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QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

April-June 2007

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Contents

Foreword

In the last one year, several regional activities were accomplished in support of strengthening aquatic animal health management in the Asia Pacific region. The following section provides a brief insight into some of the activities and outputs.

Aquatic Animal Diseases Significant to Asia-Pacific: Identification Field Guide: NACA and the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF) have recently produced this field guide to support aquatic animal health surveillance, early response and reporting in the region. The result of a collaborative activity among a number of fish health experts from various organizations in the Asia-Pacific region, it is aimed at improving the ability to diagnose diseases of significance to aquaculture and fisheries in the region. The field guide drew extensively from the experiences and previous and ongoing research activities in health management in Australia and other countries in Asia and thus joins the growing body of practical knowledge published for Asia-Pacific aquaculture and fisheries. The regional field guide covers all diseases listed in the Quarterly Aquatic Animal Disease (QAAD) reporting system, which includes all OIE listed diseases plus diseases of regional concern. The field guide is available for free download at http://www.enaca.org/modules/news/article.php?storyid=1003

Standard operating procedures for health certification and quarantine measures for the responsible movement of live food finfish within ASEAN: These SOPs have been developed under the AADCP:RPS project 370-018, *Operationalise Guidelines on Responsible Movement of Live Food Finfish*. This project was coordinated by ASEC, NACA and AusVet for Cardno ACIL who manage the AADCP:RPS program for ASEC and AusAID. These SOPs are a set of documents for health certification and quarantine measures to be used by CA for the responsible movement of LFF by land, sea and air among ASEAN Member Countries.The SOPs recognise the existing variation in capacity among ASEAN Member Countries but the SOPs have been designed so that they can be adopted and implemented within the specific policy and legal framework of each country. These SOPs have been written to help manage the movement of LFF for immediate consumption as human food. They are proposed to be a model for the subsequent development of SOPs to cover the management of movements of juvenile LFF for rearing and for other fish and some elements of this document will be appropriate for those SOPs. The report is available for download at http://www.enaca.org/modules/wfdownloads/singlefile.php?cid=830

Strengthening aquatic animal health capacity and biosecurity in ASEAN: As an effort to bridge the development gaps and build capacity, NACA and AusVet Animal Health Services, in collaboration with other partners i.e. ASEAN Secretariat, Aquatic Animal Health Research Institute (AAHRI), Thailand and Department of Agriculture, Fisheries and Forestry (DAFF), Australia, implemented the ASEAN-Australia Development Cooperation Program's Regional Partnership Scheme (AADCP:RPS) project "Strengthening Aquatic Animal Health Capacity and Biosecurity in ASEAN". This project was managed by Cardno-ACIL Australia Pty Ltd on behalf of AusAID and ASEC. The final report of the project contains two parts: (A) Recommended Minimum Operational Requirements for Implementing National Aquatic Animal Health

Strategies within ASEAN and (B) ASEAN progress in the implementation of National Aquatic Animal Health Strategies. Part A of this document is the result of the working group discussions during the Second Policy Workshop of the project held in Bali-Indonesia from 7-10 May 2007. This section identifies the minimum operational requirements for implementing national aquatic animal health strategies within ASEAN. Part B of this document is a compilation of the information on the status of implementation of various elements contained in national aquatic animal health strategies within ASEAN. As a part of the project activity, information was submitted by project participants and collated by NACA Secretariat. The purpose of this document is twofold. Firstly, it provides guidance for countries in ASEAN to implement key elements of national aquatic animal health strategies. Secondly, the compiled status report can be used as a basis for monitoring the progress of national strategy implementation in ASEAN member countries. The final report is available for download at http://www.enaca.org/modules/wfdownloads/singlefile.php?=5&lid=840

Application of PCR for improved shrimp health management in the Asian region: Under the broad framework of the regional ACIAR project, 2 PCR training workshops and 2 PCR calibration exercises were accomplished to support the PCR service providing sector in India. Key partners include CSIRO in Australia; MPEDA, CIBA and College of Fisheries, Mangalore in India; Mahidol University, BIOTEC in Thailand, Ministry of Marine Affairs and Fisheries in Indonesia and the intergovernmental NACA. The first PCR training workshop was held in CIBA from 17-21 October 2005 and was attended by 25 delegates from India and 3 from abroad. The I PCR calibration exercises participated by 37 service providing labs was completed in April 2006. The second PCR training workshop was held in CIBA from 23-26 October 2006 and was attended by the same set of participants. Half day PCR accreditation workshop was held on 27th October in CIBA to discuss and agree on the modalities for the conduct of II PCR inter-calibration and a future PCR laboratory accreditation programme. The II PCR calibration participated by 33 PCR service providing labs was completed in June 2007. The WSSV inter-calibration (ring testing) was run to understand the current level of performance of WSSV PCR testing within participating laboratories and assist with the identification of laboratories that may require assistance to improve their testing procedures. Calibration exercise provided individual laboratories an opportunity to assess their own performance compared with other laboratories undertaking PCR testing. Inter-calibration not only provides a step towards accreditation but also "gives participants an opportunity to assess their own performance". Taking cues from the program, national agencies in India are now working towards developing an accreditation program for PCR service providing laboratories. Full report is available for download at http://www.enaca.org/modules/wfdownloads/singlefile.php?cid=832

FAO/NACA Workshop on Information Requirements for Maintaining Aquatic Animal Biosecurity: was held from 15-17 February 2007, in Park Lane Hotel, Cebu City, Philippines. FAO and NACA in collaboration with BFAR, organized the workshop. The objective of the workshop was to increase awareness and build capacity on general principles of biosecurity and to deliberate on key information required for maintaining aquatic animal biosecurity focusing on aspects of risk analysis; diagnostics, health certification and quarantine; and epidemiological surveillance and reporting. The workshop was attended by 14 delegates from 7 ASEAN countries, 4 delegates from SAARC, one from China and 12 delegates from local host institution BFAR. Resource persons from FAO, AusVet, NACA and SEAFDEC participated in the

workshop. Following resource paper presentations and general discussions, the participants worked in 3 working groups and identified information requirements for 3 key thematic areas (a) Risk analysis (b) Diagnosis, health certification and quarantine (c) Surveillance and reporting

ICAR/NACA national workshop on Aquatic epidemiology, surveillance and emergency preparedness: The 5 day training workshop was held in CIBA, Chennai from 3-7, September 2007. The purpose of the 5 day training workshop was to build capacity and awareness of relevant stakeholders in the areas of aquatic epidemiology, risk analysis, surveillance and emergency preparedness. The long term objective was to support implementation of **National strategies** for better aquatic animal health management with a focus on improved surveillance, reporting, early response, emergency preparedness, risk analysis, certification and quarantine. Thirty four middle and senior level officers from 19 key national institutions participated in the training workshop. Resource experts from Australia, Thailand, Philippines, Indonesia, Vietnam, India and NACA provided expert inputs to the workshop. The training workshop had three components that were integrated in a logical fashion to ensure continuity and enhance uptake. The **Training component** included lectures on concepts of epidemiology, application of epidemiology (e.g. disease investigations, conduct of surveys, sampling issues), surveillance, qualitative risk analysis and contingency planning. The second component focused on **sharing of experiences** from other countries (e.g. Australia, Thailand, Philippines, Indonesia, Vietnam) that are implementing national aquatic animal health strategies in the Asia Pacific region. This included areas such as national plans, working of national advisory committee, national list of diseases, national surveillance and reporting framework, national contingency plans, national aquatic animal health networks, etc. The third component consisted of **facilitated interaction sessions**. These sessions were used to discuss and agree on simple and practical approaches to implement national aquatic animal health strategies in India with the available resources and expertise. The full report will be soon available at the NACA website.

Reports Received by the NACA Secretariat

Country: **AUSTRALIA** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	-(2004)	-(2004)	-(2004)		1
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	-(2006)	-(2006)	+	II	2
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8. Epitheliocystis	***	***	***		
9. Grouper iridoviral disease	0000	0000	0000		
10. Viral encephalopathy and retinopathy	+	+	+	III	3
11. Enteric septicaemia of catfish	-(2001)	-(2001)	-(2001)		4
12. Bacterial kidney disease	0000	0000	0000		
13. Infectious pancreatic necrosis	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	+	+	+	II	5
3. Abalone viral mortality	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	-(2007)	-(2007)	-(2007)		6
5. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	0000	0000	0000		
3. Yellowhead disease (YH virus, gill-associated virus)	0000/ -(2007)	0000/ -(2007)	0000/ -(2007)		7
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-(2005)	-(2005)	-(2005)		8
5. Infectious hypodermal and haematopoietic necrosis	-(2004)	-(2004)	-(2004)		9
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases					
7. Infectious myonecrosis	***	***	***		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.Abalone viral ganglioneuritis	+	+	+	III	10
2.Oyster oedema disease	+	-(2007)	-(2007)	III	11

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	Epizootic haematopoietic necrosis was not reported this period despite passive surveillance, but is known to have occurred previously in Victoria (last year reported 2004), New South Wales (last year reported 2003) and South Australia (last year reported 1992). Targeted surveillance and never reported in Tasmania. Passive surveillance and never reported in the Northern Territory, Queensland or Western Australia. Annual occurrence of the disease in the Australian Capital Territory, but no laboratory confirmation.
2	**Epizootic ulcerative syndrome** 1. **Reported in Queensland** in June 2007. Passive surveillance; 2. **In** wild *Mugil* spp. 3. **Clinical signs-** reddened skin lesions on caudal peduncle and rostral abdomen; 4. **Pathogen-** *Aphanomyces invadans*; 5. **Mortality rate-** unknown; 6. **Economic loss-** unknown; 7. **Geographic extent-** single location Burdekin River; 8. **Containment measures-** none; 9. **Laboratory confirmation-** diagnosed by histopathology; 10. **Publications-** unpublished. Not reported during this period despite active surveillance but is known to have occurred previously in Northern Territory (last year reported 2006). Considered endemic to certain streams and rivers of the Northern Territory. Not reported despite passive surveillance, but is known to have occurred previously in New South Wales (last year reported 2006) and Victoria (last year reported 2002). Passive surveillance and never reported in South Australia and Tasmania. Not reported this quarter but considered to be endemic in Western Australia. No information available in the Australian Capital Territory.

3	**Viral encephalopathy and retinopathy** 1. **Reported in Queensland** in a) April, b) May and c) June 2007. Targeted surveillance; 2. **In** a) (i) *Lates calcarifer* 21-day old larvae, (ii) *Cromileptes altivelis* 4-month old fingerlings, b) *Lates calcarifer* 42-day old larvae, and c) *Lates calcarifer* 16-day old larvae; 3. **Clinical signs-** a) (i) nil (ii) high mortality, b) mortality; c) low level mortality and slow growth; 4. **Pathogen-** betanodavirus; 5. **Mortality rate-** a) (i) not reported, (ii) 100/day, b) 60%, c) not reported; 6. **Economic loss-** not reported; 7. **Geographic extent-** a) (i) 1 tank on single farm, (ii) 2 tanks on single farm, b) 1 tank on single farm, c) 8 tanks on single farm; 8. **Containment measures-** none, endemic to area; 9. **Laboratory confirmation-** diagnosed by histopathology and immunohistochemistry; 10. **Publications-** unpublished. Not reported this period despite targeted surveillance South Australia (last year reported 2004). Not reported this period despite active surveillance from Northern Territory (last year reported 2005). Not reported this period despite passive surveillance from New South Wales (last year reported 2006), Western Australia (last year reported 2005) and Tasmania (last year reported 2000). Never reported from Victoria despite passive surveillance. No information available in the Australian Capital Territory.
4	Enteric septicaemia of catfish was not reported this quarter but is known to have occurred in zebrafish (*Brachydanio rerio*) in PC2 containment in Tasmania (last year reported 2001). Never reported in New South Wales, Northern Territory, Queensland, South Australia and Victoria despite passive surveillance. No information available in the Australian Capital Territory and Western Australia.
5	***Perkinsus olseni*** 1. **Reported in South Australia** in April, May and June 2007. Targeted surveillance; 2. **In** wild (but not cultured) blacklip abalone (*Haliotis rubra)* and greenlip abalone (*Haliotis laevigata)*; 3. **Clinical signs-** pustules on epipodium (normal clinical signs of perkinsosis in abalone); 4. **Pathogen-** *Perkinsus olseni*; 5. **Mortality rate-** no mortalities observed, some morbidity associated with infection. Infections are ongoing; 6. **Economic loss-** unknown; 7. **Geographic extent-** open system. Lower Eyre and Yorke Peninsulas; 8. **Containment measures-** none; 9. **Laboratory confirmation-** diagnosed by histology; 10. **Publications-** unpublished. Not reported this quarter from Western Australia despite targeted surveillance (last year reported 2003). While *Perkinsus* has been isolated previously by culture off the gills of a clinically normal abalone in 2003, clinical infection from *Perkinsus* has never been reported from Western Australia. Presence suspected but not confirmed from New South Wales (last year reported 2005). Passive surveillance and never reported in the Northern Territory, Queensland, Tasmania and Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
6	Infection with *Marteilia sydneyi* was not reported this period despite passive surveillance but is known to have occurred previously in New South Wales (last reported first quarter 2007), Queensland (last year reported 2006) and Western Australia (last year reported 1994). Passive surveillance and never reported in the Northern Territory, South Australia, Tasmania or Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
7	**Yellowhead virus:** Active surveillance and never reported in the Northern Territory. Passive surveillance and never reported in New South Wales, Queensland, South Australia, Victoria and Western Australia. No information available from the Australian Capital Territory (no marine water responsibility) and Tasmania (susceptible species not present). Gill-associated virus was not reported this period despite active surveillance but is known to have occurred previously in the Northern Territory (last reported first quarter 2007) and Western Australia (last year reported 2005). Not reported this period despite passive surveillance but known to have occurred previously in New South Wales (last year reported 2003). Gill-associated virus is considered endemic in Queensland where the lack of a clear case definition, of readily available detection tests and an apparent role for mixed virus infections make any conclusion about the incidence of GAV-related epizootics impossible. Passive surveillance and never reported in South Australia and Victoria. No information available in Australian Capital Territory (no marine water responsibility) and Tasmania (susceptible species not present).

8	Spherical baculovirosis was not reported this period despite targeted surveillance but is known to have occurred previously in Queensland (last year reported 2005). Not reported this period despite passive surveillance, but known to have occurred previously in New South Wales and Western Australia (last year reported 2002). Never reported despite passive surveillance in the Northern Territory, South Australia and Victoria. No information available in the Australian Capital Territory (no marine water responsibility) and Tasmania (susceptible species not present).
9	Infectious hypodermal and haematopoietic necrosis virus was not reported this period despite passive surveillance. This virus is known to have previously occurred in Queensland (last year reported 2004) and in the Northern Territory (last year reported 2003). No disease has been associated with the virus. The Australian virus is considered to be closest to the avirulent Madagascar strain. Passive surveillance and never reported in New South Wales, South Australia, Victoria and Western Australia. No information available in Australian Capital Territory (no marine responsibility) and Tasmania (susceptible species not present).
10	Abalone viral ganglioneuritis continues to be reported in wild abalone on reefs in western Victoria. Monitoring indicates that abalone farms continue to be free from the disease.
11	*Pinctada maxima* mortalities have continued on a small number of pearl oyster leases in northern Western Australia. Investigations into the aetiology of the disease are on-going. Affected leases remain under quarantine.

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

Country: **CAMBODIA** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis					
2. Infectious haematopoietic necrosis					
3. Spring viraemia of carp	000	000	000		
4. Viral haemorrhagic septicaemia					
5. Epizootic ulcerative syndrome (EUS)	***	***	***		
6. Red seabream iridoviral disease					
7. Koi herpesvirus disease	000	000	000		
Non OIE-listed diseases					
8. Epitheliocystis					
9. Grouper iridoviral disease	000	000	000		
10. Viral encephalopathy and retinopathy	000	000	000		
11. Enteric septicaemia of catfish	000	000	000		
12. Bacterial kidney disease					
13. Infectious pancreatic necrosis					
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*					
2. Infection with *Perkinsus olseni*					
3. Abalone viral mortality					
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*					
5. Infection with *Marteilioides chungmuensis*					
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	000	000	000		
2. White spot disease	000	000	000		
3. Yellowhead disease (YH virus, gill-associated virus)	000	000	000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	000	000	000		
5. Infectious hypodermal and haematopoietic necrosis					
6. Tetrahedral baculovirosis (*Baculovirus penaei*)					
Non OIE-listed diseases					
7. Infectious myonecrosis					
8. Baculoviral midgut gland necrosis					
9. White tail disease (MrNV and XSV)	000	000	000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease					
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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	***	No information available
but		0000	Never reported
	no clinical diseases	-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	

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

Country: **HONG KONG SAR** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	II	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia	0000	0000	0000	II	
5. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	II	
6. Red seabream iridoviral disease	-	-	+	III	1
7. Koi herpesvirus disease	-	+	-	III	2
Non OIE-listed diseases					
8. Epitheliocystis	(2002)			II	
9. Grouper iridoviral disease	-	-	+	III	3
10. Viral encephalopathy and retinopathy	-	-	+	III	1
11. Enteric septicaemia of catfish	0000	0000	0000	II	
12. Bacterial kidney disease	0000	0000	0000	II	
13. Infectious pancreatic necrosis	0000	0000	0000	II	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	II	
2. Infection with *Perkinsus olseni*	0000	0000	0000	II	
3. Abalone viral mortality	0000	0000	0000	II	
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	0000	0000	0000	II	
5. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	III	
2. White spot disease	-	-	+	III	4
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000	II	
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000	II	
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	II	
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000	II	
Non OIE-listed diseases					
7. Infectious myonecrosis	0000	0000	0000	II	
8. Baculoviral midgut gland necrosis	0000	0000	0000	II	
9. White tail disease (MrNV and XSV)	0000	0000	0000	II	
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000	II	
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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	***	No information available
but		0000	Never reported
	no clinical diseases	-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	In June, there was a case of mixed infection of red seabream iridovirus and redspotted grouper nervous necrosis virus complicated by secondary bacterial infection see in 1-month old Leopard coral trout in a property with 100% morbidity ad cumulative mortality of 70%. However, typical histological lesions of nervous necrosis virus were not detected
2	In May, a case of fatal disease caused by koi herpesvirus was seen in koi carps in a private ornamental fish pond
3	In June, there were 2 cases of disease with grouper irodovirus involvement. (a) One case of grouper iridovirus infection complicated by secondary bacterial infection occurred in green grouper fingerlings with morbidity of 100% and cumulative mortality of 30%. (b) A case of mixed infection with red seabream iridovirus and redspotted grouper necrosis virus complicated by secondary bacterial infection was seen in 1-month old Leopard coral trout in a property with 100% morbidity and cumulative mortality of 70%
4	In June, white spot syndrome virus was detected by PCR during routine surveillance testing of ornamental watermelon crabs and red lobsters, but these animals were clinically healthy with no gross pathology lesions.

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

Country: **INDIA** Period: **January-March 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	-	-	-		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8. Epitheliocystis	0000	0000	0000		
9. Grouper iridoviral disease	0000	0000	0000		
10. Viral encephalopathy and retinopathy	0000	0000	0000		
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Bacterial kidney disease	0000	0000	0000		
13. Infectious pancreatic necrosis	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+()	+()	+()		1
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases					
7. Infectious myonecrosis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	Reported only from very limited area of Kumta in Uttara Kannnda district of Karnataka and from Nagapattinam and Keevalur districts of Tamil Nadu

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

Country: **INDIA** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	-	-	-		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8. Epitheliocystis	0000	0000	0000		
9. Grouper iridoviral disease	0000	0000	0000		
10. Viral encephalopathy and retinopathy	0000	0000	0000		
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Bacterial kidney disease	0000	0000	0000		
13. Infectious pancreatic necrosis	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+()	+()	+()		1
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases					
7. Infectious myonecrosis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	Reported only from limited areas of Ongole in Prakasham District of Andhra Pradesh

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

Country: **INDONESIA** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	+	+	+	III	1
Non OIE-listed diseases					
8. Epitheliocystis	0000	0000	0000		
9. Grouper iridoviral disease	-	-	+	III	2
10. Viral encephalopathy and retinopathy	-	+	+	III	3
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Bacterial kidney disease	0000	0000	0000		
13. Infectious pancreatic necrosis	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	+	+	+	III	4
2. White spot disease	+	+	+	III	5
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type					
5. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	6
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases					
7. Infectious myonecrosis	+	+	+	III	7
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1. Infection with *Streptococcus sp.*	+	+	+	II	8
2. Infection with *Aeromonas sp.*	+	+	+	II	9
3. Infection with *Aeromonas hydrophilla*	+	+	+	II	10
4. Infection with *Edwardsiella ictaluri*	+	+	-	II	11
5. Infection with *Pseudomonas sp.*	-	-	+	II	12

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	1). Reported in South Kalimantan province in June 2007; West Java and Yogyakarta province in April until June 2007; 2). Species affected: *Cyprinus carpio* from fingerling size to consumable size. 3). Clinical sign: necrosis of gill tissue, color of gill is pale and lesions on the skin surface; little damage on gill, hemorrhage and irritation on part of body; 4). All samples have been detected by PCR analyze 5). Pathogen: Koi Herpesvirus 6). Mortality rate: medium to high (30 - 70%) 7). Economic loss: – 8). Names of infected areas: Banjar district in South Kalimantan province and Palangkaraya district in Centre Kalimantan province; Serang district in Banten province, South of Jakarta, Bandung and Sukabumi district in West Java; Sleman district in Central Java; 9). Preventive/control measures: – 10). Laboratory confirmation diagnosed by PCR in Freshwater Aquaculture Development Centre Mandiangin Laboratory in
2	1). Reported in Central Java and East Java province in June 2007; in Lampung province in April and May 2007 2). Species affected: - 3). Clinical sign: haemorrhage on part of body, irritation on swim-bladder, and no clinical sign on some samples; 4). All samples have been detected by PCR analyze 5). Pathogen: Grouper iridoviral 6). Mortality rate: low 7). Economic loss: – 8). Names of infected areas: Jepara hatcheries in Central Java and Situbondo hatcheries in East Java; some hatcheries in Lampung province; 9). Preventive/control measures: – 10). Laboratory confirmation diagnosed by PCR in Brackishwater Development Center Jepara Laboratory in Central Java; Mariculture Development Center Lampung Laboratory in Lampung

3	1). Reported in East Java province in May and June 2007; in Lampung province in April and May 2007; 2). Species affected to tiger grouper (*Ephinephelus fuscoguttatus*) in hatchery at Situbondo, East Java 3). All samples have been detected by PCR analyze 4). Pathogen: Betanodavirus 5). Mortality rate: low 6). Economic loss: – 7). Names of infected areas: hatchery in Situbondo, East Java; some hatchery in Lampung. 8). Preventive/control measures: – 9). Laboratory confirmation diagnosed by PCR in Brackiswater Development Center Laboratory in Situbondo, East Java; Mariculture Development Center Lampung Laboratory in Lampung province; 10). Publications: Unpublished.
4	1). Reported in East Java province in April until June 2007 2). Species affected to either nauplius, post larvae, juvenile and broodstock of *L. vanamei* 3). All samples have been detected by PCR analyze 4). Pathogen: Taura Syndrome Virus 5). Mortality rate: medium 6). Economic loss: - 7). Names of infected areas: shrimp culture in East Java province; 8). Preventive/control measures: – 9). Laboratory confirmation diagnosed by PCR in Brackiswater Development Center Laboratory in Situbondo, East Java; 10). Publications: Unpublished
5	1). Reported in South Kalimantan province in May and June 2007; Central Java province in April until June 2007; South Sulawesi in June 2007, 2). Species affected to *P. monodon* in South Kalimantan, in broodstock and fry of monodon, and vanamei in Central Java; vanamei and broodstock of monodon 3). Clinical sign: there are white spot in skin surface of shrimp had infected, before that affected shrimp are weak and swimming on the surface of water 4). All samples have been detected by PCR analyze 5). Pathogen: White Spot Syndrome Virus 6). Mortality rate: low to medium 7). Economic loss: - 8). Names of infected areas: in several ponds in Jepara and Demak in Central Java; Pangandaran in West Java; Sluke in East Java; in several ponds in South Sulawesi 9). Preventive/control measures: – 10). Laboratory confirmation diagnose by PCR in Freshwater Aquaculture Development Centre Mandiangin Laboratory in South Kalimantan Brackishwater Development Center Jepara Laboratory in Central Java ; Brackishwater Development Center Takalar Laboratory in South Sulawesi.
6	1). Reported in East Java province in April and June 2007; Lampung province in April 2007 2). Species affected to post larvae, juvenile and broodstock of *L. vannamei*; 3). All samples have been detected by PCR analyze 4). Pathogen: family *Parvoviridae* 5). Mortality rate: low 6). Economic loss: - 7). Names of infected areas: several ponds of shrimp culture in East Java province; several ponds of shrimp culture in Lampung district, Lampung province. 8). Preventive/control measures: – 9). Laboratory confirmation diagnose by PCR in Brackishwater Development Center Laboratory in Situbondo, East Java, 10). Publications: Unpublished.

7	1). Reported in South Kalimantan province in April until June 2007;). in East Java province in April until June 2007; 2). Species affected to juvenile and broodstock of *L. vannamei* ; 3). The clinical sign: red color on the abdominal segment end tail fan, myo-necrosis with the white color aspect; 4). Pathogen: IMNV in Totiviridae family 5). Sample have been detected by PCR analyze 6). Mortality rate: low to medium (35 – 64 %) 7). Economic loss: – 8). Names of infected area: Tanah laut district in South Kalimantan province; several ponds of shrimp culture in East Java province; 9). Preventive/control measures: – 10). Laboratory confirmation diagnosed by PCR analyze in Brackishwater Aquaculture Development Center Situbondo
8	1). Report in South Kalimantan province in April until June 2007 2). Species affected to *Oreochromis sp* in South Kalimantan 3). The clinical sign are affected fish was exophtalmia and lesions on skin surface; 5). Mortality Rate: 25 % 6). Economic loss: – 7). Names of infected areas: Tabalong district in South Kalimantan; Minahasa 8). Preventive/control measures: – 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Mandiangin Laboratory in South Kalimantan; 10). Publications: Unpublished
9	1). Report in South Kalimantan province in April until June 2007 2). Species affected to fingerling of *Pangasius sp* (Patin Siam), Tilapia and Common carp in Banjar district, South Kalimantan. 3). Clinical sign: hemorrhage and ulcer on part of body and fill damage. 4). Pathogen: bacteriae 5). Mortality rate: 60% 6). Economic loss: – 7). Names of infected areas: Banjar and Barito Kuala district, South Kalimantan. 8). Preventive/control measures: – 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Mandiangin Laboratory. 10) Publications: Unpublished.
10	1). Reported in South Kalimantan province in April until June 2007 ; West Java and Yogyakarta province in April until June 2007; 2). Species affected to Sepat siam *(Anabas tustuolineus bloch)* and Papuyu (*Trichogaster pectoralis*) and *Cyprinus carpio* in South Kalimantan; *C. carpio*, Clarias batracus, Gouramy and tilapia in West Java. 3). Clinical sign: • In West Java for *C carpio*: haemorrhage and irritation on part of body; • In West Java for *Clarias batracus*: haemorrhage and irritation on part of body, dropsy and no other clinical sign on some samples; • In West Java for gouramy: irritation on part of body and no other clinical sign on some samples • In West Java for tilapia: fin damage and irritation on part of body and no other clinical sign on some samples 4). Mortality rate: Sepat siam and Papuyu is about 20%) and *Cyprinus carpio* is < 30 %; *C. carpio* low to medium; *Clarias batracus* low to high; gouramy is low; tilapia low to high 5). Economic loss: –

11	1). Reported in Jambi province in April and May 2007, 2). Species affected to Patin pasopati, 3). The clinical sign: fish show pale color on gill, white spot and swallow on the spleen and liver. 4). Pathogen: bacteriae 5). Sample have been detected by Bacteriology 6). Mortality rate: medium (30 – 70 %) 7). Economic loss: – 8). Names of infected area: some villages in Batanghari district in Jambi province; 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Jambi Laboratory in Jambi province, Sumatera. 10) Publications: Unpublished.
12	1). Report in South Kalimantan province in June 2007 2). Species affected to *Cyprinus carpio with other bactery such as Aeromonas sp* and *Bacillus sp.* 3). Clinical sign: -. 4). Pathogen: bacteriae 5). Mortality rate: 30% 6). Economic loss: – 7). Names of infected areas: Palangkaraya district, Center Kalimantan province 8). Preventive/control measures: – 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Mandiangin Laboratory Jambi Laboratory in Jambi province, Sumatera. 10) Publications: Unpublished.

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

Country: **JAPAN** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	I	
2. Infectious haematopoietic necrosis	+	+	+	III	
3. Spring viraemia of carp	0000	0000	0000	I	
4. Viral haemorrhagic septicaemia	+	+	-	III	
5. Epizootic ulcerative syndrome (EUS)	-	-	-	I	
6. Red seabream iridoviral disease	+	+	+	III	
7. Koi herpesvirus disease	+	+	+	III	
Non OIE-listed diseases					
8. Epitheliocystis	+	+	+	II	
9. Grouper iridoviral disease	0000	0000	0000	I	
10. Viral encephalopathy and retinopathy	-	-	-	I	
11. Enteric septicaemia of catfish	0000	0000	0000	I	
12. Bacterial kidney disease	-	+	+	III	
13. Infectious pancreatic necrosis	+	-	+	III	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	I	
2. Infection with *Perkinsus olseni*	0000	0000	0000	I	
3. Abalone viral mortality	0000	0000	0000	I	
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	0000	0000	0000	I	
5. Infection with *Marteilioides chungmuensis*	+	+	+	III	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	I	
2. White spot disease	-	-	-	I	
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000	I	
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000	I	
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	I	
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000	I	
Non OIE-listed diseases					
7. Infectious myonecrosis	0000	0000	0000	I	
8. Baculoviral midgut gland necrosis	0000	0000	0000	I	
9. White tail disease (MrNV and XSV)	0000	0000	0000	I	
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	-	-	-	I	
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	

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

Country: **MALAYSIA** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp	***	***	***		
4. Viral haemorrhagic septicaemia	***	***	***		
5. Epizootic ulcerative syndrome (EUS)	-	-	- (1986)		
6. Red seabream iridoviral disease	-	-	-		
7. Koi herpesvirus disease	?	-	-	I,II,III	1
Non OIE-listed diseases					
8. Epitheliocystis	***	***	***		
9. Grouper iridoviral disease	+	+	+	I,II,III	2
10. Viral encephalopathy and retinopathy	+	+	+	I,II,III	3
11. Enteric septicaemia of catfish	***	***	***		
12. Bacterial kidney disease	***	***	***		
13. Infectious pancreatic necrosis	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Abalone viral mortality	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	***	***	***		
5. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	-	-	-		
2. White spot disease	0000	0000	0000		
3. Yellowhead disease (YH virus, gill-associated virus)	-	-	-		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	****	****	****		
5. Infectious hypodermal and haematopoietic necrosis	-	-	-		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	****	****	****		
Non OIE-listed diseases					
7. Infectious myonecrosis	***	***	***		
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. *Streptococcus* infection	+	+	+	I,II	4

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	**Koiherpesvirus disease** Disease was not detected despite monthly surveillance period. Suspected few batches of fish were sampled and cohabitated at lab were also tested negative by PCR.
2	**Grouper iridoviral disease** Active surveillance: 1. **Reported in a) Northern part of west Malaysia b) East Malaysia (Sabah)** 2. **In**; a) *Epinephelus* sp, sea bass and snapper b) i) *Epinephelus sp*. (size 3") imported from Taiwan ii) wrasse sp. 3. **Clinical signs- a)** no clinical signs; b) i) chronic ulcer, emaciated, pale body colour ii) body imbalance, dropsy, bloated stomach 4. **Pathogen-** *Iridovirus* 5. **Mortality rate- a)** no mortality b) 60-70% in *Epinephelus sp*. 6. **Economic loss-** n/a; 7. **Geographic extent-** a) floating cages b) hatchery 8. **Containment measures-** not reported 9. **Laboratory confirmation- a)** diagnosed by PCR (commercial detection Kit) 10. **Publications-** Unpublished. 11. **Others**: b) Mortality in *Epinephelus sp*. was determined to be due to low salinity, ulceration due to transportation and high parasites infestation (amyloodinium sp., monogenean) during that period of sampling.

3	**Viral Encephalopathy And Retinopathy** a) Active surveillance: 1. **Reported in a) Kedah b) Trengganu** 2. **In**; sea bass (*Lates calcarifer*) and groupers (*Epinephelus* sp.) 3. **Clinical signs-** no clinical signs 4. **Pathogen-** betanodavirus; 5. **Mortality rate- a) no mortality** 6. **Economic loss-** n/a; 7. **Geographic extent-** a) open sea cages and floating cages ; b) 1 hatchery 8. **Containment measures-** n/a 9. **Laboratory confirmation- a)** diagnosed by PCR 10. **Publications-** Unpublished. 11. **Others** – none b) Passive surveillance: 1. **Reported in Penang** 2. **In**; snapper size > 600g 3. **Clinical signs** - bloated stomach, rapid operculum movement, exophthalmia 4. **Pathogen-** betanodavirus; 5. **Mortality rate-** n/a 6. **Economic loss-** n/a; 7. **Geographic extent** – n/a; 8. **Containment measures-** n/a; 9. **Laboratory confirmation-** Diagnosed by PCR, with significant findings of vibriosis and digenean on the muscle 10. **Publications-** Unpublished.
4	**Streptococcal infections in tilapia** Active surveillance 1. **Reported in** a) Kedah b) Terengganu c) Penang 2. **Clinical Signs** – erratic, exophthalmia or other abnormal clinical signs of the eye, inflamed at ventral region 3. **Pathogen** – *Streptococcus agalactiae* 4. **Mortality rate -** ± 40% 5. **Economic loss** – n/a 6. **Geographic extent** – in most floating cages, lakes and rivers 7. **Laboratory confirmation** – API 20E STREP 8. **Publications** : unpublished

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

Country: **MYANMAR** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp	***	***	***		
4. Viral haemorrhagic septicaemia	***	***	***		
5. Epizootic ulcerative syndrome (EUS)	***	***	***		
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	***	***	***		
Non OIE-listed diseases					
8. Epitheliocystis	***	***	***		
9. Grouper iridoviral disease	***	***	***		
10. Viral encephalopathy and retinopathy	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
12. Bacterial kidney disease	***	***	***		
13. Infectious pancreatic necrosis	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*					
2. Infection with *Perkinsus olseni*					
3. Abalone viral mortality					
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*					
5. Infection with *Marteilioides chungmuensis*					
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	-	-	-		
2. White spot disease	-	-	-		
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	-	+ ()	+()	III	1
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
Non OIE-listed diseases					
7. Infectious myonecrosis	***	***	***		
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	A total of 53 samples of P.monodon have been tested at PCR lab of Department of Fisheries (DOF) of which 3 samples (5.66%) were recorded as IHHNV positive

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

Country: **NEPAL** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	may	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp	***	***	***		
4. Viral haemorrhagic septicaemia	***	***	***		
5. Epizootic ulcerative syndrome (EUS)	-	+	+	I	1
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	***	***	***		
Non OIE-listed diseases					
8. Epitheliocystis	***	***	***		
9. Grouper iridoviral disease	***	***	***		
10. Viral encephalopathy and retinopathy	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
12. Bacterial kidney disease	***	***	***		
13. Infectious pancreatic necrosis	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	0000	0000	0000		
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases					
7. Infectious myonecrosis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	Fisheries Development Centre, Bhairahawa has reported EUS in Nawalparasi districts in April and May 2007. The species affected reported to be Naini (*Cirrhinus mrigala*), Rohu (*Labeo rohita*) and *Puntius* sp. The affected total pond water surface area was 0.7 hector. The economic loss reported to be not significant.

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

Country: **PHILIPPINES** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	-	-	-		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8. Epitheliocystis	0000	0000	0000		
9. Grouper iridoviral disease	0000	0000	0000		
10. Viral encephalopathy and retinopathy	-	-	-		
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Bacterial kidney disease	0000	0000	0000		
13. Infectious pancreatic necrosis	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+	+	+	III	1
3. Yellowhead disease (YH virus, gill-associated virus)	-	-	-		
4. Spherical baculovirosis (*Penaeus monodon*-type	+	+	+		2
5. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	3
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases					
7. Infectious myonecrosis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	Out of 584 samples (503 *P. monodon* post larva, juvenile/adult; 32 *P. vannanmei* post larva; 49 crabs and other shrimp spp.) from hatchery and grow-out farms examined, 28 samples (24 *P. monodon* and 4 *P. vannamei*) showed positive results for WSV by PCR. Examinations conducted by BFAR-Central and Regional Fish Health laboratories, NPPMCI, and SEAFDEC-Fish Health lab.
2	From a total of 242 samples (*P. monodon* post larva) examined by NPPMCI and BFAR, 11 samples showed the presence of spherical occlusion bodies by wet mounts of squash preparation of hepatopancreas (stained with malachite green and examined under light microscope).
3	Detected in *P. vannamei* post larva (3 samples) and in *S. serrata* broodstock (2 samples) using PCR by SEAFDEC- Fish Health Lab.

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

Country: **REPUBLIC OF KOREA** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	+?	+?	+?	III	
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	+	+	+	III	
5. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease	+?	+?	+?	III	
7. Koi herpesvirus disease	(1998)	(1998)	(1998)	III	
Non OIE-listed diseases					
8. Epitheliocystis	0000	0000	0000		
9. Grouper iridoviral disease	0000	0000	0000		
10. Viral encephalopathy and retinopathy	+	+	+	III	
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Bacterial kidney disease	0000	0000	0000		
13. Infectious pancreatic necrosis	+?	+?	+?	III	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Marteilioides chungmuensis*	+?	+?	+?	II and III	1
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***	III	
2. White spot disease	***	***	+	III	
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	***	***	+	III	
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases					
7. Infectious myonecrosis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	Tested in 60 Pacific oyster samples. Detected Chungmuensis positive in 5 samples. This pathogen is observed in limited areas in Koseong

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

Country: **SINGAPORE** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	+	(2007)	(2007)	III	1
Non OIE-listed diseases					
8. Epitheliocystis	-	-	-		
9. Grouper iridoviral disease	-	-	-		
10. Viral encephalopathy and retinopathy	(2007)	(2007)	(2007)	III	
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Bacterial kidney disease	0000	0000	0000		
13. Infectious pancreatic necrosis	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Abalone viral mortality	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	***	***	***		
5. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	-	-	-		
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
Non OIE-listed diseases					
7. Infectious myonecrosis	***	***	***		
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. Mullet systemic iridoviral disease	-	-	-		

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	A private koi collection was placed under quarantine after voluntary samples submitted on 23 April 2007 tested positive for koi herpesvirus (KHV) by nested PCR. Culling of all affected and in-contact cyprind and non-cyprinid species (136 fish total) was carried out promptly and thorough disinfection was performed at the pond and in-contact equipment. The owner was advised to restock with non-cyprinid species

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

Country: **SRI LANKA** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	-	-	-		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8. Epitheliocystis	0000	0000	0000		
9. Grouper iridoviral disease	0000	0000	0000		
10. Viral encephalopathy and retinopathy	0000	0000	0000		
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Bacterial kidney disease	0000	0000	0000		
13. Infectious pancreatic necrosis					
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease					
3. Yellowhead disease (YH virus, gill-associated virus)	(1998)	(1998)	(1998)		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases					
7. Infectious myonecrosis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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.	

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

Country: **THAILAND** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	III	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia	0000	0000	0000	III	
5. Epizootic ulcerative syndrome (EUS)	-	-	-	II	
6. Red seabream iridoviral disease	0000	0000	0000	III	
7. Koi herpesvirus disease	-	-	-	III	1
Non OIE-listed diseases					
8. Epitheliocystis	-	-	-	II	
9. Grouper iridoviral disease	-	-	-	III	
10. Viral encephalopathy and retinopathy	-	-	-	III	
11. Enteric septicaemia of catfish	0000	0000	0000	II	
12. Bacterial kidney disease	0000	0000	0000	II	
13. Infectious pancreatic necrosis	(1985)	(1985)	(1985)	III	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	II	
2. Infection with *Perkinsus olseni*	0000	0000	0000	II	
3. Abalone viral mortality	***	***	***	II	
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	0000	0000	0000	II	
5. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	+	-	+	III	2
2. White spot disease	+	+	+	III	3
3. Yellowhead disease (YH virus, gill-associated virus)	+	-	-	III	4
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	5
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
Non OIE-listed diseases					
7. Infectious myonecrosis	***	***	***		
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	-	-	+	III	6
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. Ranavirus	-	-	-	III	

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	Detections of the koi herpesvirus (KHV) genes used were a nested PCR which developed at the AAHRI, DOF. 20 koi farms/companies/hobbyists had been surveyed using nested PCR for this reporting period. No PCR positive results obtained and no disease clinical signs or outbreaks reported.
2	A total of 948 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 8 specimens or 0.8% recorded as RT-PCR positive or carrying TSV genes that advised to be destroyed.
3	A total of 1,835 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 24 specimens or 1.3% recorded PCR positive or carrying SEMBV genes that advised to be destroyed.
4	A total of 254 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 2 specimens or 0.8% recorded PCR positive or carrying YHV genes that advised to be destroyed.
5	A total of 1,332 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 246 specimens or 18.5% recorded as PCR positive or carrying IHHNV genes that advised to be destroyed. The tested specimens did not show disease clinical signs and there was no outbreak due to IHHNV infection in the hatcheries.

6	89 prawns from grow-out ponds, 34 prawn brooders and 29 post larvae specimens were RT-PCR-tested for the present of both viral genes, MrNV and XSV. The RT-PRC results were 2/89, 2/34 and 6/29 specimens showed RT-PCR positive, respectively. However no disease clinical signs in all brooders. Concepts in bio-security for disease prevention had been advised to hatchery owners, operators or farmers. The disease was identified at the AAHRI, DOF.

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

Country: **VIETNAM** Period: **April-June 2007**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	+	+	-	I, II	1
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8. Epitheliocystis	0000	0000	0000		
9. Grouper iridoviral disease	0000	0000	0000		
10. Viral encephalopathy and retinopathy	0000	0000	0000		
11. Enteric septicaemia of catfish	+()	+()	+()	I, II	2
12. Bacterial kidney disease	0000	0000	0000		
13. Infectious pancreatic necrosis	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+	+	+	I, III	3
3. Yellowhead disease (YH virus, gill-associated virus)	+()	+()	+()	I, III	4
4. Spherical baculovirosis (*Penaeus monodon*-type	+()	+()	+()	I, III	5
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases					
7. Infectious myonecrosis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	-	-	***	I	6
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1. Swelled-syphon on *Babylonia areolata*	-	-	-	I	7
2. Lobster milky-body disease	+	+	***	I	8

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Molluscs: *Mikrocytos mackini*
Crustaceans: Necrotising hepatopancreatitis**.**

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
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not	(year)	Year of last occurrence

b/ 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	- Infection occurred in catfish (*Pangasius micronema, Pangasius hypophthalmus*), grouper, and some freshwater fish. - Mortality rate: Low, scattered. - The disease occurred in limited zones in Soc Trang, Hau Giang, Quang Ninh, Hai Phong, Bac Giang, Khanh Hoa, Tien Giang and Vinh Phuc provinces.
2	- Infection occurred in catfish (*Pangasius micronema, Pangasius hypophthalmus*). - Disease characteristic: Give up feeding, glassy; haemorrhages on fin, tail; latex – bearing in liver and kidney. - Mortality rate: Low, scattered. - The disease occurred in limited zones in Hau Giang, Soc Trang, Vinh Long, Can Tho, Tien Giang and Đong Thap provinces.
3	- Infection occurred in black tiger shrimp (*Penaeus monodon*) and white leg shrimp (*Penaeus vannamei*). - The disease occurred and spread in Thua Thien Hue and Long An provinces. It also occurred in limited areas in Quang Nam, Quang Ngai, Quang Trị, Quang Binh, Binh Dinh, Phu Yen, Ho Chi Minh city, Ba Ria-Vung Tau, Can Tho, Khanh Hoa, Tien Giang, Ha Tinh, Soc Trang, Kien Giang, Ca Mau, Bac Lieu, Nam Dinh, Ninh Binh, Thanh Hoa, Nghe An, Quang Ninh.
4	- Infection occurred in black tiger shrimp (*Penaeus monodon*). - The disease occurred in limited zones in Binh Thuan, Tra Vinh, Ca Mau, Bac Lieu, Ba Ria-Vung Tau, Can Tho, Thua Thien Hue and Soc Trang provinces. - Pathogen: Gill-associated virus (GAV).
5	- Infection occurred in black tiger shrimp (*Penaeus monodon*). - The disease occurred in limited zones in the North, the Middle and the South.
6	The disease occurred in limited zones in Khanh Hoa province.

7	- Infection occurred in *Babylonia areolata* - Disease characteristic: swelled syphon, give up feeding. - Pathogen: - - Mortality rate: scattered to mass - The disease occurred in limited zones in Ninh Thuan and Khanh Hoa provinces.
8	- Infection occurred in lobster (*Panulirus* spp.) - Disease characteristic: colourless, pink body, milky muscle and be decay, glassy. - Pathogen: - - Mortality rate: scattered to mass - The disease occurred in limited zones in Khanh Hoa, Phu Yen and Binh Thuan provinces.

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

List of diseases in the 9th edition of the 2006 *Aquatic Code*

The following diseases of fish are listed by the OIE: Article 1.2.3.1

1. Epizootic haematopoietic necrosis
2. Infectious haematopoietic necrosis
3. Spring viraemia of carp
4. Viral haemorrhagic septicaemia
5. Infectious salmon anaemia
6. Epizootic ulcerative syndrome
7. Gyrodactylosis (*Gyrodactylus salaris*)
8. Red sea bream iridoviral disease
9. Koi herpesvirus disease

The following diseases of molluscs are listed by the OIE: Article 1.2.3.2.

1. Infection with *Bonamia ostreae*
2. Infection with *Bonamia exitiosa*
3. Infection with *Marteilia refringens*
4. Infection with *Perkinsus marinus*
5. Infection with *Perkinsus olseni*
6. Infection with *Xenohaliotis californiensis*
7. Abalone viral mortality

The following diseases of crustaceans are listed by the OIE: Article 1.2.3.3.

1. Taura syndrome
2. White spot disease
3. Yellowhead disease
4. Tetrahedral baculovirosis (*Baculovirus penaei*)
5. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)
6. Infectious hypodermal and haematopoietic necrosis
7. Crayfish plague (*Aphanomyces astaci*)
8. Necrotising hepatopancreatitis[1]
9. Infectious myonecrosis[1]

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[1] Listing of this disease is under study.

List of Diseases in the Asia-Pacific
Quarterly Aquatic Animal Disease Reports (Beginning 2007)

1. DISEASES PREVALENT IN THE REGION	
1.1 FINFISH DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Epizootic haematopoietic necrosis	1.Epitheliocystis
2. Infectious haematopoietic necrosis	2.Grouper iridoviral disease
3. Spring viraemia of carp	3.Viral encephalopathy and retinopathy
4. Viral haemorrhagic septicaemia	4.Enteric septicaemia of catfish
5. Epizootic ulcerative syndrome	5.Bacterial kidney disease
6. Red seabream iridoviral disease	6.Infectious pancreatic necrosis
7. Infection with koi herpesvirus	
1.2 MOLLUSC DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infection with *Bonamia exitiosa*	1. Infection with *Marteilia sydneyi*
2. Infection with *Perkinsus olseni*	2. Infection with *Marteilioides chungmuensis*
3. Abalone viral mortality	
1.3 CRUSTACEAN DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Taura syndrome	1. Infectious myonecrosis
2. White spot disease	2. Baculoviral midgut gland necrosis
3. Yellowhead disease (YH virus,gill-associated virus)	3.White tail disease (MrNV and XSV)
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	
5. Infectious hypodermal and haematopoietic necrosis	
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	
1.4 UNKNOWN DISEASES OF A SERIOUS NATURE	
OIE-listed diseases	**Non OIE-listed diseases**
	1. Akoya oyster disease
2. DISEASES PRESUMED EXOTIC TO THE REGION	
2.1 Finfish	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infectious salmon anaemia	1. Channel catfish virus disease
2. Gyrodactylosis (*Gyrodactylus salaris*)	2. Piscirickettsiosis
2.2 Molluscs	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infection with *Bonamia ostreae*	1. Infection with *Mikrocytos mackini*
2. Infection with *Marteilia refringens*	
3. Infection with *Perkinsus marinus*	
4. Infection with *Xenohaliotis californiensis*	
2.3 Crustaceans	
OIE-listed diseases	**Non OIE-listed diseases**
1. Crayfish plague (*Aphanomyces astaci*)	1. Necrotising hepatopancreatitis

Recent Aquatic Animal Health Related Publications

Aquatic Animal Diseases Significant to Asia-Pacific: Identification Field Guide: NACA and the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF) have recently produced this field guide to support aquatic animal health surveillance, early response and reporting in the region. The field guide drew extensively from the experiences and previous and ongoing research activities in health management in Australia and other countries in Asia and thus joins the growing body of practical knowledge published for Asia-Pacific aquaculture and fisheries. The regional field guide covers all diseases listed in the Quarterly Aquatic Animal Disease (QAAD) reporting system, which includes all OIE listed diseases plus diseases of regional concern. The field guide is available for free download at http://www.enaca.org/modules/news/article.php?storyid=1003

FAO. 2007. Aquaculture development 2. **Health management for the responsible movement of live aquatic animals**. FAO Technical Guidelines for Responsible Fisheries. No. 5, Suppl. 2. Rome, FAO. 2007. 31p. Further information: Rohana.Subasinghe@fao.org

Color Atlas of Fish Histopathology, Volume 2 (2007) by Teruo Miyazaki. The only book on fish histopathology. Highly recommended for private library, institutional libraries, laboratories for studies and education on fish disease. The volume contains 13 RNA viruses, 16 DNA viruses, 7 fungal diseases and 50 parasitic diseases. Downloadable at URL http://briefcase.yahoo.co.jp/yappon1978. Further details from miyazaki@bio.mie-u.ac.jp

Diseases of Tilapia: Web-based publication from Intervet. Diseases of Tilapia: http://aqua.intervet.com/news/2005-11-16_-_Disease_Tilapia.asp; Streptococcosis in Tilapia: http://aqua.intervet.com/news/2006-06-20_-_Streptococcosis_in_Tilapia.asp; Columnaris in Tilapia: http://aqua.intervet.com/news/2006-12-01_-_Columaris_in_tilapia.asp; Parasitic Diseases of Tilapia: http://aqua.intervet.com/news/2007-06-01.asp

Arthur, J.R. & Te, B.Q. 2006. **Checklist of the parasites of fishes of Viet Nam**. FAO Fisheries Technical Paper No. 369/2. Rome, FAO. 133 pp.

OIE Aquatic Animal Health Code, 9th Edition, 2006 and OIE Manual of Diagnostic Tests for Aquatic Animals, 5th Edition, 2006 http://www.oie.int/eng/publicat/en_aqua.htm. The aim of the aquatic animal health code is to assure the sanitary safety of international trade in aquatic animals and their products. This is achieved through the detailing of health measures to be used by the competent authorities of importing and exporting countries to avoid the transfer of agents pathogenic for animals or humans, while avoiding unjustified sanitary barriers. The health measures in the aquatic animal health code (in the form of standards, guidelines and recommendations) have been formally adopted by the OIE international committee, the general assembly of all delegates of OIE Member Countries. The Aquatic Animal Health Code is available on http://www.oie.int/eng/normes/fcode/A_00003.htm. The book may be ordered from pub.sales@oie.int

Way Forward: Building capacity to combat impacts of aquatic invasive alien species and associated trans-boundary pathogens in ASEAN countries: NACA 2005. The Final report of the regional workshop, hosted by the Department of Fisheries, Government of Malaysia, on 12th-16th July 2004. Network of Aquaculture Centres in Asia-Pacific, Bangkok, Thailand. 358pp. www.enaca.org (free download)

Diseases in Asian Aquaculture V. 2005. Walker, P.J., R.G. Lester and M.G. Bondad-Reantaso (editors). Proceedings of the 5th Symposium on Diseases in Asian Aquaculture. Fish Health Section, Asian Fisheries Society, Manila. 635 pp. Contact: suppalap@fisheries.go.th

Aquaculture Biosecurity: Prevention, Control and Eradication of Aquatic Animal Disease. 2006. A. David Scarfe, Cheng-Sheng Lee and Patricia O'Bryen (editors). Blackwell Publishing. 182 pp.

Regional Workshop on Preparedness and Response to Aquatic Animal Health Emergencies in Asia, Jakarta, Indonesia, 21-23 September 2004. Subasinghe, RP. and JR Arthur (editors). FAO Fisheries Proceedings No. 4, Rome, FAO. 2005. 178p.

Responsible use of antibiotics in aquaculture. Hernandez Serrano, P. 2005. FAO Fisheries Technical Paper. No. 469. Rome, FAO. 2005. 97p.

Pathogen and ecological risk analysis for the introduction of blue shrimp, *Litopenaeus stylirostris*, from Brunei Darussalam to Fiji. Bondad-Reantaso, M.G., Lovell, E.R., Arthur, J.R., Hurwood, D. & Mather, P.B. 2005. Secretariat of the Pacific Community, New Caledonia. 80 pp.
http://www.spc.org.nc/aquaculture/site/publications/documents/Stylirostris_BruneiFiji.pdf

Pathogen and ecological risk analysis for the introduction of giant river prawn, *Macrobrachium rosenbergii* from Fiji to the Cooks Islands. Arthur, J.R., Hurwood, D., Lovell, E.R., Bondad-Reantaso, M.G., & Mather, P.B. 2005. Secretariat of the Pacific Community, New Caledonia.
http://www.biosecurity.govt.nz/files/pests-diseases/plants/risk/prawns-ra.pdf

Australian Aquatic Animal Disease Identification Field Guide: The second, revised edition – Aquatic Animal Diseases Significant to Australia: Identification Field Guide – has recently been released by Australia's Department of Agriculture, Fisheries and Forestry (DAFF). It is very informative and user friendly. The field guide can be downloaded from http://www.disease-watch.com. For further information and copies of the field guide, please contact Alistair Herfort at Alistair.Herfort@daff.gov.au. The field guide provides key field identification tips and differential diagnostic features for all the OIE listed diseases and therefore has considerable regional relevance. Dissemination of the information contained in the field guide to the right stakeholders could contribute significantly to improved surveillance and reporting in the region. DAFF has kindly provided NACA with copies of the field guide for wider dissemination in the region. Those interested to receive copies, please write to NACA at mohan@enaca.org

A Colour Atlas of Diseases of Yellowtail (Seriola) Fish: Written by Dr. Mark Sheppard, Canadian veterinarian, a new publication (in Japanese and originally in English) "A Colour Atlas of Diseases of Yellowtail (Seriola) Fish" is now available. A useful diagnostic field guide for fish farmers, fish health professionals, laboratory technicians and students, this book contains 30 pages of high resolution, detailed pathology photomicrographs of most commonly found diseases of yellowtail. More details can be found at http://oberon.ark.com/~svs/index_files/svsindexfile5.html

Histological Techniques for Marine Bivalve Molluscs and Crustaceans: A new publication by DW Howard, EJ Lewis, BJ Keller and CS Smith of the Cooperative Oxford Laboratory, Center for Coastal Environmental Health and Biomolecular Research, National Centers for Coastal Ocean Science, National Ocean Service, NOAA. This is an invaluable guide to histological techniques of shellfish, principally molluscs and crustaceans which every aquatic animal health researcher should have. Those interested to receive copies, please write to the Librarian, Ms Susie Hines at Susie.Hines@noaa.gov

OIE Handbook on Import Risk Analysis for Animals and Animal Products: Vol. I Introduction and qualitative risk analysis, 2004; Vol. II Quantitative risk analysis, 2004.
Volume I of this handbook introduces the concepts of import risk analysis and discusses qualitative risk analysis while Volume II addresses quantitative risk analysis. The key issues in the discipline are explained within the frameworks provided by the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures and the chapters in both *Codes* on risk analysis. The handbook will provide practical guidance to Veterinary Services confronted with the need to analyse the risks posed by imports, to ensure that stakeholders, risk analysts and decision-makers can be confident that the disease risks posed have been identified and can be managed effectively. The handbook will also be useful as a training aid to address the critical need for capacity building in this discipline.

Surveillance and Zoning for Aquatic Animal Diseases.
Subasinghe, R.P., McGladdery, S.E. and Hill, B.J. (eds.). FAO Fisheries Technical Paper. No. 451. Rome, FAO. 2004. 73p. This document contains the recommendations and conclusions of an Expert Consultation on Surveillance and Zoning for Aquatic Animal Diseases' jointly organized by FAO, the Federal Department of Fisheries and Oceans Canada (DFO-Canada) and OIE held in October 2002 at the FAO Headquarters in Rome, Italy. The objective of the consultation was to determine what surveillance options can best support scientifically valid zonation frameworks. Contact: Rohana.Subasinghe@fao.org

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New Instructions on how to fill in the
QUARTERLY AQUATIC ANIMAL DISEASE REPORT
(Revised during the Provisional Meeting of the AG[1], Bangkok, Thailand, November 7-9, 2001)

Symbols used in the report are similar to those used by FAO, OIE and WHO for the *Animal Health Yearbook*. Please read these instructions carefully before you fill in the forms.

Under the heading 'Country', please enter your country.

Under the heading 'Period', please enter the reporting quarter (months) and year, e.g. January to March 2002.

Under the heading "Month", please enter months of a quarter in question, e.g. January, February, March.

In "Level of Diagnosis", please enter the Level of Diagnosis used, e.g., I, II, or III. See Section C below.

In "Epidemiological Comment Numbers", please enter the serial numbers, and write your corresponding epidemiological comments on page 2. See Section D below for guidance on the subjects to be covered under Epidemiological Comments.

If an unknown disease of serious nature appears, please fill in the last line of the form, with additional information on "Level of Diagnosis" and "Epidemiological Comment Numbers" as above.

Please do not fail to enter "*******" or "**-**" as appropriate against each disease, which is essential to incorporate your information on the *Quarterly Aquatic Animal Disease Report (Asia and Pacific Region.)*

If you have new aquatic animal health regulations introduced within the past six months, please describe them under Section 2 on page 2.

Please use the following symbols to fill in the forms.

A. Symbols used for negative occurrence are as follows:

*** This symbol means that no information on a disease in question is available due to reasons such as lack of surveillance systems or expertise.

- This symbol is used when a disease is not reported during a reporting period. However the disease is known to be present in the country (date of last outbreak is not always known).

0000 This symbol is used when disease surveillance is in place and a disease has never been reported.

(year) Year of last occurrence (a disease has been absent since then).

B. Symbols used for positive occurrence are shown below.

+ This symbol means that the disease in question is reported or known to be present.

+? This symbol is used when the presence of a disease is suspected but there is no recognised occurrence of clinical signs of the disease in the country. Serological evidence and isolation of the causal agent may indicate the presence of the disease, but no confirmed report is available. **It is important that the species of animals to which it applies is indicated in the "Comments" on page 2 of the form if you use this symbol**.

+( ) These symbols mean that a disease is present in a very limited zone or zones as exceptional cases. It may also include the occurrence of a disease in a quarantine area.

? This symbol is used only when a disease is suspected by the reporting officer, but the presence of the disease has not been confirmed.

[1] Regional Advisory Group on Aquatic Animal Health (AG)

C. Levels of Diagnosis

LEVEL	SITE	ACTIVITY
I	Field	Observation of animal and the environment Clinical examination
II	Laboratory	Parasitology Bacteriology Mycology Histopathology
III	Laboratory	Virology Electron microscopy Molecular biology Immunology

D. Subjects to be covered in the Epidemiological Comments

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

IMPORTANT

Please send the **original report** or the best photocopy thereof to the OIE and/or NACA **by fax** and **registered airmail**. Faxed reports are needed to check whether or not the reports are all right. The deadline for submission of the reports is **two and a half months (75 days)** after the end of the quarterly period.

If you require further explanation, please write to the OIE (Tokyo), NACA (Bangkok) or FAO (Rome) at the following addresses, respectively:

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