2011/3

QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

July – September 2011

Published by the

Network of Aquaculture Centres in Asia-Pacific

Suraswadi Building, Department of Fisheries
Kasetsart University Campus, Ladyao, Jatujak
Bangkok 10900, Thailand

Food and Agriculture Organization of the United Nations

Viale delle Terme di Caracalla
Rome 00100
Italy

January 2012

Network of Aquaculture Centres in Asia-Pacific and Food and Agriculture Organization of the United Nations. Jan. 2012. *Quarterly Aquatic Animal Disease Report (Asia and Pacific Region)*, 2011/2, July – September 2011. NACA: Bangkok, Thailand.

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Foreword

8th Symposium on Diseases in Asian Aquaculture

The 8th Symposium on Diseases in Asian Aquaculture (DAA8) was successfully held at the Milagres Hall Complex, Mangalore, India on 21-25 November 2011. It was organized by the Fish Health Section (FHS) of the Asian Fisheries Society (AFS) and hosted by the College of Fisheries, Mangalore, India. The theme of DAA8 was "Fish Health for Food Security", aptly chosen to address food security concerns through increased fish production to meet the increasing global demand. The dynamic nature of the aquatic environment presents several challenges in aquaculture diseases and their management. The DAA8 provided a forum wherein this theme were deliberated upon in various sessions.

The local organization was managed by the College of Fisheries Mangalore, Karnataka Animal Science and Fisheries University, India. A dedicated website had been developed and made functional for facilitating the organization of DAA8 at www.daa8.org. The Local Organizing Committee headed by Dr Indrani Karunasagar and Dr K. M. Shankar, the FHS Exe-com headed by Prof Grace Lo and the International Scientific Program Committee headed by Dr C V Mohan coordinated various activities since the last one year in preparation for holding DAA8 in Mangalore.

The formal opening ceremony was attended by Chairperson of FHS (Prof. Grace Lo), Vice Chancellor of KASFU (Dr. Suresh S. Honnappagol), Joint Secretary of Ministry of Agriculture (Mr. Tarun Shridhar), DG of NACA (Dr. Ambekar E. Eknath) and Director of FAO Fisheries Policy Services (Dr. Lahsen Ababouch). All the dignitaries provided their remarks and emphasized the importance of scientific aquatic animal health management to ensure food security and food safety. The DAA8 was formally inaugurated on 21st Nov 2011 morning. Technical sessions were held from the afternoon of 21st to 25th Nov 2011. The inauguration and technical events were given wide media publicity in India in leading newspapers.

A total of 350 participants attended the meeting. This included over 125 delegates from 26 countries outside India. The highlight is the participation of several world leaders in aquatic animal health. The meeting was a very good opportunity for students and young researchers to listen to world experts, meet and interact with them. The DAA8 accomplished its main objective of sharing latest scientific information and development in the field of aquatic animal health, and provided a platform for people to network and communicate.

Over 75 oral presentations were made under 13 sessions. This included four thematic, 24 key note and 47 contributed papers. The four thematic presentations are as follows:

- Implementation of good aquaculture practices to prevent animal diseases and ensure consumer protection (Dr. Lahsen Ababouch, FAO, Italy);
- Disease control in aquaculture: the future for food security (Dr. Rohana Subasinghe, FAO, Italy);

- New and emerging OIE standards for aquatic animal health (Dr. Barry Hill, OIE, France);
- Zoonotic potential of pathogens of aquatic animals and public health issues associated with aquaculture (Dr. Iddya Karunasagar, FAO, Italy).

As the normal practice, there were no parallel sessions during the conduct of the scientific sessions.

170 posters were presented under 7 different sessions: Aquatic animal diseases; Helath management, probiotics, immunostimulants and phages; Diagnostics, treatment and cell lines; Crustacean viruses and immunity; Parasitic diseases; Fish vaccination and immunity; and, Molecular biology, genomics and bioinformatics. Five youngsters were awarded travel awards from the organizers for attending the DAA8. To encourage good research in the region, about 15 best poster awards were given to students and young researchers.

Following the tradition of FHS, the 9th Triennial General Meeting of FHS was held on 23rd Nov 2011 from 18.00 to 20.00 hours at the conference venue. Very interestingly it was attended by over 100 people, both members and non-members. The FHS Chairperson Prof Chu Fang Lo conducted the meeting and completed the various formalities. The new FHS Exe-Com members for 2012-2014 were also selected during the TGM and they are as follow:

Chairperson: Prof. Chadag V Mohan (India/Thailand)
Vice Chairperson: Dr. Le Van Khoa (Vietnam)
Secretary/Treasurer: Dr. Puttharat Baoprasertkul (Thailand)

Members

- Prof. Chu-Fang Lo, Past Chairperson (Taiwan)
- Prof. Ikuo Hirono (Japan)
- Dr. Huang Jie (China)
- Dr. P.K. Sahoo (India)
- Dr. Liegh Owens (Australia)
- Dr. Darshanee Ruwandeepika (Sri Lanka)
- Dr. Edgar Amar (Philippines)
- Dr. Susan Gibson-Kueh (Singapore)

Observers

- Dr. Elena S. Catap (Philippines)
- Dr. Rajeev Kumar Jha (India/Indonesia)
- Ms. Wanida Tamat (Brunei)
- Dr. P.K. Pradhan (India)

FHS is now recognized as one of the most successful networks in Asia and the DAA events are much sought after by aquatic animal health researchers to showcase their research. What started in Bali, Indonesia in 1990 in a small way has moved through Phuket, Thailand (1993), Bangkok,

Thailand (1996), Cebu, The Philippines (1999), Gold Coast, Australia (2002), Colombo, Sri Lanka (2005), Taipei, Taiwan (2008) and recently Mangalore, India (2011).

Vietnam was awarded the hosting of 9th Symposium (DAA9) in 2014. The Department of Animal Health will be the lead institution for organizing the event. Dr Le Van Khoa, the National Coordinator of NACA Health Program will take the overall responsibility for hosting the event and hence he has been selected as the Vice Chair of FHS-AFS exe-com. We hope DAA9 in Vietnam will attract wider participation. Please visit the AFS (www.asianfisheriessociety.org) and FHS-AFS (www.afs-fhs.net) for updates.

Reports Received by the NACA Secretariat

Country: AUSTRALIA Period: July - September 2011

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	-(2011)	-(2011)	-(2011)		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	+	-(2011)	+	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	-(2011)	-(2011)	-(2011)	III	3
10.Enteric septicaemia of catfish	-(2011)	-(2011)	+	III	4
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-(2011)	-(2011)	-(2011)		5
3. Infection with abalone herpes-like virus	-(2011)	-(2011)	-(2011)		6
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. Infectious hypodermal and haematopoietic necrosis	-(2008)	-(2008)	-(2008)		7
5. Infectious myonecrosis	0000	0000	0000		
6. White tail disease (MrNV)	-(2008)	-(2008)	-(2008)		8
7. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000		
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	-(2008)	-(2008)	-(2008)		9
2. Infection with *Batrachochytrium dendrobatidis*	-(2011)	-(2011)	-(2011)		10
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	**Epizootic haematopoietic necrosis** was not reported this period in the Australian Capital Territory, but diagnostic testing completed during the period confirmed occurrences in 4th quarter 2010 and 1st quarter 2011. Not reported this period despite passive surveillance, but is known to have occurred previously in New South Wales (last year reported 2009), Victoria (last year reported 2004) and South Australia (last year reported 1992). Targeted surveillance and never reported in Tasmania. Passive surveillance and never reported in the Northern Territory, Queensland and Western Australia.
2	**Epizootic ulcerative syndrome** 1. **Reported in Queensland** in July 2011. Passive surveillance; 2. **Species affecred-** eel-tailed catfish (*Tandanus tandanus*), adult; 3. **Clinical signs-** skin ulcerations; 4. **Pathogen-** *Aphanomyces invadans*; 5. **Mortality rate-** one fish; 6. **Economic loss-** n/a; 7. **Geographic extent-** Bruce Weir, Dimbulah; 8. **Containment measures-** not applicable; 9. **Laboratory confirmation-** histopathology – typical granulomatous nodules containing GMS-positive fungal hyphae; 10. **Publications-** unpublished ; 1. **Reported in Queensland** in September 2011. Passive surveillance; 2. **Species affecred-** a) river perch (*Johnius* sp.), adult; and b) barramundi (*Lates calcarifer*), adult; 3. **Clinical signs-** a) large brown ulcer behind dorsal fin; and b) deep ulcerative skin lesions behind head and on abdomen; 4. **Pathogen-** *Aphanomyces invadans*;

2	**Epizootic Ulcerative Syndrome (Ctnd…)** 5. **Mortality rate-** a) one fish; and b) one fish; 6. **Economic loss-** n/a; 7. **Geographic extent**- a) Fitzroy River ; and b) Port Alma, off Gladstone ; ; 8. **Containment measures**- not applicable; 9. **Laboratory confirmation**- a) gross examination ; and b) histopahtology – granulomas of muscle containing GMS-positive fungal hyphae typical of EUS; 10. **Publications**- unpublished Epizootic ulcerative syndrome was not reported this period despite targeted surveillance, but is known to have occurred previously in New South Wales and Northern Territory (last reported 2nd quarter 2011), South Australia (last year reported 2008). Not reported during this period despite passive surveillance in Victoria (last year reported 2010) and Western Australia (last year reported 2009). Passive surveilance and never reported in Tasmania. No information available in Australian Capital Territory.
3	Viral encephalopathy and retinopathy was not reported this period despite passive surveillance, but is known to have occurred previously in Queensland and the Northern Territory (last reported 2nd quarter 2011), New South Wales (last year reported 2010), Western Australia (last year reported 2005) and Tasmania (last year reported 2000). Not reported this period, but is known to have occurred previously in South Australia (last year reported 2010). Never reported from Victoria despite passive surveillance. No information available this period in the Australian Capital Territory.
4	**Enteric septicaemia of catfish** 1. **Reported in NT** in September 2011. Passive surveillance; 2. **Species affected-** Berney's catfish (*Neoarius berneyi*), 11-12 cm; 3. **Clinical signs-** slow and lacking schooling behavior, or asymptomatic; 4. **Pathogen-** *Edwardsiella ictaluri*; 5. **Mortality rate-** apparent mortality 50% of about 500 fish; 6. **Economic loss-** n/a; 7. **Geographic extent-** commercial aquarium fish trader premise (two 1800 L tank). All were wild caught fish held in captivity for 2 to 5 weeks; 8. **Containment measures-** closed aquarium system, voluntary quarantine, emptied tanks were chlorinated; 9. **Laboratory confirmation-** bacteriology culture, biochemical test kit and PCR ribosomal RNA sequencing; 10. **Publications-** unpublished. Enteric septicaemia of catfish was not reported this period despite passive surveillance but is known to have occurred previously [in zebrafish (*Brachydanio rerio*) in PC2 containment] in Queensland (last year reported 2008) and Tasmania (last year reported 2001). Never reported in New South Wales, South Australia, Victoria and Western Australia despite passive surveillance. No information available this period in the Australian Capital Territory.
5	**Infection with *Perkinsus olseni*** was not reported this period despite passive surveillance but is known to have occurred previously in South Australia (last reported 1st quarter 2011), New South Wales (last year reported 2005) and Western Australia (last year reported 2003). Passive surveillance and never reported in the Northern Territory, Queensland, Tasmania and Victoria. No information available this period in the Australian Capital Territory (no marine water responsibility).

6	**Infection with abalone herpes-like virus** (abalone viral ganglioneuritis) was not reported this period despite passive surveillance but is known to have occurred previously in Tasmania (last reported 1st quarter 2011), Victoria (last year reported 2010). Active surveillance and never reported in South Australia and Western Australia. Passive surveillance and never reported in Queensland, New South Wales and Western Australia. No information available this period in the Australian Capital Territory (no marine water responsibility) and Northern Territory.
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). Passive surveillance and never reported in New South Wales, South Australia, Victoria and Western Australia. No information available in Australian Capital Territory (no marine responsibility) and Tasmania (susceptible species not present).
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 in the Australian Capital Territory, Northern Territory, Tasmania, Victoria and Western Australia.
9	**Infection with ranavirus** was not reported this period despite passive surveillance but is known to have occurred previously in the Northern Territory (last year occurred 2008, prior to official reporting). Suspected but not confirmed despite passive surveillance in Queensland. Passive surveillance and never reported in Tasmania. No information available this period in the Australian Capital Territory, New South Wales, South Australia, Victoria and Western Australia.
10	**Infection with *Batrachochytrium dendrobatidis*** was not reported this period but is known to have occurred previously in Victoria (last reported 1st quarter 2011), Tasmania (last reported 2010). Not reported this period despite passive surveillance in Queensland. No information available this period in the Australian Capital Territory, South Australia, New South Wales and Northern Territory.

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

Changes were made to Australia's *National List of Reportable Diseases of Aquatic Animals* (National List) in October 2011. Three diseases were added to the National List: Necrotising hepatopancreatitis; Ostreid herpesvirus-1 µ variant (OsHV-1 µvar); and ISKNV (infectious spleen and kidney necrosis virus)-like viruses of finfish.

ISKNV-like viruses are a group of viral agents in the genus *Megalocytivirus*, family Iridoviridae, and are defined on page 7 of:

Biosecurity Australia (2010) "Importation of freshwater ornamental fish: review of biosecurity risks associated with gourami iridovirus and related viruses – Provisional final import risk analysis report". Biosecurity Australia, Canberra, Australia.

Country: HONG KONG SAR Period: July - September 2011

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	1
7. Koi herpesvirus disease	-	-	-	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-	III	
9. Viral encephalopathy and retinopathy	+	-	-	III	2
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. Infection with abalone herpes-like virus	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	II	
6. Akoya oyster disease	0000	0000	0000	II	
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. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	II	
5. Infectious myonecrosis	0000	0000	0000	II	
6.White tail disease (MrNV)	0000	0000	0000	II	
7. Necrotising hepatopancreatitis	0000	0000	0000	II	
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000	II	
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	0000	0000	0000	II	
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000	II	
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	Infectious spleen and kidney necrosis virus (Red seabream iridoviral disease) was detected in a group of green groupers which presented with tail and fin rot. There was 70% mortality and 100% morbidity reported.
2	Nodavirus (Viral encephalopathy and retinopathy or viral nervous necrosis) was detected in a group of giant groupers which were observed to be lethargic, inappetant and have darkened skin. There were 15% mortality and 50% morbidity reported.
3	White spot syndrome virus (White spot disease) was detected in a group of red lobsters that had been submitted for health certification.

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

Country: INDIA **Period: July - September 2011**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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. Infection with abalone herpes-like virus	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	1
3. Yellowhead disease	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Infectious myonecrosis	0000	0000	0000		
6.White tail disease (MrNV)	-	-	-		
7. Necrotising hepatopancreatitis	0000	0000	0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000		
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	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	Incidence of White spot disease was reported from very limited area in Guntur district of Andhra Pradesh; Uttara Kannada and Udupi districts of Karnataka; and Ramnad, Villupuram and Nagapattinam distrcits of Tamil Nadu during different months under the current reporting period.
2	
3	

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

Country: IRAN **Period: July - September 2011**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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. Infection with abalone herpes-like virus	***	***	***		
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	-	-	+	I,III	1
3. Yellowhead disease	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Infectious myonecrosis	***	***	***		
6.White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
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DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
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Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

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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	WSD occurred in one of the shrimp culture farm in Sistan and Balouchestan (Goatr): 1. Origin of the disease is unknown but it may be from wild reservoirs; 2. Species affected: *Litopenaeus vannamei*; 3. Disease occurred in September 2011; 4. Clinical signs: sudden cessation of feeding, swimming near the edges of pond, reddish body and white spot on the cephalothorax; 5. Pathogen detected by nested-PCR; 6. Morbidity rate: 95% of ponds in affected site; 7. All the infected ponds were disinfected with 40 ppm calcium chloride and all infected shrimps were destroyed.

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

Country: JAPAN **Period: July - September 2011**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	-	-	-	I	
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. Infection with abalone herpes-like virus	0000	0000	0000	I	
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	-	-	-	I	
5. Acute viral necrosis (in scallops)	0000	0000	0000	I	
6. Akoya oyster disease	-	+	+	II	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	I	
2. White spot disease	+	-	-	III	
3. Yellowhead disease	0000	0000	0000	I	
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	I	
5. Infectious myonecrosis	0000	0000	0000	I	
6.White tail disease (MrNV)	0000	0000	0000	I	
7. Necrotising hepatopancreatitis					
Non OIE-listed diseases	0000	0000	0000	I	
8. *Monodon* slow growth syndrome	0000	0000	0000	I	
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	0000	0000	0000	I	
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	-	+()	+?	III	1
2. Infection with *Batrachochytrium dendrobatidis*	-	-	-	I	
ANY OTHER DISEASES OF IMPORTANCE					
1. Infection with *Xenohaliotis californiensis*	+?	-	+?	III	
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	August: *Tylototriton kwelchowensis* and *T. taliangensis* died-off in captivity. DNA of ranavirus was isolated from the dead samples in August. DNA of Ranavirus was isolated from *Fejervaya limnocharis* without any clinical symptoms
2	
3	

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

Country: KOREA, REPUBLIC OF Period: July - September 2011

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	-	-	III	
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	-	-	-	III	
5. Epizootic ulcerative syndrome	0000	0000	0000		
6. Red seabream iridoviral disease	-	+	+	III	1
7. Koi herpesvirus disease	+	-	-	III	2
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	-	-	-	III	
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. Infection with abalone herpes-like virus	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	-	-	-	III	
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	-	-	-	III	
3. Yellowhead disease	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	-	-	-	III	
5. Infectious myonecrosis	0000	0000	0000		
6.White tail disease (MrNV)	0000	0000	0000		
7. Necrotising hepatopancreatitis	0000	0000	0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000		
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000		
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	Red seabream iridoviral disease detected from juvenile red marbled rockfish (*Sabastiscus teritus*) from a hatchery in Changwon, Gyoengnam. No clinical signs and mortality were shown. The confirmatory diagnosis was performed by National Fisheries Research and Development Institute, Aqua-life Disease Control Division. The standstill of RSIV-detected fish was declared for control.
2	Koi herpesvirus diseases detected from juvenile carp (*Cyprinus carpio*) from a hatchery in Hadong and Namhae, Gyoengnam. No clinical signs and mortality were observed. The confirmatory diagnosis was performed by National Fisheries Research and Development Institute, Aqua-life Disease Control Division. The standstill of KHV-detected fish was declared for control.
3	

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

Country: LAO PDR **Period: July - September 2011**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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. Infection with abalone herpes-like virus	***	***	***		
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. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Infectious myonecrosis	***	***	***		
6.White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	***	***	***		
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: MALAYSIA **Period: July - September 2011**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000	I,II,III	
3. Spring viraemia of carp	-	-	-	I,II,III	1
4. Viral haemorrhagic septicaemia	0000	0000	0000	I,II,III	
5. Epizootic ulcerative syndrome	(1986)	(1986)	(1986)	I.II	
6. Red seabream iridoviral disease	0000	0000	0000	I,II,III	
7. Koi herpesvirus disease	-	-	-	I,II,III	2
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-	III	3
9. Viral encephalopathy and retinopathy	-	-	-	III	4
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. Infection with abalone herpes-like virus	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	5
2. White spot disease	+	+	+	I,III	6
3. Yellowhead disease	-	-	-	I,III	7
4. Infectious hypodermal and haematopoietic necrosis	-	-	-	I,III	8
5. Infectious myonecrosis	-	-	-	III	9
6.White tail disease (MrNV)	-	-	-	III	10
7. Necrotising hepatopancreatitis	-	-	-	III	11
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	-	-	-		
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	-	-	-		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1. Hepatopancreatic parvo virus disease	+	-	-	III	12
2. *Cyprinid herpesvirus2* (CyHV-2, GFHNV)	+	+	+	III	13

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	**Spring viraemia of carp** 1. No positive cases detected (PCR) although active surveillance was conducted by DOF
2	**Koi herpesvirus disease** 1. No positive cases detected (PCR) although active surveillance was conducted by DOF
3	**Grouper Iridoviral disease (GIV)** Diagnostic Cases: 1. All fish (Grouper, *Luthjanus sp, Epinephelus fuscoguttatus*) samples from Kedah and Penang were negative for Irido tested in NaFisH and DOF.
4	**Viral encephalopathy and retinopathy** Diagnostic Cases: 2. All fish (Grouper, *Luthjanus sp, Epinephelus fuscoguttatus*) samples from Kedah and Penang were negative for VNN tested in NaFisH and DOF.
5	**Taura syndrome virus (TSV)** (*P. monodon, Litopenaeus vannamei*) 1. TSV was not detected in all the samples sent to Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes. 2. No positive on reported cases detected by PCR although active surveillance was conducted by DOF in West and East Malaysia.

6	**White Spot Syndrome Virus (WSSV)** A. LIR (Lab Industrial Resources) (*P. monodon, Litopenaeus vannamei*) Egg – PL 1. 2 sample each from Selangor and Johor was positive for WSSV from 113 total samples tested by Lab. Industrial Resources (LIR) for routine and monitoring purposes. Juvenile – adults 1. 16% of total samples (87) from August to September were tested positive WSSV in the state of Negeri Sembilan, Penang, Perak and Johor by Industrial Resources laboratory (LIR) for routine and monitoring purposes. B. DOF (Department of Fisheries) (*Litopenaeus vannamei, Caridina cantonensis sp., Macrobrachium lanchesteri, Cherax quadricarinatus, Neocaridina denticulata sinensis, P. monodon*) 1. No positive on reported cases detected by PCR although active surveillance was conducted by DOF in West and East Malaysia.
7	**Yellow head disease (YHV)** (*P. Monodon, Litopenaeus vannamei*) 1. YHV was not detected in all the samples sent to Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes. 2. No positive cases detected (PCR) although active surveillance was conducted by DOF in East Malaysia
8	**Infectious hypodermal and haematopoietic necrosis virus (IHHNV)** (*Macrobrachium rosenbergi, P. Monodon, Litopenaeus vannamei*) 1. IHHNV was not detected in all the samples sent to Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes. 2. No positive on reported cases detected by PCR although active surveillance was conducted by DOF in West and East Malaysia.
9	**Infectious Myonecrosis (IMNV)** 1. IMNV was not detected in all the samples of *P. monodo* and *Litopenaeus vannamei* sent to Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes.
10	***Macrobrachium rosenbergii* Nodavirus (MrNV)** 1. All samples tested by NaFisH and DOF were negative for MrNV.
11	**Necrotising hepatopancreatitis (NHPB)** 1. NHPB was not detected in all the samples of *P. monodon* and *Litopenaeus vannamei* sent to Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes.

12	**Hepatopancreatic parvo virus disease (HPV)** (*P. monodon, Litopenaeus vannamei*) 1. Only I out of 25 samples was positive for HPV in July from state of Terengganu tested by Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes.
13	***Cyprinid herpesvirus 2*** **(CyHV-2, GFHNV)** 1. 22% of total samples (464) of *Carrasius auratus* from state of Perak, Selanor and Johor tested by DOF were positive for GFHNV.

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

Country: MYANMAR **Period: July - September 2011**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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. Infection with abalone herpes-like virus					
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	1
3. Yellowhead disease	-	-	-	III	
4. Infectious hypodermal and haematopoietic necrosis	-	-	-	III	
5. Infectious myonecrosis	***	***	***		
6.White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	***	***	***		
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
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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	During this period, we have received 5 samples of shrimps (1 frozen; 2 broodstock; and 2 adult) for export and tested for WSSV, IHHNV and TSV. All samples were found negative.
2	
3	

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

Country: NEPAL **Period: July - September 2011**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	-	-	-	I	
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
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. Infection with abalone herpes-like virus	***	***	***		
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. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Infectious myonecrosis	***	***	***		
6.White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	***	***	***		
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
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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: July - September 2011

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	- (2002)	- (2002)	- (2002)		
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	-	-	-	III	1
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. Infection with abalone herpes-like virus	***	***	***		
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	2
2. White spot disease	+	-	-	III	3
3. Yellowhead disease	- (1999)	- (1999)	- (1999)	III	4
4. Infectious hypodermal and haematopoietic necrosis	-	-	+	III	5
5. Infectious myonecrosis	0000	0000	0000	III	6
6.White tail disease (MrNV)	0000	0000	0000		
7. Necrotising hepatopancreatitis	0000	0000	0000	III	7
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	***	***	***		
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	Two (2) samples of grouper (*Epinephelus spp.*) collected from Tagbilaran, Bohol were analyzed using the PCR test. Both samples showed a negative result for Viral Encephalopathy and Retinopathy. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
2	Seven (7) samples (1 *Penaeus vannamei* and 6 *Penaeus monodon*) of different stages (fry, broodstock and adult) were analyzed using the PCR test. All 7 samples showed a negative result for Taura Syndrome Virus. The samples were collected from Batangas, Laguna, Misamis Occidental and Ormoc City. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
3	Eighty (80) samples (44 *Penaeus vannamei*; 32 *Penaeus monodon*; 3 *Scylla serrata* and 1 *Macrobrachium rosenbergii*) of different stages (fry, juvenile, broodstock and adult) were analyzed using the PCR test. Only one (1) sample of an adult *P. monodon* from Zamboanga City showed a positive result for White Spot Virus out of the total 80 samples. The samples were collected from Iloilo City, Zamboanga City, Cebu, Zambales, Samar, Leyte, Ormoc City, Bohol, Batangas, Rizal, Butuan City, Tacloban City, Misamis Occidental, Davao City, General Santos City and Saranggani Province. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
4	Thirty-five (35) samples (28 *Penaeus vannamei* and 7 *Penaeus monodon*) of different stages (fry, juvenile, broodstock and adult) were analyzed using the PCR test. All samples 35 showed a negative result for Yellowhead Virus. The samples were collected from Zambales, Iloilo, Aklan, Cebu, Zamboanga Sibugay, Occidental Mindoro, Misamis Occidental, Laguna, Davao City, Samar, Tacloban, General Santos City and Saranggani Province. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.

5	Forty-three (43) samples of (19 *Penaeus vannamei* and 24 *Penaeus monodon*) of different stages (fry, broodstock and adult) were analyzed using the PCR test. Out of the 43 samples, twelve (12) *P. monodon* samples showed a positive result for Infectious Hypodermal and Haematopoietic Necrosis Virus through PCR test. The positive samples came from Minglanilla, Cebu (2); Meycauyan, Bulacan (4); La Paz, Iloilo City (1); Ipil, Zamboanga Sibugay (1); and Dalaguete, Cebu (4). The samples were collected from Iloilo City, Negros Oriental, Cebu, Samar, Tacloban City, Bulacan, Ormoc City, Bohol, Occidental Mindoro, Zamboanga Del Norte and Zamboanga Sibugay. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
6	Three (3) samples of *Penaeus vannamei* of different stages (fry and broodstock) were analyzed using the PCR test. All the samples showed a negative result for Infectious Myonecrosis Virus. All samples were collected from Iloilo City. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
7	Four (4) samples of *Penaeus monodon* of different stages (fry, broodstock and adult) were analyzed using the PCR test and all samples showed a negative result for Necrotising Hepatopancreatitis. All samples were collected from Butuan City. 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: July - September 2011

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	I,II,III	1
6. Red seabream iridoviral disease	(2011)	+	(2011)	I,II,III	2
7. Koi herpesvirus disease	(2011)	(2011)	(2011)	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	(2011)	(2011)	(2011)	I,II,III	
9. Viral encephalopathy and retinopathy	+	(2011)	(2011)	I,II,III	3
10.Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Infection with abalone herpes-like virus	***	***	***		
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	(2011)	+	(2011)	III	4
3. Yellowhead disease	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Infectious myonecrosis	***	***	***		
6.White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		

ANY OTHER DISEASES OF IMPORTANCE					
1. Systemic iridoviral disease (Mullet or Milkfish)	(2010)	+	(2011)	I,II,III	5
2. Seabass iridovirus disease	(2010)	(2010)	(2010)		
3. Iridoviral disease (ornamental fish)	+	(2011)	+	I,II,III	6
4. *Aeromonas salmonicida*	0000	0000	0000	I,II,III	7

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	**<u>Updates on Surveillance for Epizootic Ulcerative Syndrome (EUS) in Susceptible Ornamental Fish</u>** 156 batches of ornamental fish that were susceptible species for EUS have been visually examined and tested for *Aphanomyces invadans* between the commencement of this surveillance program in November 2007 and now (September 2011). Skin lesions observed in a number of these fish have been found associated with parasite or bacterial infections. Mycotic granulomas were not observed in these fish on histopathological examination. Regular visual inspections of fish held at exporter's premises are carried out with all diseased fish sampled for testing and disease diagnosis. This includes fish showing gross signs of *A. invadans* infection.
2	Red seabream iridovirus (RSIV), an OIE notifiable pathogen, was detected in batches of diseased seabass fingerling submitted by a local land-based nursery under the Marine Fish Farm (Local) Surveillance. The farm had been experiencing up to 70% mortality in the nursery. The farm has since culled all the infected batches in the nursery. As iridoviral disease is prevalent in local waters and can cause significant production losses, the farm has imported a commercial RSIV vaccine to vaccinate the fingerlings that tested negative for RSIV.
3	Viral nervous necrosis virus (VNNV) was detected in a batch of hybrid grouper fry submitted from the nursery of a land-based farm experiencing ~30% mortality. The farmer was advised to control mortality by culling diseased fish and disinfecting tanks and equipment before introducing new fish.

4	White spot syndrome virus (WSSV) was detected in a batch of clinically healthy freshwater crayfish from an ornamental fish exporter's premises. The crustaceans had been imported from Indonesia. Other imported crayfish on the premise from Indonesian sources also tested positive for WSSV. An isolation order was issued to the exporter and lifted after the exporter culled all susceptible crustacean species on the premises and carried out thorough disinfection of the facilities.
5	Infectious spleen and kidney necrosis virus (ISKNV) was detected in a batch of diseased marine mullet and milkfish from a local coastal fish farm. The fish were imported as fry from Taiwan and Indonesia, and the farm had been experiencing high mortality of up to 50% since stocking. The farmer was advised to control spread of disease by removing sick fish from the water.
6	A batch of diseased platy collected from an ornamental fish exporter's premise in July and a batch of diseased gourami collected in September tested positive for ISKNV by PCR. The farmer observed low grade mortality in the platy, which had frayed fins and tails, and whitened bodies. The gourami were imported from Malaysia earlier that month, and had loose scales and moderately frayed tails and fins. Viral inclusion bodies were observed in kidney, intestines, liver and spleen of gourami on histopathological examination, while no inclusion bodies were seen in the platy. Farmers were advised to remove diseased fish and obtain fish from different source in the future.
7	**Update on Surveillance for *Aeromonas salmonicida* in Goldfish for Australian Import Requirements** *A. salmonicida* has not been isolated from all 41 batches of goldfish tested under this surveillance scheme since 2010.

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

Country: THAILAND **Period: April - June 2011**

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	(2009)	(2009)	(2009)	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. Infection with abalone herpes-like virus	0000	0000	0000	II	
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	
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. Infectious hypodermal and haematopoietic necrosis	-	+	+	III	5
5. Infectious myonecrosis	0000	0000	0000	III	
6.White tail disease (MrNV)	-	-	-	III	
7. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000	II	
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	(2007)	(2007)	+ ( )	III	6
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	KHV was found in one koi carp farm in Pathumthani Province during the KHV surveillance program. The fish were normal appearance however the PCR tests were positive. The fish were under movement prohibition. The fish were destroyed after re-sampled and re-tested. The water was dis-infected and the ponds were cleaned. Concepts in bio-security for disease prevention had been advised to the farm operator. A KHV-suspected was found in one shipment of the imported kois in the quarantine house. 4,948 kois had been imported and quarantined under the Department of Fisheries import control program. An extended quarantine period was applied to this shipment. After investigations they found to be KHV-PCR negative and the fish allowed to import into the country.
2	A total of 277 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 4 specimens or 1.4% recorded as 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 278 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 10 specimens or 3.6% 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 277 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 3 specimens or 1.1% 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 275 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 15 specimens or 5.5 % 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	A passive surveillance found the diseased culture frogs, *Rana tigrina,* sent from Patthalung Province, South Thailand. The diseased frogs gave positive virus isolation in EPC cell line. The ranavirus was confirmed using PCR technique. All tests were performed at the Inland Aquatic Animal Health Research institute, Department of Fisheries. The frogs had over 60% mortality. All death frogs and the remaining frogs in the farm were destroyed. Ponds and water were dis-infection and were cleaned. The outbreak was limited only in one frog farm. A target surveillance for diseased frog and ranavirus has been implemented for the frog farms in Patthalung Province.

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

Country: THAILAND Period: July - September 2011

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	(2009)	(2009)	(2009)	II	
6. Red seabream iridoviral disease	0000	0000	0000	III	
7. Koi herpesvirus disease	(05/2011)	(05/2011)	(05/2011)	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. Infection with abalone herpes-like virus	0000	0000	0000	II	
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	
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. Infectious hypodermal and haematopoietic necrosis	+( )	+( )	+( )	III	5
5. Infectious myonecrosis	0000	0000	0000	III	
6.White tail disease (MrNV)	-	+( )	-	III	6
7. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000	II	
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	(07/2011)	(07/2011)	(07/2011)	III	7
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	No KHV reported since May 2011.
2	A total of 331 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. Test results were negative.
3	A total of 331 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 1 specimen or 0.3% recorded as PCR positive or carrying WSSV genes. Shrimp farm with positive testing results is subjected to health improvement, movement control, eradication and/or farm dis-infection.
4	A total of 333 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 7 specimens or 2.1% recorded as RT-PCR positive or carrying YHV genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm dis-infection.
5	A total of 331 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 7 specimens or 2.1 % 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	Giant freshwater prawn specimens from hatcheries were submitted for *Mr*NV testing under active surveillance. Three out of 12 specimens showed PCR positive for *Mr*NV. The positive prawns did not have disease or white tail clinical signs. Prawn farms with positive testing results will subject to health improvement, movement control, eradication and/or farm dis-infection.
7	No ranavirus reported since July 2011.

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

Country: VIETNAM Period: July - September 2011

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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*	+?	+?	+?		
3. Infection with abalone herpes-like virus	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. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Infectious myonecrosis	0000	0000	0000		
6.White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis	0000	0000	0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	-	-	-		
9. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)	-	-	-		
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. Unknown disease (*P. monodon* and *P. vannamei*)					3
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:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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: *Edwardsiella ictaluri* Species affected: catfish (*Pangasius hypophthalmus*) under intensive culture system; Clinical signs: loss of appetite, swollen abdomen, bulging and opaque eyes (blindness), petechiae and haemorrhages around the mouth, abdominal region and fin bases. Internally, haemorrhages and white necrotic foci in the liver, kidney and other organs, enteritis, systemic oedema, accumulation of yellow or basitic fluid in the body cavity, enlargement of spleen, and swollen bladder; Mortality rate: high, 50-80% This disease was reported in Dong Thap province Control measures: water change, use of antibiotics (e.g. Florfenicol, Enrofloxacin) mixed in feeds, water treatment with chlorine and BKC.

2	Pathogen: White spot syndrome virus (WSSV) Species affected: black tiger shrimp (*Penaeus monodon*) and white leg shrimp (*Litopenaeus vannamei*); Clinical signs: lethargic or moribund shrimp accumulated at pond surface and edges, slow to erratic swimming behavior. Overall body color often reddish. Minute to large (0.5-2.0 mm diameter) white inclusions embedded in the cuticle, especially in the removed carapace held to the light after scraping off attached tissues (not always seen). Moratlity rate: medium to high, 100% within 10 days in some cases; The disease occurred in 7 provinces including Nghe An, Quang Ngai, Phu Yen, Binh Dinh, Tien Giang, Ben Tre, Ca Mau and Ho Chi Minh City; Control measures: early harvest, strict isolation of outbreak ponds with movement controls and control of transportation. Disinfection of outbreak ponds using Calcium hypochlorite (Chlorine).
3	Unknown disease: The disease is continuing in four provinces of the Mekong River Delta (Ben Tre, Soc Trang, Bac Lieu and Ca Mau) and one province in the south central coast of Vietnam (Ninh Thuan). The outbreak occurred in main production areas of the provinces with loss area of 9,000 has. In the 20-30 days post stocking, shrimps (including *P. monodon* and *P. vannamei*) exhibit high mortality of up to 90% in intensive and semi-intensive farming areas since March 2011. Pathogen(s) have not been identified. However, initial findings suggested that primary cause of death might be due to accumulated toxicity from chemical used in aquaculture and/or microorganisms (bacteria). Histological examination showed various stages of acute hepatopancreatic degeneration and necrosis syndrome (AHPDNS).

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

List of Diseases in the Asia-Pacific
Quarterly Aquatic Animal Disease Report (Beginning 2011)

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. Infection with abalone herpes-like virus	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	3. Milky haemolymph disease of spiny lobster (*Panulirus* spp.)
3. Yellowhead disease	
4. Infectious hypodermal and haematopoietic necrosis	
5. Infectious myonecrosis	
6. White tail disease (MrNV)	
7. Necrotising hepatopancreatitis	
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, 13th Edition, 2010. The aim of the Aquatic Animal Health Code (hereafter referred to as the 'Aquatic Code') is to assure the sanitary safety of international trade in aquatic animals (amphibians, crustaceans, fish and molluscs) and their products. This is achieved through the detailing of health measures to be used by 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 Code (in the form of standards and recommendations) have been formally adopted by the World Assembly of OIE Delegates which constitutes the organisation's highest decision-making body. This 13th edition incorporates the modifications to the Aquatic Code agreed by the World Assembly during the 78th General Session in May 2010. The Aquatic Animal Health Code is available for free download at http://www.oie.int/en/international-standard-setting/aquatic-code/access-online/. The book may be also be ordered from OIE online bookshop at http://www.oie.int/boutique/index.php?lang=en.

OIE Manual of Diagnostic Tests for Aquatic Animals, 2010. The purpose of this manual is to provide a uniform approach to the detection of the diseases listed in the OIE *Aquatic Animal Health Code*, so that the requirements for health certification in connection with trade in aquatic animals and aquatic animal products can be met. It includes bibliographical references and a list of the OIE Reference Laboratories for amphibian, crustacean, fish and mollusc diseases. The manual is available for free download at http://www.oie.int/en/international-standard-setting/aquatic-manual/access-online/ and can be ordered at http://www.oie.int/boutique/index.php?lang=en.

Senapin, S., Phiwsaiya, K., Gangnonngiw, W., Flegel, T., 2011. **False rumours of disease outbreaks caused by infectious myonecrosis virus (IMNV) in the whiteleg shrimp in Asia.** Journal of Negative Results in BioMedicine, 10:10.

Rodgers, C.J., Mohan, C.V., Peeler, E.J., 2011. **The spread of pathogens through trade in aquatic animals and their products.** Rev. Sci. Tech, Off. Int. Epiz., 30: 241-256.

Jithendran, K.P., Shekar, M.S., Kannapan, S., Azad, I.S., 2011. **Nodavirus infection in freshwater ornamental fishes in India: diagnostic histopathology and nested PCR.** Asian Fisheries Science, 24:12-19.

Alday-Sanz, V., 2010. Chapter 24: **Designing a biosecurity plan at the facility level: criteria, steps and obstacles.** In: V. Alday-Sanz (ed), The Shrimp Book, Nottingham University Press. p. 655-678.

Benitez, J., Juarez, L., 2010. Chapter 30: **The State Committees for Aquaculture Health: a success story from Mexico.** In: V. Alday-Sanz (ed), The Shrimp Book, Nottingham University Press. p. 821-833

Chen, S., Santos, M.D., Cowley, J., 2010. Chapter 28: **What will PCR bring to shrimp farming: contribution, compromise or conflict.** In: V. Alday-Sanz (ed), The Shrimp Book, Nottingham University Press. p. 751-772.

Corsin, F., de Blas, N., 2010. Chapter 27: **Shrimp epidemiology: applying population-based methods to shrimp health management.** In: V. Alday-Sanz (ed), The Shrimp Book, Nottingham University Press. p. 713-749.

Cuellar-Anjel, J., Corteel, M., Galli, L., Alday-Sanz, V., Hasson, K.W., 2010. Chapter 22: **Principal shrimp infectious diseases, diagnosis and management**. In: V. Alday-Sanz (ed), The Shrimp Book, Nottingham University Press. p. 517-621

Flegel, T.W., 2010. Chapter 23: **Importance of host-viral interactions in the control of shrimp disease outbreaks.** In: V. Alday-Sanz (ed), The Shrimp Book, Nottingham University Press. p. 623-654.

Karunasagar, In., Karunasagar, Id., Alday-Sanz, V., 2010. Chapter 26: **Immunostimulants, probiotics and phage therapy: alternatives to antibiotics.** In: V. Alday-Sanz (ed), The Shrimp Book, Nottingham University Press. p. 695-711.

Lotz, J.M., 2010. Chapter 25: **Evolutionary principles applied to disease control and health management in shrimp aquaculture.** In: V. Alday-Sanz (ed), The Shrimp Book, Nottingham University Press. p. 679-694.

Smith, P., 2010. Chapter 29: **An economic framework for discussing antimicrobial agent use in shrimp farming.** In: V. Alday-Sanz (ed), The Shrimp Book, Nottingham University Press. p. 773-820.

Lightner, D.V., Redman, R.M., 2010. **The global status of significant infectious diseases of farmed shrimp.** Asian Fisheries Science, 23:383-426.

Kono, T., Fall, J., Korenaga, H., Takayama, H., Iizasa, T., Mekata, T., Itami, T., Sakai, M., 2010. **Immunomodulation by DNA vaccination against white spot syndrome virus (WSSV).** Asian Fisheries Science, 23:435-446.

Sudhakaran, R., Mekata, T., Inada, M., Okugawa, S., Kono, T., Supamattaya, K., Yoshida, T., Sakai, M., Itami, T., 2010. **Development of rapid, simple and sensitive real-time reverse transcriptase loop-mediated isothermal amplification method (RT-LAMP) to detect viral diseases (PRDV, YHV, IHHNV and TSV) of penaeid shrimp.** Asian Fisheries Science, 23:561-575.

SEAFDEC AQD, 2010. **Prevention and Control of Parasites in Groupers** (Flyer). SEAFDEC Aquaculture Department, Tigbauan, Iloilo, Philippines. Available for free download at http://www.seafdec.org.ph/publications_downloadable.html

Corsin, F., Georgiadis, M., Larry Hammel, K. and Hill, B., 2009. **Guide for Aquatic Animal Health Surveillance**. World Organization for Animal Health (OIE), Paris, France. 114 pp. Efficient and reliable surveillance systems generate sound evidence for disease incidence, prevalence and distribution, or for demonstrating disease absence. Science-based decisions regarding the health of aquatic animals rely on the information generated by surveillance programs. This practical handbook about surveillance is intended to be used mainly by Veterinary Services or other Competent Authorities, their staff and experts, for designing, implementing, and evaluating surveillance systems for diseases of relevance for aquatic animals in their country. The book can be ordered at http://www.oie.int/boutique/index.php?lang=en.

WHO-FAO Food Hygiene (Basic Texts), 4th Edition, 2009. World Health Organization and Food and Agriculture Organization of the United Nation, Rome, Italy. The Codex basic texts on food hygiene promote understanding of how rules and regulations on food hygiene are developed and applied. The General Principles of food hygiene cover hygiene practices from primary production through to final consumption, highlighting the key hygiene controls at each stage. This publication also contains the most internationally used description of the Hazard Analysis and Critical Control Point (HACCP) system and guidelines for its application. This fourth edition includes texts adopted by the Codex Alimentarius Commission up to 2009. The texts will be of use to government authorities, food industries, food handlers and consumers, as well as teachers and students of food hygiene.

Bondad-Reantaso, M.G., Arthur, J.R., Subasinghe, R.P. (eds), 2009. **Strengthening Aquaculture Health Management in Bosnia and Herzegovina**. FAO Fisheries and Aquaculture Technical Paper No. 524, Food an Agriculture Organization of the United Nation, Rome, Italy. 83 pp.

FAO, 2009. **Report of the International Disease Investigation Task Force on a Serious Finfish Disease in Southern Africa**. Food and Agriculture Organization of the United Nations, Rome, Italy. 70 pp.

FAO, 2009. **What You Need to Know about Epizootic Ulcerative Syndrome: An Extension Brochure**. Food and Agriculture Organization of the United Nations, Rome, Italy. 33 pp.

RECOFI. 2009. Proposal for a Regional Programme for Improving Aquatic Animal Health in RECOFI Member Countries. FAO Fisheries and Aquaculture Report No. 876, Food and Agriculture Organization of the United Nations, Rome, Italy. p. 101-118

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

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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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Published by the Network of Aquaculture Centres in Asia-Pacific and the Food and Agriculture Organization of the United Nations. For inquiries regarding editorial or technical content, please write to
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ISSN 1513-6558