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QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

April-June 2009

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Foreword

National Aquatic Animal Health Strategies

The importance of developing and implementing simple and practical national aquatic animal health strategies have been stressed time and again. Some of the countries in the region have made good progress and are implementing very effective national strategies to contain the introduction and spread of infectious aquatic animal pathogens. However, several countries in the region are yet to implement effective national strategies. The national strategic plan normally provides the basic framework and principles on which to implement a comprehensive health management strategy. The strategic plan covers most of the issues that needs to be implemented at the farm/state/national level. The national strategic plan usually identifies the roles and responsibilities of different stakeholders at the state and national levels. The following section provides a brief insight into some of the key components that are essential in a national strategy.

1 Competent Authority (CA):
A CA as mentioned in the OIE's *Aquatic Animal Health Code* means the National Veterinary Services, or other Authority of a Member Country, having the responsibility and competence for ensuring or supervising the implementation of the aquatic animal health measures recommended in the OIE's *Aquatic Animal Health Code* (e.g. issuing health certificates, disease surveillance and reporting, quarantine, risk analysis, zoning). Key institutions identified under the CA should have the capacity and expertise to develop national policy and legislation and support implementation of various elements contained in the national strategies on aquatic animal health management and bio-security. The CA must ensure effective networking and communication with relevant institutions and stakeholders for the purpose of implementing effective national aquatic animal health strategies.

2 Legislative Support:
Legislative support in the form of written legal documents outlining the powers of CA to facilitate implementation of national aquatic animal health strategies, is very important. The laws in aquatic animal health should cover aquatic animal movement, import-export, quarantine and health certification procedure, destruction of diseased stock, compensation, etc. Countries that have environmental or conservation policies or regulations, which impact upon the movement of live aquatic animals, must take these policies and regulations into consideration when framing separate aquatic animal health protection legislation. Legislation that covers aquatic animal health issues must also clearly address jurisdictional responsibility and ensure that it is consistent with international standards and obligations (e.g., the OIE's *International Aquatic Animal Health Code* and the World Trade Organization's *Agreement on the Application of Sanitary and Phytosanitary Measures* (SPS Agreement)).

3 National Advisory Committee:
The National Advisory Committee for Aquatic Animal Health is a forum for communication and coordination among government, academia, industry, private sector and other concerned groups for consideration of issues of aquatic animal health, disease control, and welfare. The objective of establishing a national advisory committee is to provide a formal mechanism to drive the process of national strategy development and implementation. Members of such a

committee should have a broad understanding of the concept of health management. They should be also aware of the negative consequences of not having a national strategy on national economies, trade and livelihood of fish farmers. Among others, the benefits of having national committee include:

- It highlights the importance a country places on aquatic animal health;
- It provides a formal framework and process to drive the development and implementation of national strategy;
- It identifies roles and responsibilities of different stakeholders;
- It ensures some degree of implementation of aquatic animal health programmes
- It provides for wider participation and ownership to different institutions

4 National List of Diseases:

The National List of diseases is a tool to collate and disseminate information on diseases of national importance for the purpose of developing national disease control strategies, and complying with regional and international disease reporting requirements. Having a National List of diseases, allows the development of national strategies (e.g. surveillance, contingency planning) around some of these diseases. While developing a national list, considerations must be given to some of the following key criteria:

- Cultured and traded species in the country
- Economic impact of diseases on farmers and national economy
- Diseases exotic to the country
- Diseases present in neighboring countries in view of shared water sheds and porous land boarders; and
- Existing international (OIE) and regional (QAAD) disease lists

5 Surveillance and Disease Reporting:

Surveillance is defined as a systematic collection, analysis and dissemination of health information of a given population of aquatic animals and is an ongoing process involving handling of health information from different sources, including surveys. Surveillance is not same as surveys. Passive (general) surveillance is the collection, analysis and dissemination of existing disease information. It includes all the routine disease investigation activities that may be undertaken in a country/state such as field investigations of disease incidents and results of laboratory testing. It is important that passive surveillance is undertaken on a continuous basis throughout a country/state and that the disease information produced is effectively captured, analyzed and used for mounting an early response. Active surveillance (targeted surveillance) refers to active collection of disease data following a structured surveillance design, often targeting specific diseases. Active surveillance collects specific information about a defined disease or condition so that its level in a defined population can be measured or its absence reliably substantiated. Disease surveillance should be an integral and key component of all national aquatic animal health strategies. This is important for early warning of diseases, planning and monitoring of disease control programs, provision of sound aquatic animal health advice to farmers, certification of exports, international reporting and verification of freedom from diseases. It is particularly vital for animal disease emergency preparedness. Information generated from surveillance systems must be housed in a national database, from where the CA will be able to make use of the surveillance data for the purpose of implementing national disease control programs or for meeting regional and international disease reporting obligations.

Implementation of surveillance systems will directly and indirectly contribute to improved disease diagnosis, better research collaborations, reliable advice to primary producers, capacity building at the level of extension workers and primary producers, development of an early warning and emergency preparedness system.

Disease reporting and information sharing can go a long way in minimizing the impact of serious aquatic animal health emergencies. By international agreement, diseases listed by the OIE should be reported by member countries and are subject to specified health measures that are intended to limit disease spread and assure sanitary safety of international trade in aquatic animals and their products. The NACA/FAO/OIE Quarterly Aquatic Animal Disease (QAAD - Asia-Pacific) reporting system lists all diseases listed by the OIE plus diseases of concern to the region. The information generated through the regional reporting system, participated by 21 countries, provides information on important diseases in the Asia-Pacific region and also serves as an early warning system for emerging pathogens (e.g. KHV, TSV).

6 Emergency Preparedness and Contingency Planning:
A disease emergency exists when a population of aquatic animals is recognized as undergoing severe mortality events, or there is otherwise an emerging disease threat where urgent action is required. Infectious disease emergencies may arise in a number of ways, including: introductions of known exotic diseases, sudden changes in the pattern of existing endemic diseases, or the appearance of previously unrecognized diseases.

A contingency plan is an agreed management strategy and set of operational procedures that would be adopted in the event of an aquatic animal disease emergency. This should be developed during "peace time" (i.e. not at time of emergencies). When there is an emergency, the response should proceed according to the plans that have been developed. For effectively dealing with aquatic animal health emergencies, governments should have the capability to develop contingency plans and build the required operational capacity to effectively implement the plan. Through a well-documented contingency action plan agreed upon by all major stakeholders, it would be possible to minimize the impact of an aquatic animal disease emergency. Mere establishment of contingency plan without appropriate skills and capacity development would be of little value.

The aim of early warning is to allow the recognition of a potential threat and a rapid detection of a disease emergency. For establishing an effective early warning program, a strong technical capability is fundamental in the areas of disease diagnostics, disease surveillance, epidemiological analysis, aquatic animal health information systems, national and international disease reporting and information communication and sharing. Early response is identified as all actions that would be targeted at rapid and effective eradication/containment/mitigation of an emergency disease outbreak. The responses may be of different types depending on the disease agent and the likely impact. Operational capabilities at different levels (farm/village/province/national) is vital to mount an effective early response.

7 Quarantine and Health Certification:
Quarantine is defined as maintaining a group of live aquatic animals in isolation with no direct contact with other aquatic animals, in order to undergo observation for a specified length of time and, if appropriate, conducting tests and treatment, including proper treatment of the waste waters. Quarantine process involves pre-border, border and post-border activities including, pre-movement certification, movement, confinement on arrival, checking during

confinement, releases, and subsequent monitoring as appropriate. The purpose of applying quarantine measures is to facilitate trans-boundary trade in living aquatic animals, while minimizing the risk of spreading infectious diseases. An effective system of quarantine measures also increases protection of surrounding resources (e.g., harvest fisheries, non-exploited species and other components of the environment).

Health Certificate is a certificate issued by the Competent Authority of the exporting country attesting to the health status of a consignment of live aquatic animals. A Health Certificate is a legal document which is used especially for the purpose of applying quarantine measures in trans-boundary trade of live aquatic animals and their products, for minimizing the risk of spread of infectious diseases. Health certification is also one of the strategies aimed to protect the natural environment and native fauna from the deleterious impacts of exotic species and/or diseases. Because of the diversity of species, the purposes for which the aquatic animals are being traded (import-export, local market), and other variable factors, HC should be comprehensive and be able to accommodate all the required information. Model health certificates are provided in the OIE Code

8 Import Risk Analysis:

The importation of live aquatic animals always involves a degree of disease risk to the importing country. Import Risk Analysis (IRA) is the process by which hazards (e.g. pathogens) associated with the introduction of a particular animal are identified, the paths and likelihood of introduction and establishment are described, consequences are defined and management options are assessed. The results of these analyses are communicated to the Competent Authority and stakeholders (Importer/exporter). Typical risk analysis process involves four components: hazard identification, risk assessment, risk management and risk communication. Import decisions based on scientific risk analysis will minimize the risk of introducing exotic pathogens to the country.

9 Zoning:

Zoning is a program for delineating areas within countries on the basis of aquatic animal disease status. The advantage of zoning is that it allows for part of a nation's territory to be identified as free of a particular disease, rather than having to demonstrate that the entire country is free. In the past, outbreaks of disease could impact on trade from the entire country, but by zoning, restrictions may only apply to animals and products from the infected area. Zoning is particularly helpful for diseases where eradication is not a feasible option.

Reports Received by the NACA Secretariat

Country: AUSTRALIA **Period: April-June 2009**

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	-(2008)	-(2008)	-(2008)		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	+	-(2009)	+	II	2
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8.Grouper iridoviral disease	0000	0000	0000		
9.Viral encephalopathy and retinopathy	-(2009)	+	-(2009)	II	3
10.Enteric septicaemia of catfish	-(2008)	-(2008)	-(2008)		4
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-(2009)	-(2009)	-(2009)		5
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	***	***	***		
6.Akoya oyster disease	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	0000	0000	0000		
3. Yellowhead disease	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-(2008)	-(2008)	-(2008)		6
5. Infectious hypodermal and haematopoietic necrosis	-(2008)	-(2008)	-(2008)		7
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
7. Infectious myonecrosis	0000	0000	0000		
8.White tail disease (MrNV)	-(2008)	-(2008)	-(2008)		8
9. Necrotising hepatopancreatitis	***	***	***		
10. Hepatopancreatic parvo virus disease	***	***	***		
11. Mourilyan disease	***	***	***		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	0000	0000	0000		
13. Milky lobster disease	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	-(2008)	-(2008)	-(2008)		9
2. Infection with *Batrachochytrium dendrobatidis*	-(2009)	-(2009)	-(2009)		10

ANY OTHER DISEASES OF IMPORTANCE					
1. Infection with abalone herpes-like virus	+	+	+	II	11
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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, but is known to occur annually in the Australian Capital Territory (last year reported 2008). Not reported this period despite passive surveillance, but 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.

2	**Epizootic Ulcerative Syndrome** 1. **Reported in Queensland** in April 2009. Passive surveillance; 2. **In** –wild mullet (*Myxus sp.*); 3. **Clinical signs-** 1cm deep haemorrhagic ulcer on the caudal peduncle; 4. **Pathogen-** *Aphanomyces invadans*; 5. **Mortality rate-** not applicable; 6. **Economic loss-** not applicable; 7. **Geographic extent-**single fish from Victoria Creek, Forest Beach submitted by a recreational fisher; 8. **Containment measures-** not applicable; 9. **Laboratory confirmation-** Lesions had granulomatous dermatitis and myositis with granuloma formation around deeply penetrating fungal hyphae (GMS positive), typifying infection with *Aphanomyces invadans*; 10. **Publications-** unpublished. 1. **Reported in New South Wales** in June 2009. Passive surveillance; 2. **In** – a) wild yellowfin bream (*Acanthopagrus australis*) and b) wild mullet (Mugilidae); 3. **Clinical signs-** gross lesions consistent with EUS; 4. **Pathogen-** *Aphanomyces invadans*; 5. **Mortality rate-** none reported; 6. **Economic loss-** not known; 7. **Geographic extent-** a) i. Port Stephens and Clarence River, ii. Richmond River, (b) i. Clarence River, ii. Manning River; 8. **Containment measures-** not applicable, endemic; 9. **Laboratory confirmation-** diagnosed by a) i. and b) i. histopathology using Grocott Gomeris silver stain, a) ii. and b) ii. gross signs only; 10. **Publications-** unpublished. Epizootic ulcerative syndrome was not reported during this period despite targeted surveillance, but is known to have occurred previously in South Australia (last year reported 2008). Not reported during this period despite passive surveillance, but is known to have occurred previously in Northern Territory (last year reported 2006), Western Australia where it is considered to be endemic (last year reported 2005) and Victoria (last year reported 2002). Passive surveillance and never reported in Tasmania. No information available in the Australian Capital Territory.
3	**Viral Encephalopathy and Retinopathy** 1. **Reported in Queensland** in May 2009. Active surveillance; 2. **In-** 30 day old barramundi (*Lates calcarifer*) fry; 3. **Clinical signs-**nil reported; 4. **Pathogen-** Betanodavirus; 5. **Mortality rate-**nil; 6. **Economic loss-** nil; 7. **Geographic extent-** single batch submitted for pre-translocation health test; 8. **Containment measures-** none, endemic; 9. **Laboratory confirmation-** diagnosed by histopathology; 10. **Publications-** unpublished. Viral encephalopathy and retinopathy was not reported this period despite targeted surveillance from South Australia (last year reported 2004). Not reported this quarter despite passive surveillance from Northern Territory and New South Wales (last year reported 2008), Western Australia (last year reported 2005) and Tasmania (last year reported 2000). Never reported from Victoria despite passive surveillance. No information available this period (no monitoring) in the Australian Capital Territory.
4	Enteric septicaemia of catfish was not reported this quarter despite passive surveillance but is known to have occurred previously in Queensland (last year reported 2008) and in Tasmania in zebrafish (*Brachydanio rerio*) in PC2 containment (last year reported 2001). Never reported in New South Wales, Northern Territory, South Australia and Victoria despite passive surveillance. No information available this period (no monitoring) in the Australian Capital Territory and Western Australia.
5	Infection with *Perkinsus olseni* was not reported this quarter from Western Australia despite targeted surveillance (last year reported 2003). Not reported this period despite passive surveillance from South Australia (last reported 1st quarter 2009), 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	Spherical baculovirosis was not reported this period despite passive surveillance but is known to have occurred previously in Queensland (last year reported 2008), 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).
7	Infectious hypodermal and haematopoietic necrosis virus was not reported this period despite passive surveillance but is known to have occurred previously in Queensland (last year reported 2008) and Northern Territory (last year reported 2003). Never reported in Western Australia despite targeted surveillance. Passive surveillance and never reported in New South Wales, South Australia and Victoria. No information available in Australian Capital Territory (no marine responsibility) and Tasmania (susceptible species not present).
8	White tail disease was not reported this period from Queensland despite passive surveillance (last year reported 2008). Passive surveillance and never reported from New South Wales and South Australia. No information available this period (no monitoring) in the Australian Capital Territory, Northern Territory, Tasmania (susceptible species not present), Victoria and Western Australia.
9	Infection with ranavirus was suspected but not confirmed despite passive surveillance in Queensland. Not reported this period despite passive surveillance but known to have occurred previously in the Northern Territory (reported to have occurred in 2008). Passive surveillance and never reported in Tasmania. No information available this period (no monitoring) in the Australian Capital Territory, New South Wales, South Australia, Victoria and Western Australia.
10	Infection with *Bachtracochytrium dendrobatidis* was not reported this period despite targeted surveillance but is known to have occurred previously in Tasmania (last reported 1st quarter 2009). Not reported this period despite passive surveillance but is known to have occurred previously in Western Australia (reported to have occurred in 2008). Suspected but not confirmed this period despite passive surveillance in Queensland. No information available this period (no monitoring) in the Australian Capital Territory, New South Wales, Northern Territory, South Australia and Victoria.
11	Infection with abalone herpes-like virus was reported this period in Victoria in wild (but not farmed) abalone in a small area of the central fishing zone (passive surveillance). Not reported this period despite targeted surveillance but is known to have occurred previously in Tasmania (last year reported 2008). Passive surveillance and never reported in Queensland, New South Wales, South Australia and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility) and Northern Territory.

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

Country: BANGLADESH **Period: January-March 2009**

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	-	-	+	II	1
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8.Grouper iridoviral disease	0000	0000	0000		
9.Viral encephalopathy and retinopathy	0000	0000	0000		
10.Enteric septicaemia of catfish	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 *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
6.Akoya oyster disease	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	-	-	+	lll	2
3. Yellowhead disease	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		
7. Infectious myonecrosis	0000	0000	0000		
8.White tail disease (MrNV)	0000	0000	0000		
9. Necrotising hepatopancreatitis	0000	0000	0000		
10. Hepatopancreatic parvo virus disease	0000	0000	0000		
11. Mourilyan disease	0000	0000	0000		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	0000	0000	0000		
13. Milky lobster disease	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	EUS was reported in *Anabas testudineus* (Thai variety) fingerlings during March in greater Mymensingh district. Symptoms recorded were less appetite, tail rot, lesion on the caudal and dorsal region. Mortality rate was 20%.
2	White spot disease outbreak was reported from Mongla, Sundarbon and other Southern part of the country. Symptoms were reddish coloration, weak and lethargic movement sometimes idly lay down on ground and high mortality was reported during March. However, experts opined that due to continued high temperature and faulty management practices in the gher are also responsible for high mortality of *P monodon* pl.

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

Country: BANGLADESH **Period: April-June 2009**

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	-	-	+		
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	***	***	***		
Non OIE-listed diseases					
8.Grouper iridoviral disease	***	***	***		
9.Viral encephalopathy and retinopathy	***	***	***		
10.Enteric septicaemia of catfish	***	***	***		
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 *Marteilioides chungmuensis*	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
6.Akoya oyster disease	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	+	+	-	lll	1
3. Yellowhead disease	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
7. Infectious myonecrosis	***	***	***		
8.White tail disease (MrNV)	***	***	***		
9. Necrotising hepatopancreatitis	***	***	***		
10. Hepatopancreatic parvo virus disease	***	***	***		
11. Mourilyan disease	***	***	***		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	***	***	***		
13. Milky lobster disease	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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+	Disease reported or known to be present	+( )	Occurrence limited to certain zones
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?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	Report came from Cox's Bazar, South eastern part of the country that white spot disease was found in P.monodon during April and May. Mortality rate was observed as 20%
2	

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

Country: HONG KONG **Period: April-June 2009**

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	III	
5. Epizootic ulcerative syndrome	0000	0000	0000	II	
6. Red seabream iridoviral disease	-	-	-	III	
7. Koi herpesvirus disease	-	-	-	III	
Non OIE-listed diseases					
8.Grouper iridoviral disease	-	-	+	III	1
9.Viral encephalopathy and retinopathy	-	-	+	III	2
10.Enteric septicaemia of catfish	0000	0000	0000	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	0000	0000	0000	II	
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	
5. Acute viral necrosis (in scallops)	0000	0000	0000		
6.Akoya oyster disease	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	III	
2. White spot disease	-	+	-	III	3
3. Yellowhead disease	0000	0000	0000	III	
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	
7. Infectious myonecrosis	0000	0000	0000	II	
8.White tail disease (MrNV)	0000	0000	0000	II	
9. Necrotising hepatopancreatitis	0000	0000	0000		
10. Hepatopancreatic parvo virus disease	0000	0000	0000		
11. Mourilyan disease	0000	0000	0000		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	0000	0000	0000	II	
13. Milky lobster disease	0000	0000	0000	II	
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	Two batches of green groupers from a local fish farm had mortality of 15% since 16/6/09. Apart from sudden death, no other clinical signs were detected. No treatment was given
2	Giant grouper fries at a local farm began showing clinical signs one week after they were imported. Morbidity rate was 75% and mortality was low. Clinical signs include-darkening of body, swollen abdomen, skin lesions and erratic swimming. Nervous necrosis virus was detected in the eyes and brain using PCR test
3	White spot syndrome virus was detected in red lobsters in routine sampming program
4	

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

Country: INDIA **Period: April-June 2009**

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	-	-	-		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8.Grouper iridoviral disease	0000	0000	0000		
9.Viral encephalopathy and retinopathy	0000	0000	0000		
10.Enteric septicaemia of catfish	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 *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
6.Akoya oyster disease	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+( )	+( )	+( )	1	1
3. Yellowhead disease	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
7. Infectious myonecrosis	0000	0000	0000		
8.White tail disease (MrNV)	-	-	-		
9. Necrotising hepatopancreatitis	0000	0000	0000		
10. Hepatopancreatic parvo virus disease	0000	0000	0000		
11. Mourilyan disease	0000	0000	0000		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	0000	0000	0000		
13. Milky lobster disease	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	Very limited occurrence was reported from some culture ponds in the area of Uttara Kannada and Udupi districts of Karnataka and small parts of Andhra Pradesh.
2	
3	
4	

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

Country: INDONESIA **Period: April-June 2009**

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	***	***	***		
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	-	-	+	III	1
Non OIE-listed diseases					
8.Grouper iridoviral disease	***	+	+	III	2
9.Viral encephalopathy and retinopathy	+	+	***	III	3
10.Enteric septicaemia of catfish	***	***	***		
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	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
6.Akoya oyster disease	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	+	+	+	III	4
2. White spot disease	+	+	+	III	5
3. Yellowhead disease	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	6
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
7. Infectious myonecrosis	+	+	+	III	7
8.White tail disease (MrNV)	***	***	***		
9. Necrotising hepatopancreatitis	***	***	***		
10. Hepatopancreatic parvo virus disease	***	***	***		
11. Mourilyan disease	0000	0000	0000		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	***	***	***		
13. Milky lobster disease	***	***	***		
AMPHIBIAN DISEASES	0000	0000	0000		
OIE-listed diseases					
1. Infection with Ranavirus					
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
	0000	0000	0000		

ANY OTHER DISEASES OF IMPORTANCE					
1. Edwardsiella tarda	-	-	+	III	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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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.)

1	1) Occured at several cage and pond culture. Temperature decline and environmental degradation are factors for mortality of finngerling and consumable size; 2) Species affected : .*Cyprinus carpio* 3) Clinical sign : irritation , hemorrhage, color of gill is pale and lesions on skin surface and mouth 4) Pathogen : Koi herpesvirus 5) Mortality rate : low (5%) to high (more than 70%) 6) Economic loss : no information available 7) Names of infected areas : West Java (Cirata Dam – Cianjur District); South Kalimantan (Balangan Distric); Jambi (Kerinci Lake), East Kalimanatn (Paser District), West Sumatra (Sawahlunto District) 8) Preventive/control measures : Eradicated of infected fish, added immunostimulan (vitamin C , Cromium yeast) on feed 9) Samples were analyzed at National Laboratory by PCR 10) Not Publised
2	1) Occured at marine cage culture for fingerling and consumable size; 2) Species affected : Polkadot grouper (*Cromileptes altivelis*), and Tiger grouper (*Epinephelus fuscoguttatus*) 3) Clinical sign : abnormally swim at surface, lesions on the surface skin; 4) Pathogen : Grouper iridoviral disease; 5) Mortality rate : low (5-10%) 6) Economic loss : not significant 7) Names of infected areas : Lampung (Hurun Bay, Tarahan District, Tanjung Putus District) 8) Preventive/control measures: 9) Samples were analyzed at National Laboratory by PCR 10) Not Publised
3	1) Occured at marine cage culture and found for seed and consumable size; 2) Species affected : Polkadot grouper (*Cromileptes altivelis*), and Tiger grouper (*Epinephelus fuscoguttatus*) 3) Clinical sign : lesions at body and fin 4) Pathogen : Viral encephalopathy and retinopathy 5) Mortality rate : low (10%) 6) Economic loss : not significant 7) Names of infected areas : Lampung (Puhawang Island, Tanjung Putus, and Tarahan District), East Java (Situbondo District) 8) Preventive/Control measures: 9) Samples were analyzed at National Laboratory by PCR 10) Not Published
4	1) Occured at growout pond (brakishwater pond) with intensive and semi intensive technology;

	2) Species affected :White shrimp (*Litopeneaus vanamei*) 3) Clinical signs: necrosis at uropoda, melanization at cuticula, low apetite 4) Pathogen : Taura Syndrome Virus 5) Economic loss : no information available 6) Mortality rate : low (< 30%) 7) Name of infected area : East Java (Situbondo and Tuban District); 8) Preventive/control measures: using the healthy seed, avoid the seed from stressor, adding vitamin C on feed 9) Samples were analyzed at National Laboratory by PCR 10) Not published
5	1) IOccured at pondculture (brakishwater pond) with intensive and semi intensive technology 2) Species affected: White shrimp (*Liptopenaeus vannamei*) 3) Clinical sign: white spot on carapace, shrimp becoming weak and swimming on the surface, low apetite 4) Pathogen : White Spot Syndrome Virus 5) Mortality rate : high (> 70%) 6) Economis loss : no information available 7) Infected area: East Java (Situbondo, Sampang and Banyuwangi District), South Sulawesi (Barru and Takalar District), East Kalimantan (Balikpapan District), Lampung (East Lampung District); 8) Preventive/Control measurement : using the healthy seed or SPF, avoid the seed from stressor. 9) Samples were analyzed at National Laboratory by PCR 10) Not published
6	1) Occured at hatchery and pond culture 2) Species affected : White shrimp (*Liptopenaeus vannamei*) seed and Tiger prawn (*Penaeus mononon*) at consumable size 3) Clinical sign : Low and abnormal growth (very small size/dwarf) 4) Pathogen : Infectious Hypodermal and Haematophatic Necrosis Virus 5) Mortality rate : low (<30%) 6) Economic loss : not significant, because shrimp can persist until harvest 7) Preventive / control measurement : using the healthy seed or SPF (screening by PCR), avoid the seed from stressor; aplication of Good Aquaculture Practices 8) Name of infected area : East Java (Situbondo and Banyuwangi District), South Sulawesi (Pinrang and Barru District), and Bali 9) Samples were analyzed at National Laboratory by PCR 10) Not published
7	1) Occured at pond culture with intensive technology 2) Species affected : White shrimp (*Liptopeneaus vanamei*) 3) Clinical sign : low apetite, necrosa at muscle (abdomen and tail) show whitish at firstly symptopm, for some cases the color become redish; 4) Pathogen : Infectious Myonecrosis Virus 5) Mortality rate : medium to high (30 - >70%) 6) Economic loss : no information available 7) Prevetive/ Controlmeasures taken : water treatment with probiotics , early harvest . 8) Infected area : Lampung (Pesawaran and South Lampung District), East Java (Situbondo District), and Bali 9) Samples were analyzed at National Laboratory 10) Not published
8	1) Occured at cage culture at inland waters (river); Fluctuation of water quality is one of factors for disease outbreak 2) Species affected : Nile (*Oreochromis niloticus)*, catfish (Claroas batrachus and pangasius hypophthalmus) 3) Clinical sign : small lesions, dropsy and exopthalmus. 4) Pathogen : *Edwarsiella tarda* 5) Mortality rate : low to medium (30 - 50%) 6) Economic loss : no information available 7) Prevetive/ Controlmeasures taken : adding herbal medicine on feed 8) Samples were analyzed at National Laboratory 9) Not published

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

Country: IR IRAN **Period: April-June 2009**

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	-	-	-		
3. Spring viraemia of carp	-	-	-		
4. Viral haemorrhagic septicaemia	-	-	-		
5. Epizootic ulcerative syndrome	0000	0000	0000		
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8.Grouper iridoviral disease	***	***	***		
9.Viral encephalopathy and retinopathy	0000	0000	0000		
10.Enteric septicaemia of catfish	***	***	***		
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 *Marteilioides chungmuensis*	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
6.Akoya oyster disease	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	-	-	-		
3. Yellowhead disease	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		
7. Infectious myonecrosis	***	***	***		
8.White tail disease (MrNV)	***	***	***		
9. Necrotising hepatopancreatitis	***	***	***		
10. Hepatopancreatic parvo virus disease	***	***	***		
11. Mourilyan disease	***	***	***		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	***	***	***		
13. Milky lobster disease	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	
3	
4	

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

Country: JAPAN **Period: April-June 2009**

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	-	-	-	I	
6. Red seabream iridoviral disease	-	+	+	III	
7. Koi herpesvirus disease	-	+	+	III	
Non OIE-listed diseases					
8.Grouper iridoviral disease	0000	0000	0000	I	
9.Viral encephalopathy and retinopathy	-	-	+	III	
10.Enteric septicaemia of catfish	-	-	-	I	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	I	
2. Infection with *Perkinsus olseni*	-	-	-	I	
3. Abalone viral mortality	0000	0000	0000	I	
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	+	+	+	II	
5. Acute viral necrosis (in scallops)	0000	0000	0000	I	
6.Akoya oyster disease	-	-	-	I	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	I	
2. White spot disease	-	-	-	I	
3. Yellowhead disease	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	
7. Infectious myonecrosis	0000	0000	0000	I	
8.White tail disease (MrNV)	0000	0000	0000	I	
9. Necrotising hepatopancreatitis	0000	0000	0000	I	
10. Hepatopancreatic parvo virus disease	0000	0000	0000	I	
11. Mourilyan disease	0000	0000	0000	I	
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	0000	0000	0000	I	
13. Milky lobster disease	0000	0000	0000	I	
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	-	-	-	I	
2. Infection with *Batrachochytrium dendrobatidis*	-	-	-	I	

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	
3	
4	

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

Country: LAO PDR **Period: April-June 2009**

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	***	***	***		
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	***	***	***		
Non OIE-listed diseases					
8.Grouper iridoviral disease	***	***	***		
9.Viral encephalopathy and retinopathy	***	***	***		
10.Enteric septicaemia of catfish	***	***	***		
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 *Marteilioides chungmuensis*					
5. Acute viral necrosis (in scallops)					
6.Akoya oyster disease					
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome					
2. White spot disease					
3. Yellowhead disease					
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)					
5. Infectious hypodermal and haematopoietic necrosis					
6. Tetrahedral baculovirosis (*Baculovirus penaei*)					
7. Infectious myonecrosis					
8.White tail disease (MrNV)					
9. Necrotising hepatopancreatitis					
10. Hepatopancreatic parvo virus disease					
11. Mourilyan disease					
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome					
13. Milky lobster disease					
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	
3	
4	

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

Country: MALAYSIA **Period: April-June 2009**

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	(1986)	(1986)	(1986)		
6. Red seabream iridoviral disease	+?	+?	+?		
7. Koi herpesvirus disease	(2008)	(2008)	(2008)	I,II, III	1
Non OIE-listed diseases					
8.Grouper iridoviral disease	+	+	+	I,II,III	2
9.Viral encephalopathy and retinopathy	+	-	-	I,II,III	3
10.Enteric septicaemia of catfish	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 *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
6.Akoya oyster disease	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	-	-	-	I,III	4
2. White spot disease	-	+()	-	I,III	5
3. Yellowhead disease	-	-	-	I,III	
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	-	-	-	I,III	6
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
7. Infectious myonecrosis	0000	0000	0000		
8.White tail disease (MrNV)	-	-	-		
9. Necrotising hepatopancreatitis	0000	0000	0000		
10. Hepatopancreatic parvo virus disease	0000	0000	0000		
11. Mourilyan disease	0000	0000	0000		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	-	-	-	I, III	
13. Milky lobster disease	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		

ANY OTHER DISEASES OF IMPORTANCE					
1.Steptococcal infection	+	+	+		7
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	**Koi herpesvirus disease** KHV was not detected during this period besides passive and active surveillance done by NaFisH and Biosecuity division, DOF Malaysia. Last detection was in August 2008, during active surveillance conducted by NaFisH, but without clinical signs
2	**Grouper iridoviral diseases** GIV was detected in sea bass imported from Indonesia and cultured in ponds at Kedah. No clinical signs observed
3	**Viral Nervous Necrosis (VNN)** VNN was not reported or detected during this period besides active and passive surveillance done by the DOF Malaysia
4	**Taura Syndrome Virus (TSV)** 1. TSV was not detected during active surveillance in both the tiger shrimp, Penaeus monodon and local white shrimp, Penaeus merguensis using PCR analysis for the SPF program at Brackishwater Aquaculture Research Centre (BARC) 2. TSV were not reported in East Malaysia during this period despite passive and active surveillance done by the Department of Fisheries, Malaysia
5	**White spot syndrome virus** 1. WSSV was detected in Penaeus monodon and Penaeus merguensis broodstocks kept at Brackishwater Aquaculture Research Centre (BARC). The broodstocks were to be used for the SPF program. However, no clinical signs were observed but all the infected stocks were disposed off with chlorine before being buried. Laboratory confirmatory diagnosis were done by BARC, Gelang Patah 2.. WSSV were not reported in Sarawak during this period despite passive and active surveillance on paenaied shrimp done by the Department of Fisheries, Malaysia

6	**IHHNV** 1. IHHNV was not detected during active surveillance on the tiger shrimp, Penaeus monodon and local white shrimp, Penaeus merguensis broodstocks in the SPF program at Brackishwater Aquaculture Research Centre (BARC). 2. IHHNV was not reported in East Malaysia during this period despite passive and active surveillance on paenaied shrimp done by the Department of Fisheries, Malaysia
7	Streptococcal Infection Disease outbreaks and reports of mortality were gathered in 4 different states at Pahang, Perak, Selangor and Penang in West Malaysia. Samples taken and examined by NaFisH, FRI, Batu Maung. 1. Clinical signs-erratic, exophthalmia or other abnormal clinical signs of the eye, inflamed at ventral region 2. pathogen-Steptococcus agalactiae 3/ Mortality rate- 40-50% 4. Economic loss-more than RM 50,000/farm 5. Geographic extent-in most floating cages of lakes and rivers 6. Laboratory confirmation-API 20E STREP 7. Publications-lab reports made to farms

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

Country: MYANMAR **Period: April-June 2009**

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					
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	***	***	***		
Non OIE-listed diseases					
8.Grouper iridoviral disease	***	***	***		
9.Viral encephalopathy and retinopathy	***	***	***		
10.Enteric septicaemia of catfish	***	***	***		
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 *Marteilioides chungmuensis*					
5. Acute viral necrosis (in scallops)					
6.Akoya oyster disease					
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	-	-	-	III	
2. White spot disease	-	-	-	III	
3. Yellowhead disease	-	-	-	III	
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	-	-	-	III	
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
7. Infectious myonecrosis	***	***	***		
8.White tail disease (MrNV)	***	***	***		
9. Necrotising hepatopancreatitis	***	***	***		
10. Hepatopancreatic parvo virus disease	***	***	***		
11. Mourilyan disease	***	***	***		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	***	***	***		
13. Milky lobster disease	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus					
2. Infection with *Batrachochytrium dendrobatidis*					

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	
3	

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

Country: PHILIPPINES **Period: April-June 2009**

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	-	-	-		
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	0000	0000	0000	III	1
Non OIE-listed diseases					
8.Grouper iridoviral disease	-	-	+	III	2
9.Viral encephalopathy and retinopathy	-	-	-	III	3
10.Enteric septicaemia of catfish	***	***	***		
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	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	***	***	***		
6.Akoya oyster disease	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	III	4
2. White spot disease	+	+	+	III	5
3. Yellowhead disease	-	-	-	III	6
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	-	-	+	III	7
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
7. Infectious myonecrosis	0000	0000	0000	III	8
8.White tail disease (MrNV)	***	***	***		
9. Necrotising hepatopancreatitis	0000	0000	0000	III	9
10. Hepatopancreatic parvo virus disease	-	-	-		
11. Mourilyan disease	***	***	***		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	***	***	***		
13. Milky lobster disease	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases	***	***	***		
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	Gill samples from seven (7) koi carp (*Cyprinus carpio koi*) collected from koi shops in Quezon City were analyzed using the PCR test and showed negative results for Koi herpesvirus. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
2	Thirty-nine (39) grouper [*Epinephelus spp.*] samples gathered from Zambales, Quezon Province and Camarines Sur were analyzed by PCR test. Nineteen (19) out of the thirty-nine (39) samples showed a positive result for Grouper iridovirus (eight [8] from Quezon Province and eleven [11] from Camarines Sur). Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
3	All seventy-three (73) samples (10 milkfish [*Chanos chanos*], 35 grouper [*Epinephelus spp*.] and 28 pompano [*Trachinotus spp.*]) collected from Zambales, Bataan, Quezon Province and Camarines Sur showed negative results for Viral encephalopathy and retinopathy using PCR test. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
4	Twenty-five (25) samples of *P. vannamei* of different stages (nauplii, juvenile, post larval and adult) from Zambales, Quezon City, Dagupan City, Bohol and Iloilo were examined by PCR test and all showed negative results for Taura syndrome. Examination/tests were conducted by the BFAR Central Office Fish Health Laboratory.
5	Two hundred sixty-eight (268) samples (13 crabs, 255 shrimps) of different stages (fry, nauplii, juvenile, post larval, grow-out and adult) collected from Zambales, Quezon City, Dagupan City, Bulacan, Cebu, Bohol, Iloilo, Quezon Province and Bacolod were analyzed using PCR test. From the two hundred sixty-eight (268) collected samples, twenty-two (22) shrimp samples (5 from Zambales, 2 from Iloilo, 1 from Quezon Province and 14 from Bacolod) showed a positive result for White spot disease. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory and NPPMCI Laboratory.

6	Eight (8) samples of *P. monodon* of adult and grow-out stages collected from Cebu and Bulacan were analyzed and all showed negative results for Yellowhead disease using PCR test. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
7	Seventeen (17) samples (7 *P. monodon* and 10 *P. vannamei*) of different stages (juvenile, post larval and adult) collected from Cebu, Bohol, Iloilo, Zambales, Quezon Province and Batangas were analyzed using PCR test. Seven (7) out of the seventeen (17) samples (5 *P. vannamei* from Zambales and 2 *P. monodon* from Quezon Province) showed a positive result for Infectious hypodermal and haematopoietic necrosis. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.

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

Country: SINGAPORE **Period: April-June 2009**

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	0000	0000	0000		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	(2007)	(2007)	(2007)		
Non OIE-listed diseases					
8.Grouper iridoviral disease	-	-	-		
9.Viral encephalopathy and retinopathy	-	-	-		
10.Enteric septicaemia of catfish	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 *Marteilioides chungmuensis*	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
6.Akoya oyster disease	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	-	-	-		
3. Yellowhead disease	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
7. Infectious myonecrosis	***	***	***		
8.White tail disease (MrNV)	***	***	***		
9. Necrotising hepatopancreatitis	***	***	***		
10. Hepatopancreatic parvo virus disease	***	***	***		
11. Mourilyan disease	***	***	***		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	***	***	***		
13. Milky lobster disease	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		

ANY OTHER DISEASES OF IMPORTANCE					
1. Mullet systemic iridoviral disease	(2008)	(2008)	(2008)		
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	
3	
4	

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

Country: SRI LANKA **Period: April-June 2009**

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	0000	0000	0000		
5. Epizootic ulcerative syndrome	-	-	-		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	?	?	?		
Non OIE-listed diseases					
8.Grouper iridoviral disease	***	***	***		
9.Viral encephalopathy and retinopathy	***	***	***		
10.Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
6.Akoya oyster disease	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+	+	+	III	1
3. Yellowhead disease	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	+	+	+	I and III	2
5. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	3
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
7. Infectious myonecrosis	***	***	***		
8.White tail disease (MrNV)	***	***	***		
9. Necrotising hepatopancreatitis	***	***	***		
10. Hepatopancreatic parvo virus disease	***	***	***		
11. Mourilyan disease	***	***	***		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	***	***	***		
13. Milky lobster disease	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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 157 wild *P .monodon* brooder samples examined using 2-step nested PCR test at the laboratory of shrimp farm extension and monitoring unit of NARA under active surveillance. 28 samples were positive for WSSV indicating 17.8% prevalence during this period A total of 136 postlarvae of *P. monodon* were screened using the same method and 8 samples were positive. The number of post larvae positive was low as the brooders were screened before they are being used for the production of post larvae. 10 mangrove crab species were tested and none were positive
2	A total of 324 samples were examined using malachite green staining method and 101 (31%) postlarvae were positive for MBV during this period. The prevalence of MBV remained relatively high compared to that of the first quarter
3	The above set of samples is yet to be tested for IHHNV

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

Country: THAILAND **Period: April-June 2009**

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	-	-	-	II	
6. Red seabream iridoviral disease	0000	0000	0000	III	
7. Koi herpesvirus disease	-	+	-	III	1
Non OIE-listed diseases					
8.Grouper iridoviral disease	-	-	-	III	
9.Viral encephalopathy and retinopathy	-	-	-	III	
10.Enteric septicaemia of catfish	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	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
6.Akoya oyster disease	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	+	+	-	III	2
2. White spot disease	+	+	-	III	3
3. Yellowhead disease	-	+	-	III	4
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	5
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
7. Infectious myonecrosis	0000	0000	0000	I	
8.White tail disease (MrNV)	+	-	+	III	6
9. Necrotising hepatopancreatitis	***	***	***		
10. Hepatopancreatic parvo virus disease	***	***	***		
11. Mourilyan disease	***	***	***		
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	***	***	***		
13. Milky lobster disease	0000	0000	0000	I	
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	(2007)	(2007)	(2007)	III	
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000	II	

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	28 koi aquaculture establishments had been monitored for KHV during this reporting period. KHVD was found in one establishment. The kois were lethargy, hemorrhages on the body and stay near water surface with 10% mortality. The KHVD was diagnosed and confirmed at the Inland Aquatic Animal Health Research Institute (AAHRI), Department of Fisheries. All 128 kois (5 – 10 inches in TL) in the affected concrete pond zone was destroyed and the ponds were dis-infected. The affected farm is under target surveillance and movement control.
2	A total of 800 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 16 specimens or 2 % recorded as RT-PCR positive or carrying TSV genes. Shrimp farms with positive testing results will subject to health improvement, movement control, eradication and/or farm dis-infection.
3	A total of 800 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 11 specimens or 1.34 % recorded as PCR positive or carrying WSSV genes. Shrimp farms with positive testing results will subject to health improvement, movement control, eradication and/or farm dis-infection.
4	A total of 800 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 7 specimens or 0.88 % recorded as RT-PCR positive or carrying YHV genes. Shrimp farms with positive testing results will subject to health improvement, movement control, eradication and/or farm dis-infection.
5	A total of 587 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 29 specimens or 4.9 % recorded as PCR positive or carrying IHHNV genes. Shrimp farms with positive testing results will subject to health improvement, movement control, eradication and/or farm dis-infection.

6	132 healthy giant prawn specimens from wild stock and hatchery brooders were sampled under the MrNV surveillance program using RT-PCR technique. 1 specimens or 0.8 % recorded as PCR positive or carrying MrNV gene. However all brooder specimens appeared normal. 22 giant prawn post larvae specimens from hatcheries were sampled and tested for MrNV under target surveillance. 2 post larvae specimens or 9 % recorded as PCR positive and were then destroyed. Concepts in bio-security for disease prevention had been advised to hatchery owners or operators.

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

Country: VIETNAM **Period: April-June 2009**

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	?	?	?		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8.Grouper iridoviral disease	0000	0000	0000		
9.Viral encephalopathy and retinopathy	0000	0000	0000		
10.Enteric septicaemia of catfish	+	+	+	I,II	1
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 *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
6.Akoya oyster disease	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+	+	+	I,II,III	2
3. Yellowhead disease	***	***	***		
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		
7. Infectious myonecrosis	0000	0000	0000		
8.White tail disease (MrNV)					
9. Necrotising hepatopancreatitis					
10. Hepatopancreatic parvo virus disease					
11. Mourilyan disease					
Non OIE-listed diseases					
12. *Monodon* slow growth syndrome	+	+	+	I, III	3
13. Milky lobster disease	+	+	+	I	4
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		

ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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
Finfish: Channel catfish virus disease

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
?	Suspected by reporting officer but presence not confirmed	-	Not reported (but disease is known to occur)
		(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	Pathogen: Edwaedsiella ictaluri. Infection found in intensive catfish (*Pangasius micronema, P. hypophthalmus*) farms. This disease occurred in Tien Giang, An Giang, Hau Giang, Ben Tre and Vinh Long provinces
2	Pathogen: White spot syndrome virus (WSSV). Disease found in black tiger shrimp (*Penaeus monodon*) and white leg shrimp (*P.vannamei*). The disease occurred in Thai Binh, Nam Dinh, Nghe An, Ha Tinh, Quang Binh, Quang Tri, Thua Thien Hue, Quang Ngai, Dong Nai, Binh Dinh, Phu Yen, Ninh Thuan, Khanh Hoa, Ba Ria-Vung Tau, Ben Tre, Soc Trang, Tien Giang, Kien Giang, Tra Vinh, Bac Lieu and Ca Mau provinces
3	Pathogen: Baculovirus. Infection found in black tiger shrimp (*Peneaus monodon*). Disease characteristic: body color dark, loss of appetite, stunted growth The disease was reported in Thai Binh, Dong Nai and Ba Ria-Vung Tau provinces
4	Pathogen-Rickettsia-like bacteria. Infection found in Lobsters *Panilurus ornatus*, *P.homarus* cultured in floating cages on the sea in the grow out stage. Disease characteristic: Lobsters have black gills, uncovered head and milky colored abdomen traces. The disease occurred in Binh Thuan and Phu Yen provinces

List of Diseases in the Asia-Pacific
Quarterly Aquatic Animal Disease Report (Beginning 2009)

1. DISEASES PREVALENT IN THE REGION	
1.1 FINFISH DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Epizootic haematopoietic necrosis	1.Grouper iridoviral disease
2. Infectious haematopoietic necrosis	2.Viral encephalopathy and retinopathy
3. Spring viraemia of carp	3.Enteric septicaemia of catfish
4. Viral haemorrhagic septicaemia	
5. Epizootic ulcerative syndrome	
6. Red seabream iridoviral disease	
7. Infection with koi herpesvirus	
1.2 MOLLUSC DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infection with *Bonamia exitiosa*	1. Infection with *Marteilioides chungmuensis*
2. Infection with *Perkinsus olseni*	2. Akoya oyster disease
3. Abalone viral mortality	3. Acute viral necrosis (in scallops)
1.3 CRUSTACEAN DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Taura syndrome	1. Monodon slow growth syndrome
2. White spot disease	2. Milky lobster syndrome
3. Yellowhead disease	
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	
5. Infectious hypodermal and haematopoietic necrosis	
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	
7. Infectious myonecrosis	
8. White tail disease (MrNV)	
9. Necrotising hepatopancreatitis	
10. Hepatopancreatic parvo virus disease	
11. Mourilyan virus disease	
1.4 AMPHIBIAN DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infection with Ranavirus	
2. Infection with *Bachtracochytrium dendrobatidis*	
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*)	
2.2 Molluscs	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infection with *Bonamia ostreae*	
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*)	

Recent Aquatic Animal Health Related Publications

OIE Aquatic Animal Health Code, 11th Edition, 2008 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

Bondad-Reantaso, M.G., Arthur, J.R. and Subasinghe, R.P. (eds.). 2008. **Understanding and applying risk analysis in aquaculture.** *FAO Fisheries and Aquaculture Technical Paper. No. 519.* Rome, FAO. 2008. 304p. Risk analysis is an objective, systematic, standardized and defensible method of assessing the likelihood of negative consequences occurring due to a proposed action or activity and the likely magnitude of those consequences, or, simply put, it is "science-based decision-making"

FAO. Report of FAO **Workshop on Information Requirements for Maintaining Aquatic Animal Biosecurity.** Cebu City, Philippines, 15−17 February 2007. *FAO Fisheries and Aquaculture Report*. No. 877. Rome, FAO. 2008. 27p.

FAO Regional Commission for Fisheries. **Report of the Regional Technical Workshop on Aquatic Animal Health.** Jeddah. Kingdom of Saudi Arabia, 6-10 April 2008. FAO Fisheries and Aquaculture Report. No. 831. Rome, FAO. 2008. 120 pp**.**

FAO. 2009. **Report of the International Emergency Disease Investigation Task Force on a Serious Finfish Disease in Southern Africa, 18-26 May 2007.** Rome, FAO. 2009.

Arthur, J.R., Bondad-Reantaso, M.G. and Subasinghe, R.P. 2008. **Procedures for the quarantine of live aquatic animals: a manual**. FAO Fisheries Technical Paper No. 502. Rome, FAO. 2008. 74p.

Bondad-Reantaso, M.G., Mohan, C.V., Crumlish, M. and Subasinghe, R.P. (eds.) 2008. **Proceedings of the Sixth Symposium on Diseases in Asian Aquaculture (DAA VI)**. 25-28 October 2005, Colombo, Sri Lanka. Fish Health Section. 505 pp.

Bernoth, E.-M. (Coordinator). 2008. **Changing Trends in Managing Aquatic Animal Disease Emergencies.** OIE Scientific and Technical Review, Volume 27(1), April 2008. 281p.

Bondad-Reantaso, M.G., McGladdery, S.E. and Berthe, F.C.J. 2007. **Pearl oyster health management: a manual.** FAO Fisheries Technical Paper. No. 503. Rome, FAO. 2007. 120p.

Kirjusina, M. and Vismanis, K. 2007. **Checklist of the parasites of fishes of Latvia. FAO Fisheries Technical Paper. 369/3.** Rome, FAO. 113p.

Dodet, B., the OIE Scientific and Technical Department (eds.). **The OIE Global Conference on Aquatic Animal Health.** Dev Biol (Basel), Basel, Karger, Volume 29. 193p.

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

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.

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

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

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

List of National Coordinators*

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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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Notes

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