

**REPORT OF THE THIRD MEETING
OF THE ASIA REGIONAL ADVISORY GROUP ON
AQUATIC ANIMAL HEALTH**



Network of Aquaculture Centres in Asia-Pacific

Bangkok, Thailand

23-25 November 2004

Preparation of this document:

This report was prepared by the Asia Regional Advisory Group (AG) on Aquatic Animal Health (AGM-3) that met at the NACA Headquarters in Bangkok, Thailand, on the 23rd-25th November 2004.

The Advisory Group was established by the Governing Council of the Network of Aquaculture Centres (NACA) to provide advice to NACA members in the Asia-Pacific region on aquatic animal health management, through the following activities: (a) Review and evaluation of regional aquatic animal disease reporting; (b) Review and evaluation of implementation of the *Technical Guidelines*; (c) Advise on identification and designation of regional aquatic animal health resources, including specialist advisers, Regional Reference Laboratories and Resource Centres; (e) Revision of the *Technical Guidelines*¹, *Manual of Procedures*² and *Asia Diagnostic Guide for Aquatic Animal Diseases*³ as required; and (f) Development of procedures for advising on dealing with aquatic animal health emergencies. Members of the Advisory Group include invited aquatic animal disease experts, World Animal Health Organisation (OIE), Food and Agricultural Organisation of the United Nations (FAO) and collaborating regional organizations.

The designations employed and the presentation of the material in this document do not imply that the expression of any opinion whatsoever on the part of the Network of Aquaculture Centres in Asia-Pacific (NACA) concerning the legal or constitutional status of any country, territory or sea area, or concerning the delimitation of frontiers.

Reference: NACA 2005. Report of the Third Meeting of the Asia Regional Advisory Group on Aquatic Animal Health. Published by the Network of Aquaculture Centres in Asia-Pacific, Bangkok, Thailand

¹ Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and the Beijing consensus and Implementation strategy, 2000. FAO/NACA. Fisheries Technical Paper No 402

² FAO/NACA. 2001. Manual of Procedures for the Implementation of the Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals. *FAO Fisheries Technical Paper*, No. 402, Suppl. 1. FAO, Rome. 2001. 106 p.

³ Bondad-Reantaso, MG, McGladdery SE, East, I and Subasinghe, RP. (Eds.). *Asia Diagnostic Guide to Aquatic Animal Diseases*. *FAO Fisheries Technical Paper*, No. 402, Suppl. 2. FAO, Rome. 2001. 236 p.

Table of Contents

OPENING SESSION	1
SESSION 1: PROGRESS SINCE AGM-2 AND EXPECTED OUTPUTS FROM AGM-3	1
1.1 Progress report since AGM-2 and expected outputs from AGM-3	1
1.2 Aquatic Animal Health: Outcomes from the 72nd General Session of OIE, May 2004, and progress since	2
1.3 International and regional issues in 2004 – report from FAO	2
SESSION 2: REVIEW AND EVALUATION OF REGIONAL AQUATIC ANIMAL DISEASE REPORTING	2
2.1 Regional disease status and the regional disease list	2
2.2 Regional reporting system	6
SESSION 3: REVIEW AND EVALUATION OF IMPLEMENTATION OF THE TECHNICAL GUIDELINES (TG).	7
3.1 National Aquatic Animal Health Strategies	7
3.2 Strengthening national coordination and communication	8
3.3 Revision of TG and supporting documents	9
3.4 Risk analysis	10
SESSION 4: DEVELOPMENT OF PROCEDURES FOR ADVISING ON DEALING WITH AQUATIC ANIMAL HEALTH EMERGENCIES	10
4.1 Contingency planning and emergency response	10
4.2 Opportunities of collaboration between Department of Agriculture, Fisheries and Forestry, Australia (DAFF) and NACA	10
SESSION 5: IDENTIFICATION AND DESIGNATION OF REGIONAL AQUATIC ANIMAL HEALTH RESOURCES, INCLUDING REGIONAL RESOURCE EXPERTS (RRE), REGIONAL RESOURCE CENTRES (RRC) AND REGIONAL REFERENCE LABORATORIES (RRL).	11
5.1 Regional Resource Experts	11
5.2 Applications for RRC and RRL	11
SESSION 6: REGIONAL AND INTERNATIONAL COLLABORATION	12
6.1 World Organization for Animal Health – OIE	12
6.2 Food and Agriculture Organization – FAO	12
6.3 Department of Agriculture Fisheries and Forestry Australia – DAFF	12
6.4 Asia Pacific Economic Cooperation-APEC	13
6.5 South East Asian Fisheries Development Center – SEAFDEC.	13
6.6 Permanent Advisory Network for Diseases in Aquaculture – PANDA	13
6.7 Asia Europe Meeting Platform – ASEM	13
6.8 Fish Health Section of the Asian Fisheries Society – FHS/AFS	13
6.9 Association of South East Asian Nations – ASEAN	13
6.10 Secretariat for the South Pacific – SPC	13
6.11 Private Sector	13
6.12 South Asian Association for Regional Cooperation-SAARC	13
SESSION 7: ANY OTHER BUSINESS	14
7.1 Review document on Aquatic animal health in the Asia-Pacific region	14
7.2 Review of the AG Terms of Reference	14
7.3 Date of the next meeting	14
7.4 Any other business	14
SESSION 8: PRESENTATION OF MEETING REPORT AND CLOSING	14
List of Appendices	15
Annex A. Meeting Agenda/Programme	16
Annex B. List of Participants	19
Annex C. Revised QAAD reporting form	22
Annex D. Recommendations from the 23 rd Conference of the OIE Regional Commission for Asia, the Far East and Oceania, Noumea (New Caledonia)	24
Annex E. Recommendations from the Regional Workshop on Preparedness and Response to Aquatic Animal Health Emergencies, Jakarta, Indonesia	25
Annex F. Format for Annual Review of Aquatic Animal Health in the Asia-Pacific Region	26
Annex G. Revised Terms of Reference of the Advisory Group	27

Opening session

The third meeting of the Asia Regional Advisory Group on Aquatic Animal Health (AGM-3) was held at the NACA Headquarters, Bangkok, Thailand on 23rd-25th November 2004.

Mr Pedro Bueno, Director General of NACA formally opened the meeting. He welcomed the Advisory Group (AG) members and thanked them for their active involvement in the regional aquatic animal health program. A special welcome was extended to the three new AG members. Co-opted members invited for the meeting were given a warm welcome and thanked for their support to the regional aquatic animal health program.

Following the welcome remarks, the AG unanimously supported the proposal to continue Dr Supraanee Chinabut as Chair and Dr Eva-Maria Bernoth as Vice Chair for one more term of two years. Dr Supraanee Chinabut took over as Chairperson of the Meeting and thanked the members.

The participants reviewed and adopted the AG Meeting agenda (Annex A). The participant list is given as Annex B.

SESSION 1: Progress since AGM-2 and expected outputs from AGM-3

1.1 Progress report since AGM-2 and expected outputs from AGM-3

A report detailing recent activities and progress made since the second meeting of the Advisory Group (AG) in November 2003 was presented to the AG. The report identified issues for discussions during the meeting. Following the presentation, the report was opened for questions and comments. The AG noted the progress made, adopted the progress report and made the following recommendations.

Recommendations

- NACA should use existing meetings of NACA member governments, including NACA Governing Council, to generate further feedback on the progress of implementation of the AG recommendations and activities of the regional aquatic animal health program.
- NACA should communicate with National Coordinators (NCs) and encourage them to seek additional information on disease occurrence from producers and private laboratories, to get better overall information on aquatic animal health (as for example in Thailand and Philippines).
- AG expressed concern about the apparent lack of human capacity in aquatic animal health in many countries in the region and recommended that this be discussed at the next NACA Governing Council meeting and reported back to AGM-4.
- AG recommends that there should be further regional efforts to improve the human capacity for aquatic animal health management in the region, including new areas such as aquatic epidemiology, surveillance and risk analysis.

1.2 Aquatic Animal Health: Outcomes from the 72nd General Session of OIE, May 2004, and progress since

A report on the outcomes of the 72nd General Session of OIE was presented on behalf of Dr Eva-Maria Bernoth as President of the Aquatic Animal Health Standards Commission (AAHSC).

An additional presentation on changes suggested for the diseases listed under the OIE *Aquatic Animal Health Code* was presented on behalf of Dr Eva-Maria Bernoth. This presentation included information on diseases that may be proposed for delisting by the AAHSC in May 2005, following two further rounds of Member Country Consultation.

The AG noted with appreciation the willingness of the President of AAHSC to inform the AG members of recent developments in OIE.

Recommendations

- Considering the significant changes suggested for the OIE *Aquatic Animal Health Code*, the AG requested the NACA secretariat to interact and communicate with appropriate authorities using appropriate channels to gather further information on the process used for revision of the OIE disease list.
- In view of the significant changes suggested for the OIE *Aquatic Animal Health Code*, AG requested the NACA secretariat to explore possibilities of being represented at the next AAHSC meeting.
- Taking note of the significant changes suggested for the OIE *Aquatic Animal Health Code*, AG recommended that attempts should be made to conduct Risk Analysis at the regional level for important diseases to be removed or added to the list with the view to improve national knowledge and understanding on the subject, and to assist national governments in their health planning and disease listing.

1.3 International and regional issues in 2004 –report from FAO

A report on the international and regional issues in 2004 relevant to aquatic animal health in the region was presented by Dr Rohana Subasinghe. The importance of food safety and the relevance of sound aquatic animal health management in improving food safety were brought to the attention of the members. The AG thanked the FAO for informing the members of important international and regional issues.

Recommendation

- Considering that FAO supports governments to improve production of acceptable and safe aquatic products, AG recommended that NACA should encourage member countries to approach FAO for assistance to tackle aquatic animal health issues.

SESSION 2: Review and evaluation of regional aquatic animal disease reporting

2.1 Regional disease status and the regional disease list

CRUSTACEAN DISEASES

The meeting was informed of emerging crustacean diseases in the region. The AG expressed concerns on the risks associated with live crustacean introductions and on the possibilities of pathogen exchange/movement between species (e.g. *Penaeus monodon* to *P. vannamei* and vice versa). This is especially important owing to the poor information available on exotic pathogens and the impact of exotic pathogens on native species.

Recommendation

- Considering the possibilities of pathogen exchange/movement between species, AG strongly recommended that before importation, farmers/governments should make sure that none of the known pathogens are present and co-habitation tests be included during quarantine to ensure that unknown viral pathogens will not cause disease in important local crustacean species.

Monodon Slow Growth Syndrome (MSGs)

The meeting was informed that MSGS was associated with approximately 1 billion US dollar loss in 2002 in Thailand alone and that it may already be present in other countries (e.g. Malaysia). A viral pathogen is possibly involved although known pathogens appear not to be involved. Although the information available so far is not conclusive, if MSGS is associated with an infectious agent, movement of *P. monodon* broodstock and post larvae (PL) might cause problems in other countries.

Recommendations

- Since no robust diagnostic test is available, MSGS will not be listed in the regional QAAD reporting list. However, the inclusion of MSGS to the QAAD list of diseases will be considered again at AGM-4.
- NACA should increase awareness on MSGS in the region and ask NCs to take action to increase vigilance and collect information on the occurrence of the syndrome in their country.
- The MSGS fact sheet should be updated according to the results of research on diagnostic methods.
- The AG requested NACA to include the fact sheet on MSGS in the next issue of the QAAD and also disseminate the fact sheet more widely through its dissemination channels.

Taura Syndrome Virus (TSV)

The AG expressed concern about TSV in the region especially because the pathogen is spreading and changing genetically. This could conceivably lead to changes in virulence, not only to *P. vannamei* but also to local crustacean species. Species other than *P. vannamei* (e.g. *P. monodon*, *P. japonicus*, *Macrobrachium rosenbergii*) can also be infected and, although no impact has been observed in ponds, *P. monodon* infected by injection shows 10-20% mortality.

Recommendations

- NACA should advise NCs to promote testing for TSV not only in *P. vannamei* but also in other farmed crustaceans.

White Body Disease in P. monodon

The meeting was informed that it is the biggest single disease problem in *P. monodon* hatcheries in Vietnam, but very little is known on its causes.

Recommendations

- AG recommended the development of a fact sheet for this disease.
- NACA should use its network to raise awareness on the problem and collect further information on its occurrence and impact.

Other shrimp diseases

The AG expressed concerns regarding infectious hypodermal and haematopoietic necrosis virus (IHHNV), which has become a problem for *P. vannamei* farming in the region. Considering the large scale movement and culture of *P. vannamei*, the AG stressed the need for increased vigilance on exotic pathogens like baculovirus penaei (BP) and infectious myonecrosis virus (IMNV).

Recommendations

- NCs in countries with *P. vannamei* culture should encourage testing for IHNV.
- NACA should develop disease cards for BP and IMNV and alert NCs in countries with *P. vannamei* culture to increase surveillance for these exotic pathogens.

White Tail Disease (WTD) in Macrobrachium rosenbergii

The AG was informed of the status of WTD in *Macrobrachium rosenbergii* in the region and the latest research findings on involvement of viral pathogens. An information sheet developed on WTD was tabled for review by the AG. Two viruses, *Macrobrachium rosenbergii* nodavirus (MrNV) and extra small virus (XSV) have been found to be associated with the problem. The role of MrNV and XSV is not yet clear, although it appears that XSV (a satellite virus) dependent on MrNV for RNA polymerase activity may sometimes interact with a different RNA virus.

Recommendations

- Noting the economic impact and potential for the disease to spread, the AG recommended to include “White tail disease (MrNV and XSV)” under non-OIE listed crustacean diseases relevant to the region on the Regional Disease List.
- NCs in countries with susceptible species should take action to increase surveillance for WTD.
- NACA should communicate to NCs that diagnosis based on Level I observation should be reported even if samples are not tested for XSV and/or MrNV to facilitate collation of data.
- The AG requested NACA to encourage NCs to send samples to laboratories with expertise in the region (e.g. Thailand, India and China) in the event of suspected WTD outbreaks.
- NACA should seek agreement from laboratories in the region to test samples for XSV and MrNV.
- The AG requested NACA to contact the authors of the information sheet and upgrade it to a disease card, with a request to include histology pictures.

FINFISH DISEASES

Koi Herpes Virus (KHV)

The meeting was informed of the continuing spread of KHV within Japan and Indonesia, and of its suspected role in gourami mortality in a lake in West Sumatra in Indonesia. The meeting was also informed of a report of KHV in the Philippines in a batch of illegally imported koi that were confiscated in the airport and later died during quarantine. The AG expressed serious concern about the spread of the disease and its potential impact on common carp and koi carp industry in the region.

Considering the serious impact of KHV, the AG discussed the need and the process to propose its listing in the OIE finfish disease list.

Recommendations

- Considering that both “koi mass mortality” and “infection with koi herpes virus” are already listed in the QAAD, the AG recommended removing “koi mass mortality” from the QAAD list. The AG considered that level I diagnosis for “infection with KHV” would include koi mass mortality.
- The AG recommended to NACA to provide NCs with a detailed explanation for the de-listing of “koi mass mortality” from the regional QAAD list.
- NACA should collaborate with Indonesia to find out more about KHV spread and obtain clarifications and diagnostic reports about suspected gourami mortalities in West Sumatra.
- The AG recommended that NACA prepare a full justification for OIE listing of “infection with KHV” and circulate it to AG for comments. After obtaining comments from the AG, NACA

should approach the OIE through appropriate channels and recommend the OIE listing of infection with KHV.

Spring Viraemia of Carp (SVC)

The meeting received information that SVCV was found in the UK from Chinese goldfish imports. Upon recommendation by the OIE reference laboratory detecting the pathogen, Chinese authorities conducted investigations in the country and detected the pathogen although it was not associated with disease. The AG was informed that China reported SVC to the regional QAAD reporting system in the year 2003.

Recommendation

- Considering the possibility of a different strain of SVCV in China, the AG recommended that further studies be initiated on SVCV in China.

Bacterial diseases in finfish

The meeting was informed of serious losses in finfish culture associated with underestimated bacterial diseases like streptococcosis (*Streptococcus iniae* and *S. difficilis*), nocardiosis (*Nocardia seriolae*), *Tenacibaculum maritimum* infection and an undescribed bacteria pathogen (possibly new *Vibrio* species affecting Asian seabass fry and causing 70-80% mortality within a week). The AG took note of the importance of certain bacterial diseases of marine and freshwater fish, which are often underestimated although these diseases are often associated with high mortalities and their significance for human health is often poorly known.

Recommendations

- Considering the impact, the AG recommended to consider inclusion of bacterial diseases in the QAAD during the next AGM-4 meeting.
- NACA should disseminate information presented at the meeting to NCs to raise awareness.
- NACA should identify laboratories capable of performing diagnosis and encourage NCs to send samples for testing.
- NACA should encourage NCs to collect information on these diseases and report it under any other diseases of importance with epidemiological comments.
- NACA should contact Regional Resource Experts (RREs) and prompt the preparation of disease cards for bacterial diseases of finfish.
- NACA should also contact RRE and Regional Resource Centers (RRC) to support the continuation of investigation of the problem and the development of diagnostic methods where required.

MOLLUSC DISEASES

The AG noted that the capacity for dealing with molluscan health issues was limited in the region and recognized the contributions of phase I and II of the FAO/NACA molluscan health management program in building capacity. In view of the importance of molluscan culture to the region, efforts are required to better understand this problem and improve reporting of molluscan diseases. The AG noted the need for further information on mollusk disease.

The occurrence of abalone mortalities, while generally accepted as being widespread, is not being officially reported, although “abalone viral mortality” is listed in the QAAD from 2004. Abalone is still being affected by mortality in some countries (in China and Taiwan Province of China). Movement of abalone brood stock and seed between countries in the region is a cause for concern. The AG was informed of the collaborative work being done by RREs in China and Australia on this important problem

Recommendations

- Considering the movement of abalone brood stock and seed in the region, and the potential impact of spread of abalone viral mortality, the AG recommended that the task force proposed during the last AGM should be facilitated to undertake further investigations on this problem.
- The AG suggested that the samples should be collected and made available to participants at the proposed phase III of the FAO/NACA molluscan health management program.
- In view of the potential impacts of mollusk disease on the Pacific islands, the AG recommended closer collaboration between the Pacific islands and Asia.

2.2 Regional reporting system

The AG was informed about the progress in regional reporting. The FAO/NACA/OIE regional quarterly aquatic animal disease (QAAD) reporting came into effect from the 3rd quarter of 1998. Till June 2004, a total of 23 reports have been published. Of the 21 participating countries, reports could be obtained from 17 (2003/3), 20 (2003/4), 19 (2004/1) and 17 (2004/2) countries for the respective quarters. The quality of reports and epidemiological comments provided by countries has improved significantly over the years.

The AG noted the significant improvement of QAAD disease reporting in the region over the years, and emphasized the need to further strengthen such regional reporting for a number of reasons such as:

- its scope is not only to report to OIE,
- it is especially relevant to the region,
- fisheries authorities, and not only livestock authorities, are involved in the reporting,
- regional reporting has promoted national reporting in some countries (e.g. Thailand),
- it covers diseases of regional importance even if they are not listed by the OIE,
- it creates awareness of aquatic animal health problems and serves as an early warning system for other countries,
- it highlights the need for capacity building and for prioritization of resources, as well as supporting strategy development, and
- it has significantly contributed to the improvement of disease reporting in the region.

Recommendations

- Recognizing the importance of regional reporting, the AG strongly recommended that regional reporting (QAAD) should be strengthened and continued.

Changes to the QAAD reporting form

The AG considered the revisions required to the regional QAAD list. Revisions take into account changes in the OIE list plus diseases of regional concern not listed by OIE. The meeting was informed that there have not been any changes to the OIE list in 2004. The following revisions to the QAAD list were approved by the AG.

- Adding “White Tail Disease (MrNV & XSV)” of *Macrobrachium rosenbergii* under non-OIE listed crustacean diseases relevant to the region.
- Moving “Necrotizing hepatopancreatitis” from “OIE listed diseases” to “non-OIE listed crustacean diseases relevant to the region”.
- Removing “koi mass mortality” from the QAAD list under “unknown diseases of serious nature”.

The QAAD reporting form was revised accordingly. The new disease reporting form will be effective from January 2005. The form will be circulated with a brief background document and a

joint OIE/NACA letter to all NCs and Chief Veterinary Officers (CVOs). The revised disease reporting form is provided in Annex C.

SESSION 3: Review and evaluation of implementation of the Technical Guidelines (TG)

3.1 National Aquatic Animal Health Strategies

The AG discussed a report on the status of Technical Guidelines (TG) implementation in participating countries in the Asia-Pacific region. Evaluation of TG implementation amongst the ASEAN countries carried out during the Penang workshop (12-16th July 2004 “Building capacity to combat impacts of aquatic invasive alien species and associated trans-boundary pathogens in ASEAN countries”), highlighted differences between member countries in TG implementation as an issue of concern, emphasising the need for advantaged countries to help disadvantaged countries (e.g. Mekong basin) in their efforts. The AG was informed of initiatives undertaken in Vietnam to strengthen implementation of TG.

Recommendations

- Considering the differences in TG implementation across countries, the AG recommended that the status of TG implementation highlighting the differences should be presented to the NACA Governing Council (GC).
- A country specific strategy for TG implementation should be developed to bridge the differences between countries.
- NCs were originally appointed to coordinate the implementation of the TG. In view of the recent OIE resolution (nomination of an aquatic national focal point), during the GC meeting the role and responsibilities of NCs should be discussed.
- NACA should assess whether livestock institutions in the region use a scoring system similar to the one used by NACA on the implementation of animal health guidelines.
- NACA should initiate activities to assess the economic impact of poor implementation of TG elements and develop a short document reporting cost-benefit analysis.
- The AG recommended that TG should be supported with relevant supporting documents. This is already done for e.g. surveillance and import risk analysis (IRA).
- NACA should support the establishment of National Advisory Committees for aquatic animal health in countries that are lacking such committee.
- NACA should encourage member governments to look into national resource allocation for aquatic animal health compared to other food producing sectors (e.g. livestock).

Health certification and quarantine

The meeting considered the ongoing weaknesses in quarantine. The principles for quarantine are available but the mechanisms are generally not in place. The meeting was informed of practical difficulties in implementing standard quarantine procedures while dealing with live aquatics. The meeting was also informed of surveys that have been conducted on the practices applied to implement quarantine in OIE reference laboratories.

Recommendations

- The AG emphasized the need to achieve better degree of standardization and harmonization in quarantine procedures.
- Since a practical manual for implementing quarantine of aquatic animals is lacking (ICES has one but only for new introductions), a manual based on the known risks should be developed. The AG requested FAO and NACA to collaborate in developing this manual.

- The AG recommended setting up a small Working Group to initiate compiling a comprehensive practical manual on aquatic animal quarantine procedures and protocols to be used by the countries in the region. First draft to be prepared for discussion during the next AG meeting.
- The practices reported in the manual should be pilot tested before dissemination.
- In view of the observation that the OIE health certificate is difficult to use, the AG recommended that this should be brought to the attention of AAHSC of the OIE.

Disease surveillance

The AG discussed the importance of implementing surveillance programs in the region. Few countries in the region have the capacity and resources to undertake active surveillance. The majority of disease reporting at present is based on passive surveillance. Disease surveillance (active/passive) should be an integral and key component of all national aquatic animal health services. This is important for early warning of diseases, planning and monitoring of disease control programs, provision of sound aquatic animal health advice to farmers, certification of exports, international reporting and verification of freedom from diseases.

Recommendations

- Following the experience of China with SVCV, the AG recommended to also promote surveillance targeted to pathogens that do not always cause clinical disease and mortality.
- Considering the importance of surveillance for accurate and transparent disease reporting, AG recommended that countries in the region should initiate feasible surveillance programs.
- The lessons learnt in developing and piloting practical surveillance systems in Vietnam should be widely disseminated within the region.

3.2 Strengthening national coordination and communication

The meeting was informed of initiatives taken by NACA to promote communication between NCs and CVOs at the country level. The AG discussed the proposal for a workshop/meeting of NCs and CVOs. The objective of the workshop is to provide a platform for the first time, to bring veterinary (CVOs) and fisheries authorities (NCs) from the Asia-Pacific region together to discuss ways to promote cooperation and explore opportunities to optimize the utilization of existing resources for better aquatic animal health surveillance, reporting and emergency preparedness.

Perspectives of a CVO on opportunities for cooperation with veterinary authorities was presented by Dr Amarasekara. The members were informed of the benefits and practical issues based on experiences from Sri Lanka. The meeting also took note of the fact that all CVOs of the Asia-Pacific region are members of Asia-Pacific Commission on Animal Production and Health (APCAPH).

Recommendations

- Involvement of CVOs in Aquatic animal health meetings (e.g. DAA VI in Colombo in October 2005) and activities with NCs should be promoted.
- NACA should promote in-country cooperation between Veterinary and Fisheries authorities
- NACA should initiate steps to include a proposal for a joint CVO-NC workshop into the OIE regional office (Tokyo) work program.
- TOR for NCs should be reviewed with consideration given to selecting senior level officials to create a harmony with CVO. NACA should assess the need for additional “reference people” in member countries to assist the NC for technical issues.
- The AG requested Sri Lanka to consider piloting a mechanism to develop effective collaboration between CVO and Fisheries authority with the support of Dr Amarasekara, with

the focus on sharing capacity and experiences. The AG requested Dr Amarasekara to report experiences at AGM4.

- NACA should seek the participation of APCAPH at the AGM4 to strengthen cooperation between livestock and fisheries authorities.
- NACA should explore the opportunity of APCAPH meetings to organize back to back meetings between CVOs and NCs.

Recommendations from the 23rd Conference of the OIE Regional Commission for Asia, the Far East and Oceania, Noumea (New Caledonia), 25-28 November 2003

A report on the Recommendations from the 23rd Conference of the OIE Regional Commission for Asia, the Far East and Oceania, Noumea (New Caledonia), 25-28 November 2003 was presented on behalf of Dr Eva-Maria Bernoth as President of the Aquatic Animal Health Standards Commission (AAHSC). Annex D provides the recommendations.

The AG noted the recommendations and welcomed that OIE actively seeks to improve cooperation between veterinary and fisheries authorities. The AG considered that the NCs were already functioning as focal points for aquatic animal disease reporting, complementary to the OIE delegates. Further involvement in OIE standard setting, would strengthen the regional health program including disease reporting and improve cooperation between veterinary and fisheries authorities.

Recommendations

- The AG strongly endorsed the recommendations of the Noumea meeting and supported their implementation.
- NACA should advise OIE of “suitable venues” where the Aquatic Animals Commission should provide updates on the *Aquatic Animal Health Code* and the *Manual of Diagnostic Tests for Aquatic Animals*.
- Regarding the proposed nomination of an aquatic national focal point, NACA should encourage fisheries authorities to coordinate with the CVO’s in identification of the focal point.
- NACA should follow-up with those countries where the fisheries authorities are responsible for aquatic animal health, whether the OIE delegate has nominated an “aquatic national focal point”.
- The AG also noted that the proposed meeting in Colombo (DAA VI) would provide a good opportunity to promote cooperation between fisheries and veterinary authorities, and requested NACA to approach OIE for a formal collaboration in the event.

3.3 Revision of TG and supporting documents

The need for revision of TG and supporting documents was discussed in detail. The AG members felt that the TG are very broad and cover all the aspects required for live fish and saw no need for revision of the TG at this time. Food safety is not considered in the TG although now it is a top priority. However, food safety is not considered responsibility of the AG. FAO is considering the creation of internationally agreed TG for global transboundary movement of aquatic animals and it was suggested that necessary revisions could be considered there.

Recommendations

- Disease cards should be published as a supplement to the Asia Diagnostic Guide (ADG) (e.g. when 10 cards are available). Cards should be published possibly with the support of the private sector (e.g. Intervet).
- Disease Cards to cover more non-OIE listed diseases relevant to the region should be considered.

- In addition to disease cards, NACA should consider developing farm level disease guides with support from RREs and private sector.
- The AG appreciated the willingness of FAO and SPC to collaborate in the revision of Asia Diagnostic Guide (ADG) and requested NACA to follow up with FAO and SPC.

3.4 Risk analysis

The AG was informed by South Pacific Community (SPC) of two regional IRAs conducted. They emphasize the ecological implications of trans-boundary movements and diseases. The AG was informed of the study on introduction of *P. vannamei* and *P. stylirostris* into the Asia-Pacific Region completed by FAO in collaboration with NACA. A report on the introduction of *P. vannamei* and *P. stylirostris* was published by FAO and reported useful information that potentially could be used for developing IRAs.

Recommendations

- Considering the increasing trend of transboundary movement of live aquatics for aquaculture, the AG recommended a continued sharing of experiences in risk analyses within the region.
- NACA should support the conduct of regional IRAs. This could be coupled with the risk analysis to be conducted to evaluate the inclusion or removal of pathogens from the OIE list. This exercise should serve as a training tool, and be practical/hands on.
- NACA should encourage wider dissemination of the FAO report on introduction of *P. vannamei* and *P. stylirostris* into the Asia-Pacific region.

SESSION 4: Development of procedures for advising on dealing with aquatic animal health emergencies

4.1 Contingency planning and emergency response

The outcomes of the GOI/FAO/NACA/WFC Regional Workshop on Preparedness and Response to Aquatic Animal Health Emergencies, held in Jakarta, Indonesia, from 21-23 September 2004 were presented by Dr Subasinghe. The report including presentations made and the recommendations will be available in early 2005 as a joint FAO/NACA/GOI publication. The recommendations from the Regional Workshop are also attached as Annex E. AG requested the Secretariat to submit the following recommendation to the NACA Governing Council (GC) for consideration.

Recommendations

- The Asian region needs resources to draw on in aquatic animal disease emergencies. There is a need for financial assistance. NACA should allocate core funding to provide emergency assistance to its member countries. Donor assistance should also be explored.

4.2 Opportunities for collaboration between Department of Agriculture, Fisheries and Forestry, Australia (DAFF) and NACA

The representative from DAFF presented an outline for a proposed cooperation “to enhance regional capability to quickly and effectively respond to aquatic animal disease emergency incidents, through the development of coherent emergency disease plans and by enhancing the emergency management framework within the region”. The proposed cooperation might consist of five phases

1. Identification of current capability within the region,
2. Modification of AQUAVETPLAN to become a regional resource,
3. Testing of contingency plans/modified AQUAVETPLAN,
4. Improving aquatic animal disease reporting within the region, and

5. Developing general biosecurity principles.

The AG welcomed the proposed cooperation of the Department of Agriculture, Fisheries and Forestry, Australia, as being very useful to improve aquatic animal health management in the region.

Recommendations

- The AG recommended NACA to consult further with DAFF to develop the details of the collaborative program.
- A working group should be established by DAFF and NACA to develop the details of the cooperation and workplan. The members of the working group would come from the AG, together with other invited experts, as required.
- The working group should aim to complete a preliminary assessment of the current capability in the region before May 2005. The working group should then aim to meet during the WAS meeting in Bali, May 2005, for review of the capability, and further development of the detailed operational plan for the cooperation.

SESSION 5: Identification and designation of regional aquatic animal health resources, including regional resource experts (RRE), Regional Resource Centres (RRC) and Regional Reference Laboratories (RRL)

The AG reviewed progress in identification of regional aquatic animal health resources. The AG noted with appreciation the contributions of RREs in developing disease cards and information sheets for diseases of regional concern.

5.1 Regional Resource Experts

The AG was informed of the process involved in identifying RREs. The list of experts identified in the ADG were contacted individually and invited to become RRE according to the TOR developed by AGM-1. Based on the consent received, a list of RRE had been developed.

Recommendation

- The RRE list was reviewed and approved by the AG.
- Considering the need to expand the RRE list, the AG recommended to include new subject areas, to follow the elements within the Technical Guidelines:
 - National strategy and policy
 - Health certification and quarantine
 - Zoning
 - Surveillance and reporting
 - IRA
 - Contingency planning
- In view of the importance of epidemiological approaches to health management, AG recommended to identify RREs in epidemiology.

5.2 Applications for RRC and RRL

Of the eight institutions from the region that had expressed their interest to be considered as RRC, six institutions provided the information as per the TOR. Of the three laboratories that expressed their interest to be considered as RRL, only one laboratory provided the information as per TOR for being considered as RRL for koi herpes virus.

Recommendations

- The AG reviewed the applications received for RRCs and recommended the following applications for RRCs be accepted by NACA and presented to the NACA Governing Council for endorsement and approval:
 - The Aquatic Animal Health Research Institute (AAHRI), Department of Fisheries, Thailand.
 - The Fish Health Laboratory of the Department of Fisheries, Government of Western Australia, Australia.
 - Yellow Sea Fisheries Research Institute, Chinese Academy of Fisheries Science, PR China.
 - Fisheries College, Ocean University of China, PR China.
 - Shenzhen exit-entry Inspection and Quarantine Bureau, Shenzhen, PR China.
 - Intervet Norbio Singapore Pte Ltd, Singapore.

- The AG welcomed the application of AAHL Fish Disease Laboratory, CSIRO Livestock Industries, Geelong, Australia as Regional Reference Laboratory for KHV infection in carp. The importance of having a regional reference laboratory for KHV was emphasized. The AG members noted the application was made in March 2004, and requested the NACA Secretariat to contact the AAHL for an update of work on KHV since that date, for circulation to AG members and a formal decision for presentation to the NACA Governing Council for endorsement and approval.

SESSION 6: Regional and International Collaboration

The AG discussed ongoing and planned regional and international cooperation in regional aquatic animal health. The AG was pleased to note the excellent regional and international cooperation that had contributed to the development and implementation of the regional aquatic animal health program in Asia. It was generally agreed that such cooperation should be further pursued, and the AG took note of various opportunities to further strengthen cooperation with regional and international bodies to support Asia in effective implementation of the regional aquatic animal health program.

6.1 World Organization for Animal Health (OIE) AG thanked Dr. Eva-Maria Bernoth, President, OIE-AAHSC, for the contributions made to the meeting. AG appreciated the suggestions and requested the Secretariat for follow-up to ensure NACA activities in particular the disease reporting will be complementary to the changes to be made to the OIE disease reporting system, and to provide necessary assistance and support to the member governments in improving aquatic animal health and reducing the risks of disease.

AG thanked the OIE Regional Representation in Tokyo for its continuing collaboration and cooperation in implementing the regional QAAD reporting. The AG also appreciated the comments made and contributions of the OIE Asia-Pacific Regional Representation, Tokyo.

6.2 Food and Agriculture Organization (FAO) FAO expressed its support to the AG and emphasized its importance in coordinating aquatic animal health activities in the region. FAO welcomed the AG report of progress in implementation of the TG. The AG thanked FAO for continuing support to NACA for implementing the regional aquatic animal health programme.

6.3 Department of Agriculture, Fisheries and Forestry, (DAFF) Australia The AG thanked the DAFF for its continuing interest and assistance and welcomed the new initiative of regional cooperation proposed on emergency preparedness and response to aquatic diseases.

6.4 Asia Pacific Economic Cooperation (APEC). The AG appreciated the outcomes of the APEC funded project “Capacity and Awareness Building on Import Risk Analysis (IRA) for Aquatic Animals” and thanked APEC for its support to the regional aquatic animal programme.

6.5 South East Asian Fisheries Development Center (SEAFDEC) The AG recognized the importance and value of collaboration and partnership with SEAFDEC in regional aquatic animal health management activities and thanked SEAFDEC for its support to regional health activities.

6.6 Permanent Advisory Network for Diseases in Aquaculture (PANDA). PANDA aims to establish a network of experts and provide them with a forum for debate and exchange of information, and to provide scientific advice to the European Commission. The AG was informed of the activities of PANDA and the proposed workshop to be held in conjunction with the DAA VI in Colombo, Sri Lanka, in October 2005. AG welcomed the PANDA initiative and called for increased collaboration between AG and PANDA.

6.7 Asia Europe Meeting (ASEM) Platform. The AG was informed of NACA’s participation in the ASEM workshop on “aquaculture animal health improvement” held in Barcelona in October 2004. The objectives of the workshop were to formulate very specific recommendations on future directions in research between the two regions and to forge new alliance between EU and Asia partners for joint research. The workshop formulated recommendations for the European Commission on future directions in research cooperation between the two regions. The AG welcomed the ASEM Platform initiatives and requested to NACA to further strengthen cooperation with ASEM Platform.

6.8 Fish Health Section of the Asian Fisheries Society (FHS/AFS) The AG was informed of the upcoming VI Symposium on Diseases in Asian Aquaculture (DAA VI) organized by the FHS in Colombo, Sri Lanka, in October 2005. The AG appreciated the support of the FHS/AFS in providing the opportunity for the next AG meeting and also for the proposed Fisheries and Veterinary dialogue.

6.9 Association of South East Asian Nations (ASEAN) The recent and proposed collaborations with ASEAN were presented to the AG. The AG recognized the strong partnership with ASEAN in successfully conducting the recent workshop “Building capacity to combat impacts of aquatic invasive alien species and associated trans-boundary pathogens in ASEAN countries” held in Penang, Malaysia, on the 12th-16th July 2004 and the proposed collaborative project with the ASEAN, Government of Australia and NACA on Strengthening Aquatic Animal Health Capacity and Biosecurity in ASEAN countries.

6.10 Secretariat for the South Pacific (SPC) Possible collaborations between NACA and SPC were discussed. SPC extended its support for NACA’s aquatic animal health activities in the Pacific. AG duly appreciated the offer.

6.11 Private Sector – Intervet representative and AG member offered to assist NACA in its aquatic animal health activities. In particular, Intervet offered for jointly developing and publishing extension material on aquatic animal health with NACA. AG thanked Intervet for the offer.

6.12 South Asian Association for Regional Cooperation (SAARC). The AG requested NACA to initiate a dialogue with SAARC to explore opportunities for collaboration in aquatic animal health. Dr Amarasekara, AG member, agreed to contact the concerned authorities in SAARC to explore opportunities for cooperation.

SESSION 7: Any other business

7.1 Review document on Aquatic animal health in the Asia-Pacific region

The proposal to develop an outline for a review document on “Aquatic animal health in the Asia-Pacific region” was discussed by the AG.

Recommendation

- The AG recommended that the proposed review of “Aquatic animal health in the Asia-Pacific region” be produced once every 2 years as per the outline given in Annex F.

7.2 Review of the AG Terms of Reference

The meeting reviewed the Advisory Group Terms of Reference, and recommended the TOR for the AG be revised to accommodate possibility of changing venue and dates. The revised TOR is provided in Annex G.

7.3 Date of the next meeting

The AGM-4 in 2005 should be held in conjunction with the 6th Symposium on Diseases in Asian Aquaculture (DAA VI) in Colombo, Sri Lanka during October 2005. The NACA Secretariat was requested to consult with the FHS AFS and then inform the members of the date and other meeting arrangements.

7.4 Any other business

Under any other business, the AG had discussions on a broad range of issues and made the following recommendations to the NACA Secretariat

- Request OIE to regularly provide *Aquatic Animal Health Code* and *Manual of Diagnostic Tests for Aquatic Animals* to the AG Members and the National Coordinators.
- Follow-up with SPC, ACIAR and FAO on a possible Pacific Regional programme on aquatic animal health risk analysis, protocols and guidelines for introduction and transfer of species within and between islands. The programme may include development of appropriate field guides and other information material in collaboration with SPC.
- The AG recognized the key role played by NACA in the regional health program. The AG made the suggestion to NACA to consider expanding the health activity by having more human resources.
- The AG requested NACA to circulate the AG working papers to the members prior to the meeting.

SESSION 8: Presentation of Meeting Report and Closing

The draft report was adopted and the meeting closed.

List of Appendices

Annex A. Meeting Agenda/Programme

Annex B. List of Participants

Annex C. Revised QAAD reporting form

Annex D. Recommendations from the 23rd Conference of the OIE Regional Commission for Asia, the Far East and Oceania, Noumea (New Caledonia), 25-28 November 2003

Annex E. Recommendations from the Regional Workshop on Preparedness and Response to Aquatic Animal Health Emergencies, Jakarta, Indonesia (21-23 September 2004)

Annex F. Format for Annual Review of Aquatic Animal Health in the Asia-Pacific Region

Annex G. Revised Terms of Reference of the Advisory Group

ANNEX A: Advisory Group Meeting Program

Tuesday, 23rd November

Morning session 0900-1200h

Opening session

- Welcome remarks (Mr Pedro Bueno),
- Introduction/ welcome of new members (Mr Pedro Bueno)
- Adoption of AGM-3 agenda
- Chair: Dr Supranee Chinabut
- Vice-Chair: Dr Eva-Maria Bernoth

Session 1: Progress since AGM-2 and expected outputs from AGM-3

- Short progress report from NACA on progress since AGM-2 and expected outputs from AGM-3 – *presentation by Dr CV Mohan, followed by short discussion session as required.*
- Aquatic Animal Health: Outcomes from the 72nd General Session of OIE, May 2004, and progress since – *presentation by Dr Eva-Maria Bernoth*
- International and regional issues in 2004 – a short progress report from FAO – *Dr Rohana Subasinghe*

Session 2: Review and evaluate regional aquatic animal disease reporting

2.1 Regional disease status and the regional disease list

- Emerging shrimp pathogens in the region–*presentation by Prof Tim Flegel followed by discussion*
- Emerging freshwater prawn diseases in the region– *short presentation by C.V.Mohan followed by discussion.*
- Emerging finfish diseases in the region – *short presentations by AG members followed by discussion.*
- Emerging mollusk diseases in the region– *short presentation by Dr Supranee Chinabut and Dr Pornlerd followed by discussion*
- Changes in OIE listing of aquatic animal diseases, and implications for the Asia-Pacific region and regional list– *presentation by Dr Eva-Maria Bernoth*

Afternoon session 1330-1730h

Session 2: continued as required

2.2 Regional reporting system

- Progress in regional reporting – *presentation by C.V. Mohan*
- Views of OIE Regional Representation for Asia and the Pacific on regional reporting –*presentation by Dr Y. Oketani*
- Review of QAAD reports (2003/3, 2003/4, 2004/1, 2004/2) and revision of disease lists, reporting form and instructions – *discussion session*

Wednesday, 24th November

Morning session 0900-1200h

Session 3: Review and evaluate implementation of the Technical Guidelines

- Introductory briefing on progress in implementation of the ‘Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals’- *CV Mohan followed by discussion*
- Lessons learnt from ongoing NACA/SUMA project in Vietnam and regional implications for strengthening implementation of Technical Guidelines - *presentation by Dr Flavio Corsin*

3.1 National Aquatic Animal Health Strategies

- Subjective evaluation of each country by AG using the NC’s feed back and the knowledge of the AG members.

3.2 Strengthening National Coordination and Communication

- Plan for meeting of National Coordinators and CVOs - *proposal for meeting to be presented by C.V. Mohan, followed by discussion.*
- Opportunities for cooperation with veterinary authorities - *perspectives of a CVO – presentation by Dr Amarasekara on cooperation between veterinary and fisheries authorities*
- Recommendations from the 23rd Conference of the OIE Regional Commission for Asia, the Far East and Oceania, Noumea (New Caledonia), 25-28 November 2003: *short presentation by Dr Eva-Maria Bernoth followed by discussion.*

3.3 Revision of the Technical Guidelines⁴, Manual of Procedures⁵ and Asia Diagnostic Guide for Aquatic Animal Diseases⁶ as required;

- Progress in revision of Technical Guidelines and supporting documents – *presentation by Dr C.V. Mohan on progress, followed by discussion*
- Review disease cards, further recommendations on development/improvement

3.4 Risk analysis

- Risk analysis experiences in the Pacific – presentation by Ben Poniah.
- Lessons being learned from the introduction of *Penaeus vannamei* to the region. Review of report and specific recommendations to governments
- Review of APEC project outcomes (IRA manual and Technical report) and recommendations to governments

Afternoon session 1330-1730h

Session 4: Development of procedures for advising on dealing with aquatic animal health emergencies

4.1 Contingency planning and emergency response

- Early warning and emergency response - outcomes of the Jakarta workshop and recommendations on implementing the regional approach - *presentation by Dr Rohana Subasinghe followed by discussion.*
- Opportunities for collaboration between Department of Agriculture, Fisheries and Forestry (DAFF), Australia and NACA to improve disease reporting and emergency preparedness in the Asia-Pacific region – *presentation by Ms Karina Scott followed by discussion*

⁴ Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and the Beijing consensus and Implementation strategy, 2000. FAO/NACA. Fisheries Technical Paper No 402

⁵ FAO/NACA. 2001. Manual of Procedures for the Implementation of the Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals. *FAO Fisheries Technical Paper*, No. 402, Suppl. 1. FAO, Rome. 2001. 106 p.

⁶ Bondad-Reantaso, MG, McGladdery SE, East, I and Subasinghe, RP. (Eds.). Asia Diagnostic Guide to Aquatic Animal Diseases. *FAO Fisheries Technical Paper*, No. 402, Suppl. 2. FAO, Rome. 2001. 236 p.

Session 5: Identification and designation of regional aquatic animal health resources, including regional resource experts (RRE), Regional Reference Laboratories (RRL) and Regional Resource Centres (RRC)

- Progress in identification of regional aquatic animal health resources
- Review on applications received for RRC and RRL
- identifying new subject areas and inviting additional resource experts and resource centers to support regional cooperation.

Session 6: Regional and International Cooperation

- Office International des Epizooties (OIE) (World Animal Health Organization)
- Food and Agricultural Organization of the United Nations (FAO)
- Department of Agriculture, Fisheries and Forestry (DAFF), Australia
- Southeast Asian Fisheries Development Center (SEAFDEC)
- Permanent Advisory Network for Diseases in Aquaculture (PANDA)
- ASEM platform
- Collaboration with FHS-DAAVI
- Association of South East Asian Nations (ASEAN)
- Secretariat for the South Pacific (SPC)
- Private sector

Session 7: Any other business

7.1 Review document on aquatic animal health in the asia-pacific region

7.2 Review of the AG Terms of Reference

7.3 Date of next meeting

7.4 Any other business

Thursday, 25th November

Morning session 0900-1200h

- Free/Report preparation

Afternoon session 1330-1800h

Session 8: Presentation of Meeting Report and Closing

ANNEX B: List of Participants

I Advisory Group Members	
Aquatic Animal Health Standards Commission (AAHSC) of the OIE	
Dr. Eva-Maria Bernoth Manager, Aquatic Animal Health Office of the Chief Veterinary Officer Australian Government Department of Agriculture, Fisheries and Forestry GPO Box 858, Canberra, ACT 2601 AUSTRALIA Tel: +61 2 6272 4328; Fax: +61 2 6273 5237 E-mail: Eva-Maria.Bernoth@daff.gov.au	Apologies
Food and Agricultural Organization of the United Nations (FAO)	
Dr.Rohana Subasinghe Senior Fishery Resources Officer (Aquaculture), Fisheries Department Food and Agriculture Organization of the UN Viale delle Terme di Caracalla 00100 Rome, ITALY Phone: + 39 06 570 56473; Fax: + 39 06 570 53020 E-mail: Rohana.Subasinghe@FAO.Org	
OIE Regional Representation for Asia and the Pacific, Tokyo	
Dr. Yoshiyuki Oketani OIE Deputy Regional Representative for Asia and the Pacific East 311, Shin Aoyama Building 1-1-1 Minami Aoyama, Minato-ku, Tokyo 107-0062, JAPAN Tel: +81-3-5411-0520; Fax: +81-3-5411-0526 E-mail: oietokyo@tky.3web.ne.jp	Apologies
CHINA PR	
Prof. Jiang Yulin Director Laboratory of Aquatic Animal Diseases Shenzhen Exit and Entry Inspection and Quarantine Bureau 2049 Heping Road, Shenzhen 518001 CHINA PR Tel: 86-755-25592980; Fax:86-755-25588630 E-mail: szapqbx@163.net	
MALAYSIA	
Prof Mohamed Shariff Professor, Universiti Putra Malaysia Faculty of Veterinary Medicine Universiti Putra Malaysia, 43400 Serdang, Selangor, MALAYSIA Tel No: (60-3) 8946 8288; Fax No: (60-3) 8948 8246 E-mail shariff@vet.upm.edu.my	
PHILIPPINES	
Dr. Celia Lavilla-Pitogo Fish Health Section SEAFDEC Aquaculture Department Tigbauan 5021, Iloilo, PHILIPPINES Tel: (63-33) 3362965; Fax: (63-33) 3351008; 5119070 E-mail: celiap@aqd.seafdec.org.ph	
SINGAPORE	
T.Zilong Tan Manager Technical Services Intervet Norbio Singapore Pte Ltd 1 Perahu Road	

Singapore 718847 SINGAPORE Tel: 65 6397 1121; Fax: 65 6397 1131 E-mail: Zilong.Tan@Intervet.com	
SRI LANKA	
Dr S.K.R. Amarasekara Director General Department of Animal Production and Health, P.O. Box 13, Peradeniya 20400, SRI LANKA E-mail: dgaphamara@sltnet.lk	
THAILAND	
Dr. Supranee Chinabut Senior Advisor/Fish Disease Specialist Department of Fisheries Kasetsart University Campus Ladyao, Jatujak, Bangkok 10900 THAILAND Tel: 66 2-5796803; Fax: 66 2-5613993 E-mail: supranee@fisheries.go.th	
II Co-opted Members	
Ms Karina Scott Aquatic Animal Health Officer Office of the Chief Veterinary Officer Australian Government Department of Agriculture, Fisheries and Forestry AUSTRALIA Tel: 61 2 6271 6300; Fax: 61 2 6273 5237 E-mail: karina.scott@daff.gov.au	
Dr Simon Funge Smith Aquaculture and Inland Fisheries FAO RAP, Maliwan Mansion 39 Phra Atit Road Bangkok 10200 THAILAND Tel: 66 2 697 4149; Fax: 66 2 697 4445 Email: simon.fungesmith@fao.org	
Dr Flavio Corsin Network of Aquaculture Centres in Asia-Pacific (NACA) Support to Brackish Water and Marine Aquaculture (SUMA) Ministry of Fisheries, 10 Nguyen Cong Hoan, Hanoi, VIETNAM Tel: +84-91-2776993; Fax: +84-4-7716517 E-mail: Flavio.corsin@enaca.org	
Dr Ben Ponia Aquaculture Adviser Secretariat of the Pacific Community - SPC BP D5 9884 Noumea Cedex NEW CALEDONIA Tel: +687 262000, direct 260166; Facsimile: +687 263818 Email Benp@spc.int	
Prof Timothy Flegel Centex Shrimp, Chalermprakiat Building Faculty of Science Mahidol University Rama 6 Road, Bangkok 10400 THAILAND Tel. 66-2-201-5870; Fax. 66-2-247-7051 E-mail: sctwf@mahidol.ac.th	
Dr Pornlerd Chanratchakool Department of Fisheries	

THAILAND E-mail: pornlerc@fisheries.go.th	
III NACA Secretariat	
Dr C.V.Mohan Aquatic Animal Health Specialist Network of Aquaculture Centres in Asia-Pacific (NACA) Suraswadi Bldg., DOF Complex Kasetsart University Campus Ladyao, Jatujak, Bangkok 10900 THAILAND Tel: (662) 561-1728; Fax: (662) 561-1727 E-mail: mohan@enaca.org	
Dr Michael Phillips Environment Specialist Network of Aquaculture Centres in Asia-Pacific Suraswadi Building, Department of Fisheries Kasetsart University Campus Ladyao, Jatujak Bangkok 10900 THAILAND Tel: 66-2-561-1728 (ext 115); Fax: 66-2-561-1727 Email: Michael.Phillips@enaca.org	
Mr Pedro Bueno Director General Network of Aquaculture Centres in Asia-Pacific Suraswadi Building, Department of Fisheries Kasetsart University Campus Ladyao, Jatujak Bangkok 10900 THAILAND Tel: 66-2-561-1728 (ext 1114); Fax: 66-2-561-1727 Email: pedro.bueno@enaca.org	
Simon Wilkinson Communications Manager Network of Aquaculture Centres in Asia-Pacific PO Box 1040, Kasetsart Post Office Jatujak 10903, Bangkok THAILAND Tel: +66 (2) 561 1728 ext. 113; Fax: +66 (2) 561 1727 Email: simon.wilkinson@enaca.org	

ANNEX C: Quarterly Aquatic Animal Disease Report

Country:

Period:

Item	Disease status ^{al}			Level of diagnosis	Epidemiological comment numbers
	Month				
DISEASES PREVALENT IN THE REGION					
FINFISH DISEASES					
OIE-listed diseases					
1. Epizootic haematopoietic necrosis					
2. Infectious haematopoietic necrosis					
3. <i>Oncorhynchus masou</i> virus disease					
4. Spring viraemia of carp					
5. Viral haemorrhagic septicaemia					
6. Viral encephalopathy and retinopathy					
7. Infectious pancreatic necrosis					
8. Epizootic ulcerative syndrome (EUS)					
9. Bacterial kidney disease					
10. Red seabream iridoviral disease					
11. Enteric septicaemia of catfish					
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis					
13. Grouper iridoviral disease					
14. Infection with koi herpesvirus					
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with <i>Bonamia exitiosa</i>					
2. Infection with <i>Mikrocytos roughleyi</i>					
3. Infection with <i>Haplosporidium nelsoni</i>					
4. Infection with <i>Marteilia sydneyi</i>					
5. Infection with <i>Perkinsus olseni/atlanticus</i> ^{bl})					
Non OIE-listed diseases relevant to the region					
6. Infection with <i>Marteilioides chungmuensis</i>					
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome					
2. White spot disease					
3. Yellowhead disease (YH virus, gill-associated virus)					
4. Spherical baculovirus (<i>Penaeus monodon</i> -type)					
5. Infectious hypodermal and haematopoietic necrosis					
6. Spawner-isolated mortality virus disease					
7. Tetrahedral baculovirus (<i>Baculovirus penaei</i>)					
Non OIE-listed diseases relevant to the region					
8. Necrotising hepatopancreatitis					
9. Baculoviral midgut gland necrosis					
10. White tail disease (MrNV and XSV)					
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease					
2. Abalone viral mortality					
ANY OTHER DISEASES OF IMPORTANCE					
1.					

Prepared by:

Name: _____

Position: _____

Signature: _____

Date: _____

Endorsed by (OIE Delegate):

Name: _____

Position: _____

Signature: _____

Date: _____

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE^(c)			
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); White sturgeon iridoviral disease			
Molluscs: Infection with <i>Bonamia ostreae</i> ; <i>Marteilia refringens</i> ; <i>Mikrocytos mackini</i> ; <i>Perkinsus marinus</i> ; <i>Candidatus Xenohaliotis californiensis</i> ; <i>Haplosporidium costale</i>			
Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>)			
a/ Please use the following symbols:			
+	Disease reported or known to be present	+()	Occurrence limited to certain zones
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence
b/ <i>Perkinsus olseni</i> and <i>P.atlanticus</i> are now considered conspecific. They may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occur.			
c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.			

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	
2	
3	
4	

2. New aquatic animal health regulations introduced within past six months (with effective date):

ANNEX D: Recommendations from the 23rd Conference of the OIE Regional Commission for Asia, the Far East and Oceania, Noumea (New Caledonia), 25-28 November 2003

Recommendations adopted by the Regional Commission in November 2003 and endorsed by the International Committee in May 2004

“Noumea Recommendations” for OIE

- Reinforce to Delegates their responsibility to the OIE for terrestrial as well as aquatic animals.
- Encourage Member Countries to strengthen veterinary and other tertiary education in aquatic animal health.
- Request Member Countries to clarify the roles and responsibilities for aquatic animal health assigned to veterinary and other authorities in their country.
- Provide opportunities to assist cooperation between veterinary and other authorities responsible for aquatic animal health in Member Countries, for example, by inviting other authorities to attend OIE-sponsored conferences/workshops that have an aquatic theme.
- Direct efforts at increasing general awareness with national Delegates world-wide about, for example, the provisions of the *Aquatic Code* and *Aquatic Manual*.
- Request the Aquatic Animal Commission to provide regular updates of the *Aquatic Code* and *Aquatic Manual* at Regional Commission Conferences or other suitable venues.
- Direct efforts at obtaining more comments on draft texts for the *Aquatic Code* and *Aquatic Manual* from a larger number of national Delegates, for example, consider from the Delegates of Member Countries the nomination of an ‘aquatic national focal point’ as a parallel recipient of Aquatic Animal Commission reports on behalf of national Delegates.
- Provide Member Countries with the necessary assistance and guidance on accurate, timely and effective aquatic animal disease reporting.
- Continue to cooperate with relevant international and regional organisations to increase awareness about aquatic animal health in the region, to improve disease reporting and to foster cooperation between veterinary and fisheries authorities within countries.

“Noumea Recommendations” for Member Countries

- Direct efforts at improving the coverage of the aquatic sectors with health services and strengthen veterinary and other tertiary education in aquatic animal health.
- Clarify the roles and responsibilities for aquatic animal health assigned to veterinary and other authorities in their country.
- Request their Veterinary Services to improve the communication and cooperation with fishery authorities, especially regarding disease reporting and disease emergency responses.
- Where primary responsibility for aquatic animal health rests with an authority other than the Veterinary Services, nominate an ‘aquatic national focal point’ from the other authority, so that the OIE may circulate Aquatic Animal Commission reports to the ‘aquatic national focal point’ at the same time as when circulating to national Delegates (providing comments back to the OIE must take place through, and with the endorsement of, the national Delegate to the OIE).
- Significantly enhance circulation of draft texts for the *Aquatic Code* and *Aquatic Manual* amongst experts, and provide comments through the national Delegate to the OIE.
- Significantly improve the quality of aquatic animal disease reports, and request the OIE’s assistance where clarification is needed.

ANNEX E: Recommendations from the Regional workshop “Preparedness and Response to Aquatic Animal Health Emergencies” held in Jakarta, Indonesia (21-23 September 2004)

While national agencies have the primary responsibility for responding to disease emergencies, regional cooperation can provide essential support. Collaboration exists in aquatic animal disease control in Asia that has helped in responding to emergency aquatic animal disease outbreaks. These existing structures should be used to further strengthen cooperation to support national efforts to control serious aquatic animal disease outbreaks.

There is a reporting system for aquatic animal diseases in Asia, organized by NACA/OIE/FAO. This reporting system, and the communication networks that support it at national and regional levels, should be further strengthened.

Reporting of aquatic animal diseases involves fisheries and veterinary authorities. Veterinary authorities have responsibility for official communication to OIE on livestock and aquatic animal diseases that are important for international trade. As most veterinary authorities in Asia have limited experience of aquatic animal diseases, communication between fishery and veterinary authorities should be strengthened.

Collaboration between countries on prevention of spread of aquatic animal diseases, particularly when sharing common borders and watersheds such as the Mekong basin, is also recommended for emergencies. Collaboration and communication among countries should be promoted to influence international standard setting and notification of disease. It is important for the region to be more active in getting information on aquatic animal diseases in the region into the OIE standards

Resource centres with specialist diagnostic skills are required to provide technical support for assisting countries deal with specialist aquatic animal disease problems. The further development of the resources centres and expert network of NACA is recommended to support harmonization among countries in diagnostics and upgrading skills. Collaborative research should be encouraged to understand and respond to significant and emerging diseases in the region. Involve the private sector since they are also part of networks.

Joint activities between countries for testing of emergency response and regular meetings between countries and exchange of expertise should be encouraged.

Regional training on emergency preparedness is recommended

The region needs resources to draw on in emergencies. Core funding should be allocated to NACA to provide ready resources to respond rapidly to emergencies. Donor should be approached to support.

ANNEX F: Annual Review of Aquatic Animal Health in the Asia-Pacific Region

This document should provide an overview of topical issues in aquatic animal health for 2004, including a review of its status, progress in research and development, regional responses, major issues and experiences, together with suggestions on actions for addressing opportunities and constraints.

Background

- Aquaculture in the region
- Economic value
- Ornamental trade in the region
- Movement of live aquatic animals in the region

Important diseases in the region (endemic, exotic, emerging)

- Occurrence in the region (summary from QAAD+from published literature)
- Economic impact

Significant research and development issues relevant to diseases in the region

- Disease mechanisms
- Diagnostics
- Vaccines
- Risk factor studies
- Health management approaches
- National strategies and policy developments

Regional approaches

- Outcomes of the Advisory group meeting
- Regional and national workshops and meetings
- Regional collaborative projects
- Regional capacity building activities
- Contributions from RRE and RRC

Recommendations and conclusions

ANNEX G: Revised Terms of Reference of the Advisory Group

The Terms of Reference (TOR) of the Advisory Group are to provide advice to NACA through the following activities:

- Review and evaluate quarterly regional aquatic animal disease reporting;
- Evaluate progress made on implementation of the *Technical Guidelines*;
- Revise *Technical Guidelines*⁷, *Manual of Procedures*⁸ and *Asia Diagnostic Guide for Aquatic Animal Diseases*⁹ as required;
- Develop procedures for advising on Technical Guidelines implementation;
- Advise in identification and designation of regional aquatic animal health resources, as Regional Resource Experts, Regional Resource Centres and Regional Reference Laboratories
- Review the TOR as and when required.

The AG will consist of ten members, including: Chairperson, Vice Chairperson, and Technical Secretary. The criteria for selecting members are based on their technical competence in the subject matter areas of interest to aquatic animal health management in the region. They are as follows:

NO.	CRITERIA/COMPETENCE IN AQUATIC ANIMAL HEALTH
1	Policies and national programme development, harmonisation and standardisation of diagnostics and health management procedures
2	Quarantine and health certification
3	Regional Centres, research needs, training and capacity building, etc.
4	Trade related issues of aquatic animal health, international treaties, agreements, etc.
5	Information systems, surveillance and reporting
6	Private sector involvement including knowledge on contingency planning and early warning, etc.
7	Representing the OIE Regional Representation for the Asia-Pacific
8	Representing the OIE Aquatic Animal Health Standards Commission
9	Representing FAO Fisheries Department
10	NACA Regional Aquatic Animal Health Specialist – as Technical Secretary

⁷ Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and the Beijing consensus and Implementation strategy, 2000. FAO/NACA. Fisheries Technical Paper No 402

⁸ FAO/NACA. 2001. Manual of Procedures for the Implementation of the Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals. *FAO Fisheries Technical Paper*, No. 402, Suppl. 1. FAO, Rome. 2001. 106 p.

⁹ Bondad-Reantaso, MG, McGladdery SE, East, I and Subasinghe, RP. (Eds.). *Asia Diagnostic Guide to Aquatic Animal Diseases*. *FAO Fisheries Technical Paper*, No. 402, Suppl. 2. FAO, Rome. 2001. 236 p.

The AG members will be recruited for an initial period of two years. The Chairperson and Vice-Chairperson will be selected by the AG. The Chairperson will serve for one term (two-years) and if required and willing, could be extended for another term, pending the Chairperson's consent and if required, the term may be extended by another two years.

As and when required the AG will co-opt technical experts for their work.

At least three selected members of the AG will only serve for a two-year term and at least three new members will be recruited at two-year intervals to guarantee a degree of continuity in the composition of the AG. NACA's Aquatic Animal Health Specialist will serve as the Technical Secretary to the AG with no fixed-term basis. The NACA Secretariat will nominate or select new membership as required on the basis of the advice of the AG.

The AG will meet on an annual basis, and the meetings will be held usually at the NACA Secretariat in Bangkok unless otherwise decided by the AG. The AG meetings will be held during the first week of November each year unless otherwise specified. The dates and venue for the next meeting will be decided at the end of each meeting by the AG.