities* contribute through the direct performance of some tasks or through the auditing of animal and public health activities conducted by other agencies or the private sector.

Operators in the *feed* and *feed ingredients* business and other relevant industries should implement procedures to ensure compliance with regulatory standards for harvest, handling, storage, processing, distribution and use of *feed* and *feed ingredients*. Operators have full responsibility for implementing systems for quality control. Where such systems are applied, the *Competent Authority* should verify that they meet all regulatory requirements.

12. Assurance and certification

Feed manufacturers are responsible for assuring the safety of their feed products. *Competent Authorities* are responsible for providing assurances domestically and to trading partners that regulatory requirements have been met. For *international trade* in *aquatic animal feed*, *Competent Authorities* are responsible to provide *international aquatic animal health certificates*.

13. Hazards associated with aquatic animal feed

a) Biological hazards

Biological hazards that may occur in *feed* and *feed ingredients* include agents such as bacteria, viruses, fungi, biotoxins and parasites. The scope of these recommendations covers *OIE listed diseases* and other agents that cause an adverse effect on animal and/or public health.

Direct transmission occurs when the cultured species consume *feed* containing a *pathogenic agent* (e.g. shrimp larvae consuming rotifer contaminated with white spot syndrome virus) while indirect transmission refers to pathogens in *feed* entering the aquatic environment or infecting non target species, and thereby establishing a mechanism for indirect *infection* of the species of commercial interest. Pathogens that are less host-specific (e.g. white spot syndrome virus, *Vibrio* species) present a greater *risk* of indirect transmission as they can establish reservoirs of *infection* in multiple species. Non-host specific pathogens may present a food safety risk (e.g. *Vibrio*, *Salmonella*, anisakids) because they may colonise fish via feed and affect humans through ingestion of contaminated fishery products.

b) Chemical hazards

Chemical hazards that may occur in *feed* and *feed ingredients* include naturally occurring chemicals (such as ~~mycotoxins,~~ gossypol and free radicals), industrial and environmental contaminants (such as heavy metals, dioxins and PCBs), residues of veterinary products and pesticides and radionuclides.

c) Physical hazards

Physical hazards that may occur in *feed* and *feed ingredients* include foreign objects (such as pieces of glass, metal, plastic or wood).

14. Contamination

Procedures to minimise the *risk* of contamination during the production, processing, storage, distribution (including transport) and use of *feed* or *feed ingredients* should be included in current regulations and standards. Scientific evidence, including the sensitivity of analytical methods and on the characterisation of *risk*, should be drawn upon in developing this framework.

Procedures such as flushing, sequencing and physical clean-out should be used to avoid cross-contamination between batches of *feed* or *feed ingredients*.

15. Antimicrobial resistance

Concerning the use of antimicrobials in animal *feed* refer to Section X.X. of the *Aquatic Code* (under development).

16. Management of information

The *Competent Authority* should establish requirements for the provision of information by the private sector in accordance with the regulatory framework.

The private sector should maintain records, in a readily accessible form, on the production, distribution, importation and use of *feed* and *feed ingredients*. These records are required to facilitate the prompt trace-back of *feed* and *feed ingredients* to the immediate previous source, and trace-forward to the next/subsequent recipients, to address *aquatic animal* health and/or public health concerns. The private sector should provide information to the *Competent Authority* in accordance with the regulatory framework.

Animal identification (in the case of *aquatic animals* this will normally be on a group basis) and traceability are tools for addressing animal health and food safety *risks* arising from animal *feed* (see Chapters 4.1. and 4.2. of the OIE *Terrestrial Animal Health Code*; Section 4.3 of CAC/RCP 54-2004).

Article 6.1.4.

Recommended approaches to risk mitigation

1. Commodities

a) Safe commodities

Some *commodities* undergo extensive processing such as heat treatment, acidification, extrusion and extraction. There may be a negligible *risk* that pathogens will survive in such products if they have been produced in accordance with Good Manufacturing Practice. Such *aquatic animal products* are listed in *disease*-specific chapters in the *Aquatic Code* in Article X.X.3.

b) Commodities not listed as safe commodities

Competent Authorities should consider the following *risk* mitigation measures:

i) sourcing feed and feed ingredients from a disease free country, free zone or free compartment; or

Annex 17 (contd)

ii) confirmation (e.g. by testing) that pathogens are not present in the *commodity*; or

iii) treatment (e.g. by heat ~~and/~~or acidification) of the *commodity* using a method approved by the *Competent Authority* to inactivate pathogens; or

iv) use of *feed* only in populations that are not susceptible to the pathogen(s) in question and where *aquatic animals* that are susceptible to the pathogen(s) in question will not come into contact with the *feed* or its waste products;

v) for hazards other than pathogens, such as heavy metals, resistance to temperature, pressure, pH, irradiation and any other types of processing should be borne in mind.

In addition, *risks* associated with the disposal of effluents and waste material from *feed* processing plants and *aquaculture establishments* should be considered.

c) Whole fish (fresh or frozen)

The practice of ~~trading~~ using fresh or frozen whole ~~marine~~ fish ~~for use~~ as *aquatic animal feed* may present~~s~~ a ~~significant~~ *risk* of introducing *diseases* into populations of *aquatic animals* and may also pose a *risk* to public health, and therefore should be avoided where possible. *Risk* mitigation measures include sourcing fish only from stocks where there is no evidence of *infection* with any of the *listed diseases*.

2. Feed production

To prevent contamination by ~~pathogens~~ *hazards* during production, storage and transport of *feed* and *feed ingredients*:

a) flushing, sequencing or physical clean-out of manufacturing lines and storage facilities should be performed between batches as appropriate;

b) buildings and equipment for processing and transporting *feed* and *feed ingredients* should be constructed in a manner that facilitates hygienic operation, maintenance and cleaning and prevents contamination;

c) in particular, *feed* manufacturing plants should be designed and operated to avoid cross-contamination between batches;

d) processed *feed* and *feed ingredients* should be stored separately from unprocessed *feed ingredients*, under appropriate storage conditions;

e) *feed* and *feed ingredients*, manufacturing equipment, storage facilities and their immediate surroundings should be kept clean and pest control programmes should be implemented;

f) measures to inactivate pathogens, such as heat treatment or the addition of authorised chemicals, should be used where appropriate. Where such measures are used, the efficacy of treatments should be monitored at appropriate stages in the manufacturing process;

g) labelling should provide for the identification of *feed* and *feed ingredients* as to the batch/lot and place and date of production. To assist in tracing *feed* and *feed ingredients* as may be required to deal with animal *disease* incidents, labelling should provide for identification by batch/lot and place and date of production.

3. Importing countries

Competent Authorities should consider the following measures:

a) imported *feed* and *feed ingredients* should be delivered to *feed* manufacturing plants or *aquaculture* facilities for processing and use under conditions approved by the *Competent Authority*;

b) effluent and waste material from *feed* manufacturing plants and *aquaculture* facilities should be managed under conditions approved by the *Competent Authority*, including, where appropriate, treatment before discharge into the aquatic environment;

c) *feed* that is known to contain pathogens should only be used in a *zone* or *compartment* that does not contain species susceptible to the *disease* in question;

d) the importation of raw unprocessed *feed* derived from *aquatic animals* to feed *aquatic animal* species should be avoided where possible;

e) introduction of internal measures to address the risks associated with raw commodities for human consumption being diverted to use as *feed*.

4. Certification procedures

When importing *feed* and *feed ingredients* of *aquatic animal* origin other than those mentioned in point 1a) of Article 6.1.4., 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 a *certifying official* approved by the *importing country*).

Specific provisions for *listed diseases* may be found in relevant *disease* chapters of the *Aquatic Code*.

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

Article 6.1.5.

Risk pathways of ~~for pathogen~~ hazards ~~transmission and contamination through harvest, manufacture and use of~~ in aquatic animal feed

1. Pathogens can be introduced into feed in the following ways:

a) via the harvest of infected *aquatic animals* for use in *feed*;

b) during storage, processing and transport, due to poor hygienic practices, the presence of pests, or residues of previous batches of feed remaining in processing lines, *containers* or transport *vehicles*.

2. *Aquatic animals* can be exposed to ~~*pathogenic agents*~~ *hazards* in feed in the following ways:

a) Direct exposure

The use of unprocessed feed derived from *aquatic animals* to feed *aquatic animals* presents a potential direct route of exposure. For example feeding salmonid offal to salmonids presents a heightened *risk* of *disease* transmission because tissue from a *susceptible species* is being fed to a *susceptible species*.

The use of unprocessed feed (trash fish, live or whole wild caught fish) may also lead to transmission of zoonotic agents to the farmed fish that may enter the food chain (e.g. anisakids).

Annex 17 (contd)

b) Indirect exposure

Pathogens in *feed* may be transmitted to *aquatic animals* in *aquaculture* and wild *aquatic animals* via contamination of the environment or *infection* of non-target species.

Use of wastewater and animal and human excreta as feed or as a source of nitrogen and nutrients for photosynthetic organisms may present a risk for transmission of some human pathogens e.g. bacteria, parasites, viruses, and chemical contaminants.

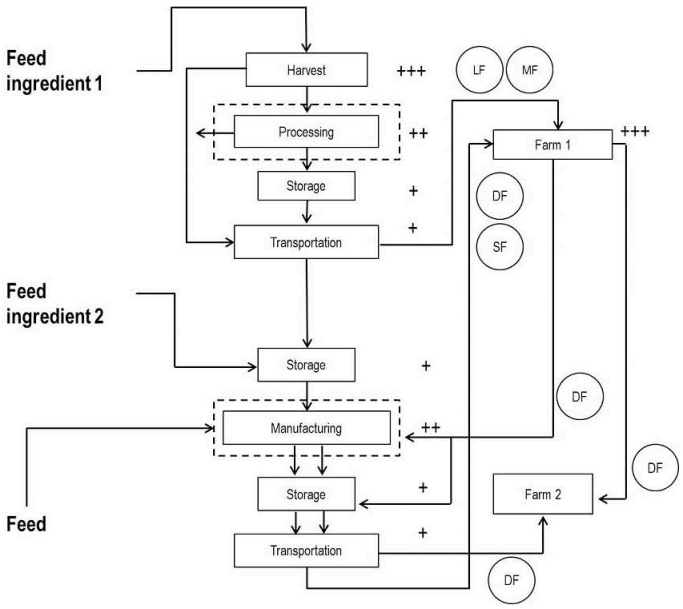
Figure 1 illustrates the possible pathways for transmission of pathogens within the *feed* production and utilisation process.

Feed ingredients of aquatic origin used in *aquaculture* can be a source of pathogens (viruses, bacteria and parasites) to cultured *aquatic animal* species. In *aquaculture establishments* pathogens in *feed* can infect the animals directly (via consumption of *feed*) or indirectly via environmental sources. *Live feed* and moist *feed* are more likely to contain pathogens because their ingredients are either in a raw state or subject to minimal treatment.

Feed and *feed ingredients* harvested from infected countries, *zones* or *compartments* may have a high pathogen load. *Feed* and *feed ingredients* from these sources should be processed (e.g. using heat or chemical treatments) to reduce, or eliminate, the pathogen load. After processing, care should be taken to avoid post processing contamination during storage and transportation of these *commodities*. For example, when two or more batches of *ingredients* of different sanitary status are handled, stored and/or transported together without appropriate biosecurity measures, there is a *risk* of cross-contamination of the *feed*.

An *aquaculture* facility can also be a source of pathogens in *aquatic animal feed*. For example, *feed* can be contaminated with pathogens through poor hygiene practices at an infected *aquaculture establishment*. If the *feed* is redistributed from the *aquaculture* facility to the manufacturing facility for recycling, or distributed to another farm, pathogens can be transferred to other *aquaculture establishments*.

Figure 1: ***Risk chart of pathogen transmission and contamination through harvest, manufacture and use of aquatic animal feed***



LF MF SF DF	Live feed Moist feed Semi-moist feed Dry feed	——> Possibility for risk reduction
+++ ++ +	High risk of pathogen presence Moderate risk of pathogen presence Low risk of pathogen presence	..... Redistribution or recycling of finished feed

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CHAPTER 1.3.

DISEASES LISTED BY THE OIE

Preamble: The following *diseases* are listed by the OIE according to the criteria for listing an *aquatic animal disease* (see Article 1.2.1.) or criteria for listing an *emerging aquatic animal disease* (see Article 1.2.2.).

In case of modifications of this list of *aquatic animal diseases* adopted by the World Assembly of Delegates, the new list comes into force on 1 January of the following year.

Article 1.3.1.

The following *diseases* of fish are listed by the OIE:

– Epizootic haematopoietic necrosis

– Epizootic ulcerative syndrome

– Infection with *Gyrodactylus salaris*

– Infectious haematopoietic necrosis

– Infectious salmon anaemia (infection with HPR-deleted or HPR0 forms of ISAV)

– Koi herpesvirus disease

– Red sea bream iridoviral disease

– Spring viraemia of carp

– Viral haemorrhagic septicaemia.

[…]

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Annex 19

CHAPTER 10.5.

INFECTIOUS SALMON ANAEMIA

Article 10.5.1.

For the purpose~~s~~ of Chapter 1.3. ~~of the *Aquatic Code*~~, infectious salmon anaemia (ISA) in its notifiable forms means *infection* with ~~HPR0 ISA virus or with ISA virus (ISAV) having deletions in the HPR region (hereafter named HPR-deleted~~ ISA virus) ~~(ISAV)~~ (ISAV) of the genus *Isavirus* of the family Orthomyxoviridae. This includes the pathogenic forms of ISAV having deletions in the HPR region (HPR-deleted) and the non pathogenic form of ISAV (HPR0).

The provisions in this chapter apply to the pathogenic forms of ISAV (HPR-deleted).

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

Article 10.5.2.

Scope

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

Article 10.5.3.

Importation or transit of aquatic animals and aquatic animal products for any purpose from a country, zone or compartment not declared free from infectious salmon anaemia

1. *Competent Authorities* should not require any ISA related conditions, regardless of the ISA status of the *exporting country*, *zone* or *compartment* when authorising the importation or transit of the following *aquatic animals* and *aquatic animal products* from the species referred to in Article 10.5.2. intended for any purpose and complying with Article 5.3.1.:

   a) heat sterilised, hermetically sealed fish products (i.e. a heat treatment at 121˚C for at least 3.6 minutes or any time/temperature equivalent);

   b) pasteurised fish products that have been subjected to a heat treatment at 90˚C for at least 10 minutes (or to any time/temperature equivalent which has been demonstrated to inactivate ISAV);

   c) mechanically dried, eviscerated fish (i.e. a heat treatment at 100˚C for 30 minutes or any time/temperature equivalent which has been demonstrated to inactivate ISAV);

   d) fish oil;

   e) fish *meal*; and

   f) fish skin leather.

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

Annex 19 (contd)

3. When considering the importation or transit of *aquatic animals* and *aquatic animal products* from an *exporting country*, *zone* or *compartment* not declared free of ISA of a species not covered in Article 10.5.2. but which could reasonably be expected to pose a *risk* of transmission for ISA, *Competent Authorities* should conduct a *risk analysis* in accordance with the recommendations in the *Aquatic Code*. The *exporting country* should be informed of the outcome of this assessment.

Article 10.5.4.

~~HPR-deleted~~ Infectious salmon anaemia free country

~~In Article 10.5.4, all statements referring to HPR-deleted ISA are only for detectable ISA virus identified as other than HPR0.~~ A country may make a *self-declaration of freedom* from ~~HPR-deleted~~ ISA if it meets the conditions in points 1, 2, 3 or 4 below.

If a country shares a *zone* with one or more other countries, it can only make a *self-declaration of freedom* from ~~HPR-deleted~~ ISA if all the areas covered by the shared water are declared ~~HPR-deleted~~ ISA free countries or *zones* (see Article 10.5.6.).

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

OR

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

OR

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

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

   b) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last two years without detection of ~~HPR-deleted~~ ISAV.

OR

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

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

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

c) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last two years without detection of ~~HPR-deleted~~ ISAV; and

d) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place for at least the past two years.

In the meantime, part of the non-affected area may be declared a free *zone* provided that such part meets the conditions in point 3 of Article 10.5.6.

~~Article 10.5.5.~~

~~**Infectious salmon anaemia (including HPR0) free country**~~

~~In Article 10.5.5, all statements referring to ISA are for any detectable ISA virus, including HPR0. A country may make a *self-declaration of freedom* from ISA (including HPR0) if it meets the conditions in points 1, 2, 3 or 4 below.~~

~~If a country shares a *zone* with one or more other countries, it can only make a *self-declaration of freedom* from ISA (including HPR0) if all the areas covered by the shared water are declared ISA (including HPR0) free countries or *zones* (see Article 10.5.5.).~~

~~1. A country where none of the *susceptible species* is present may make a *self-declaration of freedom* from ISA (including HPR0) when *basic biosecurity conditions* have been continuously met in the country for at least the past two years.~~

~~OR~~

~~2. A country where the species referred to in Article 10.5.2. are present but there has been no detectable occurrence of the any ISA virus (including HPR0) may make a *self-declaration of freedom* from ISA (including HPR0) when:~~

~~a) *basic biosecurity conditions* have been continuously met for at least the past four years; and~~

~~b) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last four years without detection of ISAV, including HPR0.~~

~~OR~~

~~3. A country that has made a *self-declaration of freedom* from ISA but in which any ISA virus (including HPR0) is subsequently detected may make a *self-declaration of freedom* from ISA (including HPR0) again when the following conditions have been met:~~

~~a) on detection of any ISA virus (including HPR0), the affected area was declared an *infected zone* and a *protection zone* was established; and~~

~~b) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last four years without detection of ISAV (including HPR0); and~~

~~c) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place for at least the past four years.~~

~~In the meantime, part of the non-affected area may be declared a free *zone* provided that such part meets the conditions in point 3 of Article 10.5.5.~~

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Article 10.5.~~5.~~65.

~~HPR-deleted~~ Infectious salmon anaemia free zone or free compartment

~~In Article 10.5.6, all statements referring to HPR-deleted ISA are only for detectable ISA virus identified as other than HPR0.~~ A *zone* or *compartment* within the *territory* of one or more countries not declared free from ~~HPR-deleted~~ ISA may be declared free by the *Competent Authority(ies)* of the country(ies) concerned if the *zone* or *compartment* meets the conditions referred to in points 1, 2, 3 or 4 below.

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

OR

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

OR

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

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

   b) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last two years without detection of ~~HPR-deleted~~ ISAV.

OR

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

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

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

   c) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last two years without detection of ~~HPR-deleted~~ ISAV; and

   d) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place for at least the past two years.

Article 10.5.7.

Infectious salmon anaemia (including HPR0) free zone or free compartment

In Article 10.5.7, all statements referring to ISA are for any detectable ISA virus, including HPR0. A *zone* or *compartment* within the *territory* of one or more countries not declared free from ISA may be declared free by the *Competent Authority(ies)* of the country(ies) concerned if the *zone* or *compartment* meets the conditions referred to in points 1, 2, 3 or 4 below.

1. A *zone* or *compartment* where none of the *susceptible species* is present may be declared free from ISA (including HPR0) when *basic biosecurity conditions* have been continuously met in the *zone* or *compartment* for at least the past two years.

OR

2. A *zone* or *compartment* where the species referred to in Article 10.5.2. are present but there has been no detectable occurrence of ISA virus (including HPR0) may be declared free from ISA (including HPR0) when

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

   b) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last four years without detection of ISAV (including HPR0).

OR

3. A *zone* or *compartment* previously declared free from any ISA virus (including HPR0) but in which any ISA virus (including HPR0) is detected, may be declared free from ISA (including HPR0) again when the following conditions have been met:

   a) on detection of ISA virus (including HPR0), the affected area was declared an *infected zone* and a *protection zone* was established; and

   b) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last four years without detection of ISAV (HPR0 or otherwise); and

   c) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place for at least the past four years.

Article 10.5.6~~8~~7.

Maintenance of ~~HPR-deleted~~ free status

A country, *zone* or *compartment* that is declared free from ~~HPR-deleted~~ ISA following the provisions of points 1 or 2 of Articles 10.5.4. or 10.5.~~5~~6. (as relevant) may maintain its status as ~~HPR-deleted~~ ISA free provided that *basic biosecurity conditions* are continuously maintained.

A country, *zone* or *compartment* that is declared free from ~~HPR-deleted~~ ISA following the provisions of point 3 of Articles 10.5.4. or 10.5.~~5~~6. (as relevant) may discontinue *targeted surveillance* and maintain its status as ~~HPR-deleted~~ ISA free provided that conditions that are conducive to clinical expression of ISA, as described in the corresponding chapter of the *Aquatic Manual*, exist and *basic biosecurity conditions* are continuously maintained.

Annex 19 (contd)

However, for declared free *zones* or *compartments* in infected countries and in all cases where conditions are not conducive to clinical expression of ISA, *targeted surveillance* needs to be continued at a level determined by the *Aquatic Animal Health Service* on the basis of the likelihood of *infection*.

~~Article 10.5.9.~~

~~**Maintenance of ISA(including HPR0) free status**~~

~~A country, *zone* or *compartment* that is declared free from ISA(including HPR0) following the provisions of point 1 of Articles 10.5.5. or 10.5.7. (as relevant) may maintain its status as ISA free provided that *basic biosecurity conditions* are continuously maintained.~~

~~A country, *zone* or *compartment* that is declared free from ISA(including HPR0) following the provisions of point 2 of Articles 10.5.5. or 10.5.7. (as relevant) must continue *targeted surveillance* to maintain its status as ISA(including HPR0) free and *basic biosecurity conditions* are continuously maintained.~~

Article 10.5.~~7~~10.

Importation of live aquatic animals from a country, zone or compartment declared free from infectious salmon anaemia

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

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

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

Article 10.5.~~8~~.~~11~~10.

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

1. When importing, for *aquaculture*, live *aquatic animals* of the species referred to in Article 10.5.2. from a country, *zone* or *compartment* not declared free from ISA, the *Competent Authority* of the *importing country* should assess the *risk* and, if justified, apply the following *risk* mitigation measures:

   a) the direct delivery to and lifelong holding of the consignment in biosecure facilities for continuous isolation from the local environment; and

   b) the treatment of all effluent and waste materials in a manner that ensures inactivation of ISAV.

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

3. For the purposes of the *Aquatic Code*, relevant aspects of the ICES Code (full version see: http://www.ices.dk/pubs/Miscellaneous/ICESCodeofPractice.pdf) may be summarised to the following points:

a) identify stock of interest (cultured or wild) in its current location;

b) evaluate stock health/disease history;

c) take and test samples for ISAV, pests and general health/disease status;

d) import and quarantine in a secure facility a founder (F-0) population;

e) produce F-1 generation from the F-0 stock in *quarantine*;

f) culture F-1 stock and at critical times in its development (life cycle) sample and test for ISAV and perform general examinations for pests and general health/disease status;

g) if ISAV is not detected, pests are not present, and the general health/disease status of the stock is considered to meet the *basic biosecurity conditions* of the *importing country*, *zone* or *compartment*, the F-1 stock may be defined as ISA free or specific pathogen free (SPF) for ISAV;

h) release SPF F-1 stock from *quarantine* for *aquaculture* or stocking purposes in the country, *zone* or *compartment*.

4. With respect to point 3e), *quarantine* conditions should be conducive to multiplication of the pathogen and eventually to clinical expression. If *quarantine* conditions are not suitable for pathogen multiplication and development, the recommended diagnostic approach might not be sensitive enough to detect low *infection* level.

Article 10.5.~~9~~.121.

Importation of aquatic animals and aquatic animal products for processing for human consumption from a country, zone or compartment not declared free from infectious salmon anaemia

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

1. the consignment is delivered directly to and held in *quarantine* or containment facilities until processing into one of the products referred to in point 1 of Article 10.5.3., or products described in point 1of Article 10.5.12., or other products authorised by the *Competent Authority*; and

2. all effluent and waste materials from the processing are treated in a manner that ensures inactivation of ISAV or is disposed in a manner that prevents contact of waste with *susceptible species*.

For these *commodities* Members may wish to consider introducing internal measures to address the *risks* associated with the *commodity* being used for any purpose other than for human consumption.

Article 10.5.~~10~~.132.

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

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

Annex 19 (contd)

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

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

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

Article 10.5.~~11~~.143.

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

When importing *aquatic animal products* of the species referred to in Article 10.5.2. from a country, *zone* or *compartment* declared free from ISA, the *Competent Authority* of the *importing country* should require an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* or a *certifying official* approved by the *importing country* certifying that, on the basis of the procedures described in Articles 10.5.4., ~~or~~ or 10.5.5.~~, 10.5.6. or 10.5.7.~~ (as applicable), the place of production of the *commodity* is a country, *zone* or *compartment* declared free from ISA.

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

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

Article 10.5.~~12~~.154

Importation of aquatic animals and aquatic animal products for retail trade for human consumption from a country, zone or compartment not declared free from infectious salmon anaemia

1. *Competent Authorities* should not require any ISA related conditions, regardless of the ISA status of the *exporting country*, *zone* or *compartment* when authorising the importation or transit of the following *commodities* which have been prepared and packaged for retail trade and complying with Article 5.3.2.:

   a) fish fillets or steaks (frozen or chilled).

   For these *commodities* Members may wish to consider introducing internal measures to address the *risks* associated with the *commodity* being used for any purpose other than for human consumption.

2. When importing *aquatic animals* or *aquatic animal products*, other than those referred to in point 1 above, of the species referred to in Article 10.5.2. from a country, *zone* or *compartment* not declared free from ISA, the *Competent Authority* of the *importing country* should assess the *risk* and apply appropriate *risk* mitigation measures.

Article 10.5.~~13~~.165.

Importation of disinfected eggs for aquaculture from a country, zone or compartment not declared free from infectious salmon anaemia

1. When importing disinfected eggs of the species referred to in Article 10.5.2. for *aquaculture*, from a country, *zone* or *compartment* not declared free from ISA, the *Competent Authority* of the *importing country* should assess the *risk* associated with at least:

a) the ISA virus status of the water to be used during the *disinfection* of the eggs;

b) the level of *infection* with ISA virus in broodstock (ovarian fluid and milt); and

c) the temperature and pH of the water to be used for *disinfection*.

2. If the *Competent Authority* of the *importing country* concludes that the importation is acceptable, it should apply the following *risk* mitigation measures including:

a) the eggs should be disinfected prior to importing, according to the methods described in Chapter 1.1.3. of the *Aquatic Manual* (under study) or those specified by the *Competent Authority* of the *importing country*; and

b) between *disinfection* and the import, eggs should not come into contact with anything which may affect their health status.

OIE Members may wish to consider internal measures, such as renewed *disinfection* of the eggs upon arrival in the *importing country*.

3. When importing disinfected eggs of the species referred to in Article 10.5.2. for aquaculture, from a country, *zone* or *compartment* not declared free from ISA, the *Competent Authority* of the *importing country* should require an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* or a *certifying official* approved by the *importing country* attesting that the procedures described in point 2 of Article 10.5.~~13~~1~~6~~3. have been fulfilled.

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Annex 20

AQUATIC ANIMALS COMMISSION WORK PLAN FOR 2012/2013

OIE *Aquatic Animal Health Code*
• Assess EUS for listing against the criteria for listing aquatic animal diseases (Chapter 1.2.) • Proposed listing of infection with ostreid herpesvirus (OsHV-1 and OsHV-1 µvar) as an emerging disease • ISA, ongoing review • On going review of the list of diseases • Review of emerging diseases
• On going review of the Glossary
• Review criteria for listing (Chapter 1.2.) after adoption of revised *Terrestrial Code* Chapter 1.3.
• Harmonise horizontal chapters with those in the *Terrestrial Code*
• Revise Control of hazards in aquatic animal feeds (Chapter 6.1.) regarding animal production food safety
• Complete development of chapters on antimicrobials in aquatic animals
• Complete the chapter on killing for disease control purposes
• Antimicrobial resistance in the field of aquatic animals – contribute to OIE work
• Continue to address the issue of pathogen differentiation including notification
• Develop a chapter on communication
• Prepare text for disease chapters for gaining and regaining freedom for compartments
• Develop a schedule for the review and revision of chapters in the *Aquatic Code*
OIE *Manual of Diagnostic Tests for Aquatic Animals*
• Develop disease specific surveillance model chapters (1 fish, 1 mollusc, 1 crustacean)
• Revise template for disease-specific chapters (on hold)
• Finalise disease specific chapters for 2012 edition
• Finalise guidance document on criteria for susceptible species
• Consider new candidates for OIE Reference Laboratories for listed diseases
Meetings
• Proposed items for the programme for the Ref. Lab. Conference in 2014 (quality assurance, Table 5.1. from the *Manual* disease chapters, implementation of the guidance on susceptible species).
• Make presentations on the activities of the Aquatic Animals Commission at the conferences of the OIE Regional Commissions
• Be proactive in presenting the activities of the Aquatic Animals Commission at scientific conferences
• Contribute to OIE Aquatic Animal Focal Point seminars

Annex 20 (contd)

Other issues
• Continue to assess zoonotic diseases of aquatic animals
• Keep the Commission's web pages up to date
• Provide input into the PVS to ensure its applicability to the evaluation of aquatic animal health services
• Contribute to strengthening FAO/OIE collaboration