



# **QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)**

**July – September 2010**

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## Foreword

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### 9<sup>th</sup> Meeting of the Asia Regional Advisory Group on Aquatic Animal Health

The 9<sup>th</sup> Meeting of the Asia Regional Advisory Group on Aquatic Animal Health (AG) was held at Maruay Garden Hotel in Bangkok, Thailand on 8-10 November 2010. The 9<sup>th</sup> AG is composed of Drs. Jie Huang and Karim Ben Jebara (World Organisation for Animal Health (OIE)), Dr. Melba Reantaso (Food and Agriculture Organization of the United Nations (FAO)), Dr. Ingo Ernst (Department of Agriculture, Fisheries and Forestry, Australia), Dr. Sayuri Iwaki (OIE Regional Representation for Asia and the Pacific, Tokyo, Japan), Drs. Timothy Flegel and Supranee Chinabut (Thailand), Dr. Somkiat Kanchanakhan (Aquatic Animal Health Research Institute (AAHRI), Thailand), Dr. Siow Foong Chang (Intervet, Singapore), Dr. Edgar Amar (SEAFDEC Aquaculture Department, Philippines), and Drs. C.V. Mohan, Eduardo Leñaño and Simon Wilkinson (NACA). Dr. Temduong Somsiri (AAHRI, Thailand) attended as Co-opted Member.

During the three-day meeting, current concerns and issues on aquatic animal health in the region were presented. Bio-security, food safety, animal welfare and other health-related topics were also discussed. Progress report of NACA's Regional Aquatic Animal Health Programme and the overall Research and Development activities were presented by Drs. Leñaño and Mohan, respectively. Updates on aquatic animal health in the region including some emerging threats were presented by Dr. Flegel (Crustaceans), Dr. Chang (Finfishes) and Dr. Kanchanakhan (Amphibians). There was no available update on mollusks diseases. From the presentations, one issue that needed immediate attention was the present threat of the Infectious Myonecrosis (IMN) which is currently affecting pond-cultured *Penaeus vannamei* in Indonesia. The disease was reported way back in 2006 which was somehow contained in East Java until 2008. From 2009, however, the disease was observed to spread to other provinces and at present, the virus (IMNV) is infecting cultured *P. vannamei* in several provinces in Indonesia (including East Java, Bali, Lampung, West Java, Central Java, West Kalimantan, West Nusa Tenggara and more recently Aceh). As *P. vannamei* is now popularly cultured in many Asian countries, the threat of spreading the disease from Indonesia to neighboring *P. vannamei*-producing countries is relatively high, due to continuous transport (legal or illegal) of *P. vannamei* stocks within the region. Increased awareness and preparedness on IMN are, therefore, needed. In response to this, NACA has disseminated a Disease Advisory on IMN and this can be downloaded at NACA website (<http://www.enaca.org/modules/news/article.php?storyid=1891>). In collaboration with FAO, a regional workshop on emergency preparedness to deal with IMNV threat in the Asia-Pacific region is also being planned for implementation the soonest time possible.

Progress reports from other partner agencies were also presented and these include programmes and activities on aquatic animal health of FAO (Dr. Reantaso), Australian Department of Agriculture, Forestry and Fisheries (Dr. Ernst), SEAFDEC Aquaculture Department (Dr. Leñaño on behalf of Dr. Amar), and the Aquatic Animal Health Research Institute, Thailand (Dr. Somsiri). The AG appreciated the initiatives of FAO on the different aquatic animal health projects that have been and are being implemented in the region. The value of the recently

completed AquaPlan of Australia was also highly recognized for their success in the implementation of national aquatic animal health strategies, and the AG suggested that lessons learnt from this programme should be widely disseminated in the region. The current Fish Health Projects of SEAFDEC Aquaculture Department with funding from the Japanese Trust Fund will all be contributory and significant to the aquatic animal health management in the region, especially among member countries where aquatic animal health capacities are still lacking. Thailand's successful and active aquatic animal disease surveillance, emergency preparedness and contingency planning were highly commended and was suggested for dissemination to other member governments for awareness and capacity building programmes.

Review and updates on disease reporting in Asia-Pacific were presented by Drs. Leaño (for NACA) and Iwaki (for OIE Regional Representation in Asia and the Pacific). Aquatic animal health surveillance in the region through the Quarterly Aquatic Animal Disease (QAAD) reporting system has been a useful mechanism for recognizing existing and emerging diseases. The published QAAD reports have generated important information on aquatic animal diseases that are present or absent in the different areas of the region. On the other hand, status of global disease reporting through the online World Animal Health Information System (WAHIS) was presented by Dr. Ben Jebara. The WAHIS Regional Core is now being finalized and will be scheduled for pilot-testing with at least four member countries prior to its launch. The WAHIS Regional Core will replace the QAAD reporting system once it is fully implemented.

Updates on OIE list of diseases highlighted the full listing of Necrotising Hepatopancreatitis of shrimps, as adopted by the World Assembly of delegates in May 2010. Accordingly, the QAAD list of diseases was revised based on this update. The new list of diseases will be used for disease reporting starting January 2011.

Other matters discussed during the meeting include the revision of AG's terms of reference (TOR) in order to broaden its scope after considering the current issues and concerns on aquatic animal health, examples of which are the issues on bio-security and certification. List of Regional Resource Experts (RREs), Regional Reference Laboratories (RRLs) and Regional Reference Centres (RREs) were also updated.

The AG, established in 2001 by the Governing Council of NACA, provides advice to NACA members in the Asia-Pacific region on aquatic animal health management. Recommendations of the AG provide guidance to governments in coordinating the implementation of aquatic animal health management strategies. The detailed report with recommendations will be circulated to Competent Authorities and National Coordinators/Aquatic Focal Points in Asia Pacific and made available at NACA website for free download.

## **Reports Received by the NACA Secretariat**

Country: AUSTRALIAPeriod: July - September 2010

Item	Disease status <sup>al</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
<b>DISEASES PREVALENT IN THE REGION</b>	July	August	September		
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Epizootic haematopoietic necrosis	-(2009)	-(2009)	-(2009)		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	+	+	-(2010)	II	2
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	-(2010)	+	-(2010)	II	3
10. Enteric septicaemia of catfish	-(2010)	-(2010)	-(2010)		4
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	0000	0000	0000		
2. Infection with <i>Perkinsus olseni</i>	-(2009)	-(2009)	-(2009)		5
3. Abalone viral mortality	-(2010)	-(2010)	-(2010)		6
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	0000	0000	0000		
5. Acute viral necrosis (in scallops)	***	***	***		
6. Akoya oyster disease	0000	0000	0000		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
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
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	***	***	***		
8. <i>Monodon</i> slow growth syndrome	0000	0000	0000		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	0000	0000	0000		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	-(2008)	-(2008)	-(2008)		9
2. Infection with <i>Batrachochytrium dendrobatidis</i>	-(2010)	-(2010)	-(2010)		10
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					



<p><b>DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup></b>  <b>LISTED BY THE OIE</b>  <b>Finfish:</b> Infectious salmon anaemia; Gyrodactylosis (<i>Gyrodactylus salaris</i>).  <b>Molluscs:</b> Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>.  <b>Crustaceans:</b> Crayfish plague (<i>Aphanomyces astaci</i>).  <b>NOT LISTED BY THE OIE</b>  <b>Finfish:</b> Channel catfish virus disease</p>			
<p>a/ Please use the following symbols:</p>			
+	Disease reported or known to be present	+()	Occurrence limited to certain zones
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence
<p>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</p>			

**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	<p>Epizootic haematopoietic necrosis was not reported during 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 or Western Australia. No information available this period, but known to occur in the Australian Capital Territory (last year reported 2008).</p>
2	<p><b>Epizootic ulcerative syndrome</b></p> <ol style="list-style-type: none"> <li>1. <b>Reported in New South Wales</b> in July 2010. Passive surveillance;</li> <li>2. <b>In</b> i. golden perch (<i>Macquaria ambigua</i>), bony bream (<i>Nematalosa erebi</i>), Murray cod (<i>Maccullochella peelii</i>); ii. Spangled perch (<i>Leiopotherapon unicolor</i>), goldfish (<i>Carassius auratus</i>), common carp (<i>Cyprinus carpio</i>);</li> <li>3. <b>Clinical signs-</b> Lesions consistent with EUS at prevalence of 10% infection;</li> <li>4. <b>Pathogen-</b> <i>Aphanomyces invadans</i>;</li> <li>5. <b>Mortality rate-</b> low mortality;</li> <li>6. <b>Economic loss-</b> n/a;</li> <li>7. <b>Geographic extent-</b> 200 km reach of Darling River between Bourke and Brewarrina;</li> <li>8. <b>Containment measures-</b> nil;</li> <li>9. <b>Laboratory confirmation-</b> diagnosed by i. PCR, ii. histopathology;</li> <li>10. <b>Publications-</b> unpublished.</li> </ol> <ol style="list-style-type: none"> <li>1. <b>Reported in Queensland</b> in August 2010. Passive surveillance;</li> <li>2. <b>In</b> adult barcoo grunter (<i>Scortum barcoo</i>), golden perch (<i>Macquaria ambigua</i>), silver tandan (<i>Porochilus argenteus</i>), bony bream (<i>Nematalosa erebi</i>);</li> <li>3. <b>Clinical signs-</b> skin ulcerations consistent with EUS;</li> <li>4. <b>Pathogen-</b> <i>Aphanomyces invadans</i>;</li> <li>5. <b>Mortality rate-</b> unknown but significant;</li> <li>6. <b>Economic loss-</b> n/a;</li> </ol>

<p>2</p>	<p>7. <b>Geographic extent-</b> single waterhole on Etabuka-Ulligan River – northern reaches of Murray-Darling system;              8. <b>Containment measures-</b> nil;              9. <b>Laboratory confirmation-</b> Confirmation by histopathology in <i>Scortum barcoo</i>;              10. <b>Publications-</b> unpublished.</p> <p>Epizootic ulcerative syndrome was not reported during this period despite targeted surveillance, but is known to have occurred previously in South Australia (last year reported 2008). Not reported during this period despite passive surveillance, but is known to have occurred previously in Northern Territory (last reported 2<sup>nd</sup> quarter 2010), Victoria (last reported 1<sup>st</sup> quarter 2010), and Western Australia (last year reported 2009). Passive surveillance and never reported in Tasmania. No information available in the Australian Capital Territory.</p>
<p>3</p>	<p><b>Viral Encephalopathy and Retinopathy</b></p> <p>1. <b>Reported in Queensland</b> in August 2010. Passive surveillance;              2. <b>In 25 day old barramundi</b> (<i>Lates calcarifer</i>);              3. <b>Clinical signs-</b> low mortality;              4. <b>Pathogen-</b> Betanovirus;              5. <b>Mortality rate-</b> 0.01%;              6. <b>Economic loss-</b> not reported;              7. <b>Geographic extent-</b> six nursery tanks on single hatchery;              8. <b>Containment measures-</b> nil;              9. <b>Laboratory confirmation-</b> diagnosed by histopathology;              10. <b>Publications-</b> unpublished.</p> <p>Viral encephalopathy and retinopathy was not reported this period despite passive surveillance, but is known to have occurred previously in South Australia (last reported 2<sup>nd</sup> quarter 2010), Northern Territory (last year reported 2009), New South Wales (last year reported 2008), Western Australia (last year reported 2005) and Tasmania (last year reported 2000). Never reported from Victoria despite passive surveillance. No information available this period in the Australian Capital Territory.</p>
<p>4</p>	<p>Enteric septicaemia of catfish was not reported this period despite passive surveillance but is known to have occurred previously in the Northern Territory (last reported 1<sup>st</sup> quarter 2010), Queensland (last year reported 2008) and in Tasmania in zebrafish (<i>Brachydanio rerio</i>) in PC2 containment (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.</p>
<p>5</p>	<p>Infection with <i>Perkinsus olseni</i> was not reported this period despite passive surveillance but is known to have occurred previously in South Australia (last reported 1<sup>st</sup> quarter 2009), 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 in the Australian Capital Territory (no marine water responsibility).</p>
<p>6</p>	<p>Abalone viral ganglioneuritis was not reported this period despite targeted surveillance, but is known to have occurred previously in Tasmania (last year reported 2009). Not reported this period despite passive surveillance, but known to have occurred previously in Victoria (last reported 1<sup>st</sup> quarter 2010). Passive surveillance and never reported in Queensland, New South Wales, South Australia and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility) and Northern Territory.</p>

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 (reported to have occurred in 2008). 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 <i>Batrachochytrium dendrobatidis</i> was not reported this period despite passive surveillance but is known to have occurred previously in Western Australia (reported to have occurred in 2008). Suspected but not confirmed this period despite passive surveillance in Queensland. No information available this period in the Australian Capital Territory, New South Wales, Northern Territory, South Australia and Victoria. No information available this period, but known to occur in Tasmania (last reported 1 <sup>st</sup> quarter 2010).

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

Country: **BANGLADESH**

 Period: **July - September 2010**

Item	Disease status <sup>al</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
<b>DISEASES PREVALENT IN THE REGION</b>	July	August	September		
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
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		
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	0000	0000	0000		
10. Enteric septicaemia of catfish	0000	0000	0000		
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	0000	0000	0000		
2. Infection with <i>Perkinsus olseni</i>	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
6. Akoya oyster disease	0000	0000	0000		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	-	-	-		
3. Yellowhead disease	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Infectious myonecrosis	0000	0000	0000		
6. White tail disease (MrNV)	0000	0000	0000		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. <i>Monodon</i> slow growth syndrome	0000	0000	0000		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	0000	0000	0000		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	0000	0000	0000		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1. Monosex tilapia mortality	+	+	+	I,II	1
2.					

**DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup>  
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
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence

b/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases

**1. Epidemiological comments:**

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

Comment No.	
1	
2	

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

Country: **HONG KONG SAR**Period: **July - September 2010**

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
<b>DISEASES PREVALENT IN THE REGION</b>	July	August	September		
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Epizootic haematopoietic necrosis	0000	0000	0000	II	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia	0000	0000	0000	III	
5. Epizootic ulcerative syndrome	0000	0000	0000	II	
6. Red seabream iridoviral disease	-	-	-	III	
7. Koi herpesvirus disease	-	-	-	III	
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	-	-	-	III	
9. Viral encephalopathy and retinopathy	-	-	-	III	
10. Enteric septicaemia of catfish	0000	0000	0000	II	
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	0000	0000	0000	II	
2. Infection with <i>Perkinsus olseni</i>	0000	0000	0000	II	
3. Abalone viral mortality	0000	0000	0000	II	
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	0000	0000	0000	II	
5. Acute viral necrosis (in scallops)	0000	0000	0000	II	
6. Akoya oyster disease	0000	0000	0000	II	
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	0000	0000	0000	III	
2. White spot disease	+	-	-	III	1
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	
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	0000	0000	0000	II	
8. <i>Monodon</i> slow growth syndrome	0000	0000	0000	II	
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	0000	0000	0000	II	
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	0000	0000	0000	II	
2. Infection with <i>Batrachochytrium dendrobatidis</i>	0000	0000	0000	II	
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					

<p><b>DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup></b>  <b>LISTED BY THE OIE</b>  <b>Finfish:</b> Infectious salmon anaemia; Gyrodactylosis (<i>Gyrodactylus salaris</i>).  <b>Molluscs:</b> Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>.  <b>Crustaceans:</b> Crayfish plague (<i>Aphanomyces astaci</i>).  <b>NOT LISTED BY THE OIE</b>  <b>Finfish:</b> Channel catfish virus disease</p>			
<p>a/ Please use the following symbols:</p>			
+	Disease reported or known to be present	+()	Occurrence limited to certain zones
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence
<p>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</p>			

**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	White spot syndrome virus was detected from a group of red lobsters that had been submitted for health certification.
2	
3	

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

Country: **INDIA**

 Period: **July - September 2010**

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
DISEASES PREVALENT IN THE REGION	July	August	September		
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
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		
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	0000	0000	0000		
10. Enteric septicaemia of catfish	0000	0000	0000		
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	0000	0000	0000		
2. Infection with <i>Perkinsus olseni</i>	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
6. Akoya oyster disease	0000	0000	0000		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
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)	-	-	-		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. <i>Monodon</i> slow growth syndrome	0000	0000	0000		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	0000	0000	0000		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	0000	0000	0000		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					



<p><b>DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup></b>  <b>LISTED BY THE OIE</b>  <b>Finfish:</b> Infectious salmon anaemia; Gyrodactylosis (<i>Gyrodactylus salaris</i>).  <b>Molluscs:</b> Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>.  <b>Crustaceans:</b> Crayfish plague (<i>Aphanomyces astaci</i>).  <b>NOT LISTED BY THE OIE</b>  <b>Finfish:</b> Channel catfish virus disease</p>			
<p>a/ Please use the following symbols:</p>			
+	Disease reported or known to be present	+()	Occurrence limited to certain zones
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence
<p>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</p>			

**1. Epidemiological comments:**

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

Comment No.	
1	Reported from very limited area of Ernakulam District in Kerala.
2	
3	

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

Country: **INDONESIA**

 Period: **July - September 2010**

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
DISEASES PREVALENT IN THE REGION	July	August	September		
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome	0000	0000	0000		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	?	+	+		1
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	-	+	+	III	2
9. Viral encephalopathy and retinopathy	+	-	+	III	3
10. Enteric septicaemia of catfish	0000	0000	0000		
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	0000	0000	0000		
2. Infection with <i>Perkinsus olseni</i>	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
6. Akoya oyster disease	0000	0000	0000		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	+	+	+	III	4
2. White spot disease	+	+	+	III	5
3. Yellowhead disease	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	6
5. Infectious myonecrosis	+	+	+	III	7
6. White tail disease (MrNV)	0000	0000	0000		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. <i>Monodon</i> slow growth syndrome	0000	0000	0000		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	0000	0000	0000		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	0000	0000	0000		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					

**DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup>**

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

b/ 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	<p><b>KHV</b></p> <ol style="list-style-type: none"> <li>-</li> <li>Species affected: Common carp (<i>Cyprinus carpio</i>)</li> <li>Clinical sign: low irritation on gill, fins and other parts of the body; haemorrhage; low appetite</li> <li>Pathogen: Koi herpes virus</li> <li>Mortality rate: low to high (30-70%)</li> <li>Economic loss:</li> <li>Names of infected areas: Central Java (Bayolali), West Sumatra (Solok), South Kalimantan (Banjar)</li> <li>Preventive/control measures: eradication of infected fish; quarantine procedures for non-infected fish (transferred to another pond)</li> <li>Laboratory confirmation: DGA Technical Implementing Unit Laboratory, Provincial Fisheries Laboratory by PCR</li> <li>Not published</li> </ol>
2	<p><b>GIV</b></p> <ol style="list-style-type: none"> <li>The virus infects mostly larval stages except in Karimunjawa where marketable-size fishes were found infected</li> <li>Species affected: Polkadot grouper (<i>Cromileptes altivelis</i>), Tiger grouper (<i>Ephinephelus fuscoguttatus</i>), Clown fish (<i>Entacmaea quadricolor</i>), Silver pompano (<i>Trachionotus blochii</i>) and Red snapper (<i>Lutjanus argentimaculatus</i>)</li> <li>Clinical sign : abnormally swim at surface, no response, irritation at part of body, finding giant cell at kidney, no clinical sign on some samples;</li> <li>Pathogen : Grouper iridoviral disease;</li> <li>Mortality rate: low to moderate (1-30%)</li> <li>Economic loss: not significant</li> </ol>

2	<p><b>GIV (continued)...</b></p> <ol style="list-style-type: none"> <li>7. Names of infected areas: Lampung (Hurun Bay, Tanjung Putus and Puhawang Island), Batam, and Central Java (Karimunjawa).</li> <li>8. Preventive/control measures:</li> <li>9. Laboratory confirmation: DGA Technical Implementing Unit Laboratory by PCR</li> <li>10. Not published</li> </ol>
3	<p><b>VNN</b></p> <ol style="list-style-type: none"> <li>1. Diseases were found in hatchery (larval stage)</li> <li>2. Species affected: Tiger grouper (<i>Ephinephelus fuscoguttatus</i>), Polkadot grouper (<i>Cromileptes altivelis</i>), White snapper (<i>Lates calcarifer</i>) and Silver pompano (<i>Trachinotus blochi</i>)</li> <li>3. Clinical sign: surface swimming (spiral, whirling or belly – up rest), black body, bad response, gill haemorrhage, sleepy at bottom of the tank</li> <li>4. Pathogen: Viral Nervous Necrosis Virus</li> <li>5. Mortality rate: low (less than 50%)</li> <li>6. Economic loss: not significant</li> <li>7. Names of infected areas: East Java (Situbondo), Lampung (Hurun Bay), Batam</li> <li>8. Preventive/control measures:</li> <li>9. Laboratory confirmation: DGA Technical Implementing Unit Laboratory by PCR</li> <li>10. Not published</li> </ol>
4	<p><b>TSV</b></p> <ol style="list-style-type: none"> <li>1. -</li> <li>2. Species affected : White shrimp (<i>Litopenaeus vanamei</i>)</li> <li>3. Clinical signs: mass mortality at the moulting shrimp</li> <li>4. Pathogen : Taura Syndrome Virus</li> <li>5. Economic loss : -</li> <li>6. Mortality rate: medium to high (30-70%)</li> <li>7. Name of infected area: Central Java (Jepara), East Java (Situbondo, Lamongan), West Nusa Tenggara (West Sumbawa)</li> <li>8. Preventive/control measures: Early harvest</li> <li>9. Laboratory confirmation: DGA Technical Implementing Unit Laboratory by PCR</li> <li>10. Not published</li> </ol>
5	<p><b>WSSV</b></p> <ol style="list-style-type: none"> <li>1. -</li> <li>2. Species affected: Tiger shrimp (<i>Penaeus monodon</i>), White shrimp (<i>Litopenaeus vanamei</i>)</li> <li>3. Clinical sign: White spot on carapace, shrimp becoming weak and swimming on the surface and near pond dikes</li> <li>4. Pathogen: White Spot Syndrome Virus (Whispovirus)</li> <li>5. Mortality rate : medium to high (&gt;70%)</li> <li>6. Economis loss : -</li> <li>7. Infected area: West Java (Indramayu), Central Java (Jepara), East Java (Lamongan)</li> <li>8. Preventive/Control measures: Early harvest, application of probiotics, intensified water exchange</li> <li>9. Laboratory confirmation: DGA Technical Implementing Unit Laboratory by PCR</li> <li>10. Not published</li> </ol>

<p>6</p>	<p><b>IHHNV</b></p> <ol style="list-style-type: none"> <li>1. -</li> <li>2. Species affected: White shrimp (<i>Litopenaeus vannamei</i>)</li> <li>3. Clinical sign: slow growth (very small size/dwarf)</li> <li>4. Pathogen: Infectious Hypodermal and Haematophatic Necrosis Virus (Perpovirus)</li> <li>5. Mortality rate: medium to high (40-70%)</li> <li>6. Economic loss : -</li> <li>7. Name of infected area: Central Java (Jepara), Bali (Negara)</li> <li>8. Preventive/Control measures:</li> <li>9. Laboratory confirmation: DGA Technical Implementing Unit Laboratory by PCR</li> <li>10. Not published</li> </ol>
<p>7</p>	<p><b>IMNV</b></p> <ol style="list-style-type: none"> <li>1. -</li> <li>2. Species affected: White shrimp (<i>Litopenaeus vanamei</i>)</li> <li>3. Clinical sign: broken shrimp meat with white sign, especially at abdomen and telson, positive detection by PCR</li> <li>4. Pathogen: Infectious Myonecrosis Virus</li> <li>5. Mortality rate: high (<math>\pm</math> 70%)</li> <li>6. Economic loss:</li> <li>7. Prevetive/Control measures taken: Early harvest if possible</li> <li>8. Infected area: Lampung, Aceh, Lampung, West Java (Indramayu, Tengerang), Central Java (Brebes, Jepara), East Java (Situbondo, Lamongan) West Nusa Tenggara (West Sumbawa)</li> <li>9. Laboratory confirmation: DGA Technical Implementing Unit Laboratory by PCR</li> <li>10. Not published</li> </ol>

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

Country: **IRAN**

 Period: **January - March 2010**

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	January	February	March		
<b>DISEASES PREVALENT IN THE REGION</b>					
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
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		
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	0000	0000	0000		
10. Enteric septicaemia of catfish	***	***	***		
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	***	***	***		
2. Infection with <i>Perkinsus olseni</i>	***	***	***		
3. Abalone viral mortality	***	***	***		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
6. Akoya oyster disease	***	***	***		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	-	-	-		
3. Yellowhead disease	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Infectious myonecrosis	***	***	***		
6. White tail disease (MrNV)	***	***	***		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	***	***	***		
8. <i>Monodon</i> slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	***	***	***		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	***	***	***		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	***	***	***		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					

**DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup>  
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
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence

b/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases

**1. Epidemiological comments:**

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

Comment No.	
1	
2	

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

Country: IRANPeriod: April - June 2010

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
DISEASES PREVALENT IN THE REGION	April	May	June		
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
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		
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	0000	0000	0000		
10. Enteric septicaemia of catfish	***	***	***		
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	***	***	***		
2. Infection with <i>Perkinsus olseni</i>	***	***	***		
3. Abalone viral mortality	***	***	***		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
6. Akoya oyster disease	***	***	***		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	-	-	-		
3. Yellowhead disease	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Infectious myonecrosis	***	***	***		
6. White tail disease (MrNV)	***	***	***		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	***	***	***		
8. <i>Monodon</i> slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	***	***	***		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	***	***	***		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	***	***	***		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					



**DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup>**

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

b/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases

**1. Epidemiological comments:**

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

Comment No.	
1	
2	

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

Country: IRANPeriod: July - September 2010

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
DISEASES PREVALENT IN THE REGION	July	August	September		
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
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		
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	0000	0000	0000		
10. Enteric septicaemia of catfish	***	***	***		
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	***	***	***		
2. Infection with <i>Perkinsus olseni</i>	***	***	***		
3. Abalone viral mortality	***	***	***		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
6. Akoya oyster disease	***	***	***		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
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)	***	***	***		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	***	***	***		
8. <i>Monodon</i> slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	***	***	***		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	***	***	***		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	***	***	***		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					

<p><b>DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup></b>  <b>LISTED BY THE OIE</b>  <b>Finfish:</b> Infectious salmon anaemia; Gyrodactylosis (<i>Gyrodactylus salaris</i>).  <b>Molluscs:</b> Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>.  <b>Crustaceans:</b> Crayfish plague (<i>Aphanomyces astaci</i>).  <b>NOT LISTED BY THE OIE</b>  <b>Finfish:</b> Channel catfish virus disease</p>			
<p>a/ Please use the following symbols:</p>			
+	Disease reported or known to be present	+( )	Occurrence limited to certain zones
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence
<p>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</p>			

**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	<p>By implementation of active surveillance system, WSD has been recognized in Choebdeh, Khozestan province:</p> <ol style="list-style-type: none"> <li>1) Origin of the disease: unknown, but it is under study.</li> <li>2) Species affected: <i>Litopenaeus vannamei</i></li> <li>3) Clinical signs: sudden decrease in feeding, swimming near the edge of the ponds, reddish body, white spot on cuticle.</li> <li>4) Morbidity rate: 100%</li> <li>5) Mortality rate: unknown</li> <li>6) Economic loss: no estimate</li> <li>7) Name of infected area: Choedeh in Abadan, Khozestan province</li> <li>8) Laboratory confirmation: virus was detected by nested-PCR and confirmed by National Shrimp Disease Laboratory in Boushehr.</li> <li>9) Preventive/Control Measures: stocks in ponds with high mortality were destroyed and facilities disinfected by 40 ppm calcium chloride.</li> </ol>
2	

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

Country: JAPANPeriod: July - September 2010

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	July	August	September		
<b>DISEASES PREVALENT IN THE REGION</b>					
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
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	-	-	+	II	
6. Red seabream iridoviral disease	+	+	+	III	
7. Koi herpesvirus disease	+	+	+	III	
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	0000	0000	0000	I	
9. Viral encephalopathy and retinopathy	-	+	+	III	
10. Enteric septicaemia of catfish	-	+	+	III	
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	0000	0000	0000	I	
2. Infection with <i>Perkinsus olseni</i>	-	-	-	I	
3. Abalone viral mortality	0000	0000	0000	I	
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	-	-	-	I	
5. Acute viral necrosis (in scallops)	0000	0000	0000	I	
6. Akoya oyster disease	-	+	+	II	
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
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	
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	0000	0000	0000	I	
8. <i>Monodon</i> slow growth syndrome	0000	0000	0000	I	
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	0000	0000	0000	I	
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	-	+?	+	III	1
2. Infection with <i>Batrachochytrium dendrobatidis</i>	-	-	-	I	
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					

<p><b>DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup></b>  <b>LISTED BY THE OIE</b>  <b>Finfish:</b> Infectious salmon anaemia; Gyrodactylosis (<i>Gyrodactylus salaris</i>).  <b>Molluscs:</b> Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>.  <b>Crustaceans:</b> Crayfish plague (<i>Aphanomyces astaci</i>).  <b>NOT LISTED BY THE OIE</b>  <b>Finfish:</b> Channel catfish virus disease</p>			
<p>a/ Please use the following symbols:</p>			
+	Disease reported or known to be present	+()	Occurrence limited to certain zones
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence
<p>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</p>			

**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	DNA of Ranavirus was isolated from <i>Rana catesbeiana</i> showing no clinical symptom in August.
2	
3	

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

Country: **MALAYSIA**Period: **July - September 2010**

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	July	August	September		
<b>DISEASES PREVALENT IN THE REGION</b>					
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000	I,II,III	
3. Spring viraemia of carp	0000	0000	0000	I,II,III	
4. Viral haemorrhagic septicaemia	0000	0000	0000	I,II,III	
5. Epizootic ulcerative syndrome	(1986)	(1986)	(1986)		
6. Red seabream iridoviral disease	-	-	-		
7. Koi herpesvirus disease	0000	0000	0000	I,II,III	
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	-	-	-	I,II,III	1
9. Viral encephalopathy and retinopathy	-	-	-		
10. Enteric septicaemia of catfish	0000	0000	0000	III	
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	0000	0000	0000		
2. Infection with <i>Perkinsus olseni</i>	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
6. Akoya oyster disease					
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	-	-	-	I,II,III	2
2. White spot disease	+	+	+	I,II,III	3
3. Yellowhead disease	-	-	-	I,II,III	4
4. Infectious hypodermal and haematopoietic necrosis	-	+	-	I,II,III	5
5. Infectious myonecrosis	-	-	-	I,II,III	6
6. White tail disease (MrNV)	0000	0000	0000		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. <i>Monodon</i> slow growth syndrome	?	?	?		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	0000	0000	0000		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	-	?	-		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	0000	0000	0000		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1. <i>Streptococcus agalactiae</i> (Tilapia)	+	-	+	I,II	7
2.					

<p><b>DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup></b>  <b>LISTED BY THE OIE</b>  <b>Finfish:</b> Infectious salmon anaemia; Gyrodactylosis (<i>Gyrodactylus salaris</i>).  <b>Molluscs:</b> Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>.  <b>Crustaceans:</b> Crayfish plague (<i>Aphanomyces astaci</i>).  <b>NOT LISTED BY THE OIE</b>  <b>Finfish:</b> Channel catfish virus disease</p>			
<p>a/ Please use the following symbols:</p>			
+	Disease reported or known to be present	+()	Occurrence limited to certain zones
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence
<p>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</p>			

**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	<p><b>Diagnostic case in August: GIV</b></p> <p>1. All grouper fry and fingerling samples were negative for GIV tested in NaFish using IQ2000 kit. The samples were from Kodah and Penang.</p>
2	<p><b>TSV</b></p> <p>1. TSV was not detected in all samples sent to Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes. All samples were from sea-catch frozen prawns.</p> <p>2. No cases on reported PCR positive being detected, although active surveillance was conducted by DOF in East Malaysia.</p>
3	<p><b>WSSV</b></p> <p><b>Egg-PL</b></p> <p>1. 9 of 134 samples in July to September were tested positive to WSSV in the states of Johor, Perak and Kedah by LIR laboratory for routine and monitoring purposes.</p> <p><b>Juvenile-adults</b></p> <p>1. 10 of 85 samples in July to September were tested positive to WSSV in the states of Johor, Perak and Kedah by LIR laboratory for routine and monitoring purposes.</p>
4	<p><b>YHV</b></p> <p>1. YHV was not detected in all samples sent to LIR laboratory for routine and monitoring purposes.</p>

5	<p><b>IHHNV</b></p> <ol style="list-style-type: none"> <li>1. Samples: frozen black tiger shrimp (<i>Penaeus monodon</i>) from Pekan, Pahang. Five of six samples were found positive to IHHNV.</li> <li>2. IHHNV was not detected in all the samples sent to LIR laboratory for routine and monitoring purposes.</li> </ol>
6	<p><b>IMNV</b></p> <ol style="list-style-type: none"> <li>1. IMNV was not detected in all the samples sent to LIR laboratory for routine and monitoring purposes.</li> </ol>
7	<p><b><i>Streptococcus agalactiae</i></b></p> <ol style="list-style-type: none"> <li>1. Isolates were identified using BBL Crystal kit. Two tilapia samples received in this period were positive for <i>S. agalactiae</i> infection. Samples were from floating cage culture in Tasik Banding, Perak where tilapia produced are for export (US) market.</li> </ol>

2. New aquatic animal health regulations introduced within past six months (with effective date): None



Country: **MYANMAR**

 Period: **July - September 2010**

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	July	August	September		
<b>DISEASES PREVALENT IN THE REGION</b>					
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
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					
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10. Enteric septicaemia of catfish	***	***	***		
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>					
2. Infection with <i>Perkinsus olseni</i>					
3. Abalone viral mortality					
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>					
5. Acute viral necrosis (in scallops)					
6. Akoya oyster disease					
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	-	-	-	III	1
2. White spot disease	-	-	-	III	1
3. Yellowhead disease	-	-	-	III	
4. Infectious hypodermal and haematopoietic necrosis	-	-	-	III	1
5. Infectious myonecrosis	***	***	***		
6. White tail disease (MrNV)	***	***	***		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	***	***	***		
8. <i>Monodon</i> slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	***	***	***		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus					
2. Infection with <i>Batrachochytrium dendrobatidis</i>					
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					

<p><b>DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup></b>  <b>LISTED BY THE OIE</b>  <b>Finfish:</b> Infectious salmon anaemia; Gyrodactylosis (<i>Gyrodactylus salaris</i>).  <b>Molluscs:</b> Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>.  <b>Crustaceans:</b> Crayfish plague (<i>Aphanomyces astaci</i>).  <b>NOT LISTED BY THE OIE</b>  <b>Finfish:</b> Channel catfish virus disease</p>			
<p>a/ Please use the following symbols:</p>			
+	Disease reported or known to be present	+( )	Occurrence limited to certain zones
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence
<p>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</p>			

**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 and tested WSSV, IHHNV and TSV of 7 samples (3 frozen shrimps and 4 broodstock) for export and all showed negative result.

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

Country: **NEPAL**

 Period: **July - September 2010**

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	July	August	September		
<b>DISEASES PREVALENT IN THE REGION</b>					
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
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		
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10. Enteric septicaemia of catfish	***	***	***		
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	***	***	***		
2. Infection with <i>Perkinsus olseni</i>	***	***	***		
3. Abalone viral mortality	***	***	***		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
6. Akoya oyster disease	***	***	***		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	***	***	***		
2. White spot disease	***	***	***		
3. Yellowhead disease	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Infectious myonecrosis	***	***	***		
6. White tail disease (MrNV)	***	***	***		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	***	***	***		
8. <i>Monodon</i> slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	***	***	***		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	***	***	***		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	***	***	***		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					

<p><b>DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup></b>  <b>LISTED BY THE OIE</b>  <b>Finfish:</b> Infectious salmon anaemia; Gyrodactylosis (<i>Gyrodactylus salaris</i>).  <b>Molluscs:</b> Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>.  <b>Crustaceans:</b> Crayfish plague (<i>Aphanomyces astaci</i>).  <b>NOT LISTED BY THE OIE</b>  <b>Finfish:</b> Channel catfish virus disease</p>			
<p>a/ Please use the following symbols:</p>			
+	Disease reported or known to be present	+( )	Occurrence limited to certain zones
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence
<p>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</p>			

**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 2010**

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	July	August	September		
<b>DISEASES PREVALENT IN THE REGION</b>					
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Epizootic haematopoietic necrosis		0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome	-	-	-		
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	0000	0000	0000	III	1
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	-	-	-	III	2
9. Viral encephalopathy and retinopathy	-	-	-	III	3
10. Enteric septicaemia of catfish	***	***	***		
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	0000	0000	0000		
2. Infection with <i>Perkinsus olseni</i>	0000	0000	0000		
3. Abalone viral mortality	***	***	***		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	0000	0000	0000		
5. Acute viral necrosis (in scallops)	***	***	***		
6. Akoya oyster disease	***	***	***		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	0000	0000	0000	III	4
2. White spot disease	-	-	-	III	5
3. Yellowhead disease	-	-	-	III	6
4. Infectious hypodermal and haematopoietic necrosis	+	-	-	III	7
5. Infectious myonecrosis	0000	0000	0000	III	8
6. White tail disease (MrNV)	0000	0000	0000	III	9
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	0000	0000	0000	III	10
8. <i>Monodon</i> slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	***	***	***		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	***	***	***		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	***	***	***		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					

**DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup>**

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

b/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases

**1. Epidemiological comments:**

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

Comment No.	
1	A total of one hundred sixty (160) pieces of koi carp ( <i>Cyprinus carpio koi</i> ) were collected for analysis and all samples showed a negative result for <i>Koi Herpesvirus</i> through Polymerase Chain Reaction (PCR) test. The samples were collected from the National Fisheries Biological Center (NFBC) of the National Fisheries Research and Development Institute (NFRDI) in Botong, Lemery, Batangas. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
2	Five (5) samples of giant trevally ( <i>Caranx ignobilis</i> ), one (1) sample of snapper ( <i>Lutjanus spp.</i> ) and two (2) samples of siganids ( <i>Siganus spp.</i> ) were analyzed using PCR test and all samples showed a negative result for <i>Grouper Iridovirus</i> . The eight (8) samples were collected from the NFBC of the NFRDI in Botong, Lemery, Batangas. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
3	Five (5) samples of giant trevally ( <i>Caranx ignobilis</i> ), one (1) sample of snapper ( <i>Lutjanus spp.</i> ) and two (2) samples of siganids ( <i>Siganus spp.</i> ) were analyzed through PCR test and all samples showed a negative result for <i>Viral Encephalopathy and Retinopathy</i> . The eight (8) samples were collected from the NFBC of the NFRDI in Botong, Lemery, Batangas. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
4	Forty-five (45) samples of <i>Penaeus vannamei</i> of different stages (broodstock, post-larval, larvae, juvenile and adult) were analyzed using the PCR test and all showed a negative result for <i>Taura Syndrome Virus</i> . The samples were collected from Iloilo City, Zambales, Occidental Mindoro, Quezon City and Batangas. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
5	Sixty-four (64) samples (9 <i>Penaeus monodon</i> ; 50 <i>Penaeus vannamei</i> ; 1 <i>Panulirus ornatus</i> ; 2 <i>Macrobrachium rosenbergii</i> ; and 2 <i>Scylla serrata</i> ) of different stages (broodstock, post-larval, larvae, juvenile and adult) were analyzed using the PCR test and all showed a negative result for <i>White Spot Virus</i> . The samples were collected from Leyte, Davao del Sur, Masbate, Batangas, Iloilo City, Rizal, Las Piñas City, Zambales, Occidental Mindoro, Camarines Sur, Agusan del Norte, Tacloban City and Quezon City. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.

6	Forty-seven (47) samples (46 <i>Penaeus vannamei</i> and 1 <i>Penaeus monodon</i> ) of different stages (broodstock, post-larval, larvae, juvenile and adult) were analyzed using the PCR test and all showed a negative result for <i>Yellowhead Virus</i> . The samples were collected from Iloilo City, Zambales, Occidental Mindoro, Quezon City and Batangas. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
7	Fifty-eight (58) samples (50 <i>Penaeus vannamei</i> ; 7 <i>Penaeus monodon</i> ; and 1 <i>Macrobrachium rosenbergii</i> ) of different stages (broodstock, post-larval, larvae, juvenile and adult) were analyzed. One (1) post-larval <i>Penaeus monodon</i> sample from Zambales showed a positive result for <i>Infectious Hypodermal and Haematopoietic Necrosis</i> using PCR test, while the remaining fifty-seven (57) samples showed a negative result. The samples were collected from Davao del Sur, Batangas, Iloilo City, Zambales, Rizal, Occidental Mindoro, Masbate, Camarines Sur, Agusan del Norte and Quezon City. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
8	Forty-six (46) samples of <i>Penaeus vannamei</i> of different stages (broodstock, post-larval, larvae, juvenile and adult) were collected and all showed a negative result for <i>Infectious Myonecrosis</i> through PCR test. The samples were collected from Iloilo City, Zambales Occidental Mindoro, Batangas and Quezon City. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
9	A single sample of a post-larval <i>Macrobrachium rosenbergii</i> collected from the SEAFDEC Freshwater Station in Binangonan, Rizal was examined using PCR test. The sample showed a negative result for White Tail Disease (MrNV). Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory.
10	Thirty-four (34) samples (1 <i>Penaeus monodon</i> and 33 <i>Penaeus vannamei</i> ) of different stages (post-larval, larvae, juvenile and adult) were analyzed using the PCR test and all samples showed a negative result for <i>Necrotizing Hepatopancreatitis</i> . The samples were collected from Occidental Mindoro, Iloilo City, Batangas, Agusan del Sur, Quezon City and Davao del Sur. 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 2010**

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
DISEASES PREVALENT IN THE REGION	July	August	September		
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome	0000	0000	0000		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	+	(2010)	(2010)	I,III	1
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	(2010)	(2010)	(2010)	I, II, III	
9. Viral encephalopathy and retinopathy	-	-	-		
10. Enteric septicaemia of catfish	0000	0000	0000		
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	***	***	***		
2. Infection with <i>Perkinsus olseni</i>	***	***	***		
3. Abalone viral mortality	***	***	***		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
6. Akoya oyster disease	***	***	***		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	***	***	***		
2. White spot disease	(2010)	(2010)	(2010)		
3. Yellowhead disease	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Infectious myonecrosis	***	***	***		
6. White tail disease (MrNV)	***	***	***		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	***	***	***		
8. <i>Monodon</i> slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	***	***	***		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	***	***	***		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	***	***	***		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1. Mullet systemic iridoviral disease	(2010)	(2010)	(2010)	I, II, III	
2. Sea Bass Iridovirus	(2010)	(2010)	(2010)		



**DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup>  
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
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence

b/ 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	One batch of koi at a local exporter premise sampled in a disease investigation tested positive for KHV by RT-PCR but not isolated on KF-1 cells. Inspectors noted high mortality and clinical signs of mild body reddening, gasping and lethargy. Another batch of koi sampled in a notification investigation from local private institution tested positive for KHV by RT-PCR but not isolated on KF-1 cells. The koi were exhibiting lethargy. All koi were subsequently culled and premise disinfected. Both batches of koi were supplied by the same local farm. Follow-up investigation, 846 clinically healthy koi were sampled on 2 occasions, 10 days apart. Of these, 546 were subjected to 2 weeks holding period at permissive temperatures. All samples taken from the local farm tested negative.

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

- From 15 July 2010, import health certification issued by Competent Authorities of exporting countries is required for import of ornamental aquatic animals into Singapore. The requirement is applicable to ornamental species which are susceptible to the diseases including: spring viremia of carp (SVC), koi herpesvirus disease (KHV), epizootic ulcerative syndrome (EUS), epizootic haematopoietic necrosis (EHN), white spot disease (WSD), furunculosis (*Aeromonas salmonicida*) and gold fish haematopoietic necrosis virus (GFHNV). For marine ornamental fish imported to Singapore for re-export to Australia, the Competent Authority is also required to assure the disease status of the fish, and that they are wild-caught only from areas at least 5 kilometers from any finfish aquaculture operations, and have not come into contact with water, equipment or fish associated with farmed food fish. A WTO notification was issued by AVA on 12 May 2010, which was published on 19 May 2010.

2. The import conditions imposed on koi carp imported from Malaysia was extended to koi carp imported from all countries on 1 July 2010. Every batch of koi imported into Singapore would be subjected to one month compulsory quarantine in the designated quarantine area. During the quarantine period, sampling would be done for KHV testing.

Country: **SRI LANKA**

 Period: **July - September 2010**

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
DISEASES PREVALENT IN THE REGION	July	August	September		
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp	?	?	?		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome	-	-	-		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000	III	
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10. Enteric septicaemia of catfish	***	***	***		
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	***	***	***		
2. Infection with <i>Perkinsus olseni</i>	***	***	***		
3. Abalone viral mortality	0000	0000	0000		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
6. Akoya oyster disease	0000	0000	0000		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+	+	+	III	1
3. Yellowhead disease	***	***	***	III	2
4. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	3
5. Infectious myonecrosis	***	***	***		
6. White tail disease (MrNV)	***	***	***		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	***	***	***		
8. <i>Monodon</i> slow growth syndrome	***	***	***		
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	***	***	***		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	0000	0000	0000		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					

**DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup>**

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

b/ 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	<p><b>WSSV</b></p> <p>A total of 417 <i>P. monodon</i> wild brooder samples were tested using the IQ2000 two-step PCR method and also a 2-step PCR method developed at the National Aquatic Resources Research and Development Agency (NARA). The prevalence of WSSV was 20% during the third quarter, which indicated a considerable contamination of wild brooders collected from different locations around Sri Lanka, and has become an on-going problem for shrimp breeders.</p> <p>The prevalence of WSSV in postlarvae samples obtained from shrimp hatcheries was 27%, and some of the sub-adults obtained from grow-outs were also found positive for WSSV.</p> <p>The total operated area was 181.5 ha and the total infected area was 42.4 ha. There were 20 shrimp farms reported to be infected with WSSV which included 80 grow-out ponds.</p> <p>The above data were derived from the NARA and from the Shrimp Farm Extension and Monitoring Unit at Bathtuluoya (NAQDA).</p>
2	<p><b>YHV</b></p> <p>All the 30 <i>P. monodon</i> samples tested for YHV using OIE recommended 2-step RT-PCR for consensus detection of YHV genotypes were found negative for the virus. Data derived from NARA Laboratory at the Head Office Colombo 15.</p>

3	<p><b>IHHNV</b></p> <p>Out of 110 wild <i>P. monodon</i> brooder samples tested for IHHNV, 27% prevalence was obtained. Out of 43 postlarvae samples, the prevalence of IHHNV was 28%. The prevalence reported here are for the infectious IHHNV type only. Data derived from NARA Laboratory at the Head Office Colombo 15.</p>
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**2. New aquatic animal health regulations introduced within past six months (with effective date):**

Country: **THAILAND**

 Period: **July - September 2010**

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
DISEASES PREVALENT IN THE REGION	July	August	September		
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
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	
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	-	-	-	III	
9. Viral encephalopathy and retinopathy	-	-	-	III	
10. Enteric septicaemia of catfish	0000	0000	0000	II	
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	0000	0000	0000	II	
2. Infection with <i>Perkinsus olseni</i>	0000	0000	0000	II	
3. Abalone viral mortality	0000	0000	0000	II	
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	0000	0000	0000	II	
5. Acute viral necrosis (in scallops)	***	***	***		
6. Akoya oyster disease	***	***	***		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Taura syndrome	-	-	+	III	1
2. White spot disease	-	-	+	III	2
3. Yellowhead disease	-	-	+	III	3
4. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	4
5. Infectious myonecrosis	0000	0000	0000	III	
6. White tail disease (MrNV)	+?	-	-		5
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	***	***	***		
8. <i>Monodon</i> slow growth syndrome	0000	0000	0000	II	
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	***	***	***		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	(2007)	(2007)	(2007)	III	
2. Infection with <i>Batrachochytrium dendrobatidis</i>	0000	0000	0000	II	
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					

**DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup>**

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

b/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases

**1. Epidemiological comments:**

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

Comment No.	
1	A total of 331 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 3 specimens or 0.9 % 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 disinfection.
2	A total of 328 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 farms with positive testing results will subject to health improvement, movement control, eradication and/or farm disinfection.
3	A total of 331 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 3 specimens or 0.9 % 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 disinfection.
4	A total of 261 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 13 specimens or 4.9 % recorded as PCR positive or carrying IHHNV genes. Shrimp farms with positive testing results will subject to health improvement, movement control, eradication and/or farm disinfection.
5	Giant freshwater prawn post larvae specimens from hatcheries were submitted for MrNV testing. 3 specimens out of 10 specimens showed PCR positive for MrNV. The prawn larvae of 3 positive specimens appeared normal. Concepts in bio-security for disease prevention had been advised to farm operators.

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

Country: VIETNAM

Period: July - September 2010

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
DISEASES PREVALENT IN THE REGION	July	August	September		
<b>FINFISH DISEASES</b>					
<b>OIE-listed diseases</b>					
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		
<b>Non OIE-listed diseases</b>					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	0000	0000	0000		
10. Enteric septicaemia of catfish	+	+	+	I,II	1
<b>MOLLUSC DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with <i>Bonamia exitiosa</i>	0000	0000	0000		
2. Infection with <i>Perkinsus olseni</i>	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
<b>Non OIE-listed diseases</b>					
4. Infection with <i>Marteilioides chungmuensis</i>	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
6. Akoya oyster disease	0000	0000	0000		
<b>CRUSTACEAN DISEASES</b>					
<b>OIE-listed diseases</b>					
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)	***	***	***		
<b>Non OIE-listed diseases</b>					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. <i>Monodon</i> slow growth syndrome	+	+	+	I,III	3
9. Milky haemolymph disease of spiny lobster ( <i>Panulirus</i> spp.)	-	-	-		
<b>AMPHIBIAN DISEASES</b>					
<b>OIE-listed diseases</b>					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with <i>Batrachochytrium dendrobatidis</i>	0000	0000	0000		
<b>ANY OTHER DISEASES OF IMPORTANCE</b>					
1.					
2.					



**DISEASES PRESUMED EXOTIC TO THE REGION<sup>b</sup>  
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
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
		-	Not reported (but disease is known to occur)
		(year)	Year of last occurrence

b/ 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	<p>Pathogen: <i>Edwardsiella ictaluri</i>.</p> <p>Infection found in intensive catfish (<i>Pangasius hypophthalmus</i>) farms.</p> <p>This disease occurred in Can Tho and Dong Thap provinces.</p> <p>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 bascitic fluid in the body cavity, enlarged spleen and swelled bladder.</p> <p>Control measures: water change, antibiotic treatments (e.g. florfenicol, enrofloxacin) mixed with feeds, water treatment with chlorine and BKC.</p>
2	<p>Pathogen: White Spot Syndrome Virus (WSSV)</p> <p>Disease found in black tiger shrimp (<i>Penaeus monodon</i>) and white leg shrimp (<i>P. vannamei</i>).</p> <p>The disease occurred in Nghe An, Ninh Thuan, Kien Giang, Tien Giang, Ben Tre and Bac Lieu provinces.</p> <p>Mortality rate: high, 100% in some cases within 10 days.</p> <p>Clinical signs: lethargic or moribund shrimps accumulated at pond surface and near pond dikes, 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 when viewed against light after scraping-off attached tissues (not always seen).</p> <p>Control Measures: strict isolation of affected ponds with movement controls of affected shrimps. Disinfection of affected ponds with chlorine.</p>

3	<p>Pathogen: Baculovirus.</p> <p>Infection found in black tiger shrimp (<i>Penaeus monodon</i>).</p> <p>Disease characteristics: darkened body color, loss of appetite, slow and stunted growth.</p> <p>The disease was reported in Kien Giang province.</p>
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**2. New aquatic animal health regulations introduced within past six months (with effective date):** None

## List of Diseases in the Asia-Pacific Quarterly Aquatic Animal Disease Report (Beginning 2010)

1. DISEASES PREVALENT IN THE REGION	
<b>1.1 FINFISH DISEASES</b>	
<b>OIE-listed diseases</b>	<b>Non OIE-listed diseases</b>
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	
<b>1.2 MOLLUSC DISEASES</b>	
<b>OIE-listed diseases</b>	<b>Non OIE-listed diseases</b>
1. Infection with <i>Bonamia exitiosa</i>	1. Infection with <i>Marteilioides chungmuensis</i>
2. Infection with <i>Perkinsus olseni</i>	2. Akoya oyster disease
3. Abalone viral mortality	3. Acute viral necrosis (in scallops)
<b>1.3 CRUSTACEAN DISEASES</b>	
<b>OIE-listed diseases</b>	<b>Non OIE-listed diseases</b>
1. Taura syndrome	1. Monodon slow growth syndrome
2. White spot disease	2. Necrotising hepatopancreatitis <sup>1/</sup>
3. Yellowhead disease	3. Milky haemolymph disease of spiny lobster <sup>1/</sup>
4. Infectious hypodermal and haematopoietic necrosis	
5. Infectious myonecrosis	
6. White tail disease (MrNV)	
<b>1.4 AMPHIBIAN DISEASES</b>	
<b>OIE-listed diseases</b>	<b>Non OIE-listed diseases</b>
1. Infection with Ranavirus	
2. Infection with <i>Bachtracochytrium dendrobatidis</i>	
2. DISEASES PRESUMED EXOTIC TO THE REGION	
<b>2.1 Finfish</b>	
<b>OIE-listed diseases</b>	<b>Non OIE-listed diseases</b>
1. Infectious salmon anaemia	1. Channel catfish virus disease
2. Gyrodactylosis ( <i>Gyrodactylus salaris</i> )	
<b>2.2 Molluscs</b>	
<b>OIE-listed diseases</b>	<b>Non OIE-listed diseases</b>
1. Infection with <i>Bonamia ostreae</i>	
2. Infection with <i>Marteilia refringens</i>	
3. Infection with <i>Perkinsus marinus</i>	
4. Infection with <i>Xenohaliotis californiensis</i>	
<b>2.3 Crustaceans</b>	
<b>OIE-listed diseases</b>	<b>Non OIE-listed diseases</b>
1. Crayfish plague ( <i>Aphanomyces astaci</i> )	

<sup>1/</sup> Listed in OIE as “Under Study”

## Recent Aquatic Animal Health Related Publications

**OIE Aquatic Animal Health Code, 12<sup>th</sup> Edition, 2009.** The aim of the *Aquatic Code* is to assure the sanitary safety of international trade in aquatic animals (fish, molluscs, crustaceans and amphibians) and their products. This is achieved through the detailing of health measures to be used by the veterinary 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, guidelines and recommendations) have been formally adopted by the OIE International Committee. The 12th edition incorporates the modifications to the *Aquatic Code* agreed during the 77th General Session in May 2009. The Aquatic Animal Health Code is available on [http://www.oie.int/eng/normes/fcode/en\\_sommaire.htm](http://www.oie.int/eng/normes/fcode/en_sommaire.htm). 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, 2009.** 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 at [http://www.oie.int/eng/normes/fmanual/A\\_summry.htm](http://www.oie.int/eng/normes/fmanual/A_summry.htm) and can be ordered at <http://www.oie.int/boutique/index.php?lang=en>.

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), 4<sup>th</sup> 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. 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](mailto:Rohana.Subasinghe@fao.org)

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

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

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

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

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

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

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

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

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

**Surveillance and Zoning for Aquatic Animal Diseases.**

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

## List of National Coordinators\*

Country	Name and Address
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\* The matrix provides a list of National Coordinators and focal points nominated by governments for the *Asia-Pacific Quarterly Aquatic Animal Disease Reports*.

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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<sup>1</sup>, 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.

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<sup>1</sup> 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:

#### OIE Regional Representation for Asia and the Pacific

Sanseido Building, 4F  
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## ANNOUNCEMENT

### **Eighth Symposium on Diseases in Asian Aquaculture (DAA VIII) 21-25 November 2011, Mangalore, India**

The Fish Health Section (FHS) of the Asian Fisheries Society proudly announces the “Eighth Symposium on Diseases in Asian Aquaculture - DAA VIII” with the theme **“Fish Health for Food Security”** to be held on 21-25 November, 2011 in Mangalore, India. The 9<sup>th</sup> Triennial General Meeting (TGM-9) of the FHS will also be held in conjunction with DAA VIII. The symposium is being co-hosted by the College of Fisheries, Karnataka Veterinary, Animal and Fisheries Sciences University, Mangalore.

The theme of this symposium has been 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. To address these challenges the interdisciplinary approaches have become inevitable. The need of the hour is to bring together the conventional practices with molecular approaches to find answers to burning issues and developing strategies to implement science based tools at the field and national levels to ensure sustainability of aquaculture. DAA VIII will provide a forum wherein this theme will be deliberated upon in various sessions.

Intensive aquaculture to meet increasing food demand together with diversity of the species cultured, varying culture methods employed and impact of climate changes has resulted in breakdown of the delicate balance between the host, the pathogen and the environment. This has caused disease problems due to newly emerging and reemerging pathogens resulting in colossal losses to the industry and consequent livelihood issues. Local disease problems have become global in certain instances due to the transportation of live aquatic animal across boundaries.

It is an established fact that aquaculture is expanding rapidly with Asia contributing substantially to the global food security and in turn serving as a major economic activity in several developing countries. Sustainable production calls for adoption of scientific aquaculture practices keeping in mind the environmental impact due to inappropriate management. The indiscriminate use of antibiotics and other chemicals has resulted in problems of antibiotic resistance among bacteria, accumulation of chemicals including antibiotic residues, causing ban on aquaculture products by importing countries. There is an urgent need to look at alternatives to antibiotics and other chemicals by developing ecofriendly technologies. The advent of geographical information systems in providing data on climate changes, water quality and consequent disease prediction will enable to take suitable action plan by the aquaculturists. Risk assessment therefore is of paramount importance. Thus, an interdisciplinary approach is required by scientists and all concerned working in the aquaculture sector to develop appropriate strategies for the sustainable production of aquatic animal food by disease management. To achieve this several levels such as capacity building in diagnostics, increasing the awareness among farmers on good husbandry practices through ecofriendly management measures such as vaccination, probiotics, immunostimulants, bioremediators etc. needs to be constantly developed and implemented.

In a series of scientific sessions across four days, internationally recognised keynote speakers and paper presenters will deliberate on the following tentative issues:

- Global aquaculture – Past, present and future
- Public health and trade impacts
- Environmental approaches to disease management
- Epidemiology of finfish diseases
- Epidemiology of crustacean shellfish diseases

- Epidemiology of molluscan shellfish diseases
- Emerging issues and approaches in aquatic animal health management
- Biosecurity and aquaculture
- Diagnostic development – conventional to molecular
- Immunological approaches to disease management
- Genomics, proteomics and bioinformatics
- Pathogen risk analysis and risk assessment
- Alternatives to antimicrobials

In the spirit of the theme “Fish health for food security”, this conference aims to provide a platform for international biologists, pathologists, fisheries scientists, veterinarians, breeders and policy makers to interact and exchange the latest ideas and techniques in the business of aquaculture, especially with respect to Asia. In addition, there will be sessions that focus on how rapid developments in the fields of genomics and bioinformatics are changing our interpretation of aquatic diseases. These sessions are expected provide a better appreciation of pathogenomics and its impact on the aquatic organisms, and will cover both the fundamental and practical aspects of this multidisciplinary subject area.

Participants will also be offered a wide choice of technical and cultural tours. Mangalore is a coastal city in the state of Karnataka, well known for world famous Belur and Halebeedu temples, Sixty feet monolithic statue of Gomateshwara at Shravanabelgola, Mysore palace and Bangalore, the silicon valley of India. All these places are within 250-300 km from Mangalore.

Please visit the website [www.daa8.org](http://www.daa8.org) for further details.

## Notes

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