



QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

April – June 2012

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Contents

| | |
|---|----|
| Foreword | iv |
| Reports Received by the NACA Secretariat | |
| Australia | 1 |
| Hong Kong | 6 |
| India | 8 |
| Indonesia | 10 |
| Iran | 13 |
| Japan | 15 |
| Lao PDR | |
| 1st Quarter (January-March 2012) | 17 |
| 2nd Quarter (April-June 2012) | 19 |
| Malaysia | 21 |
| Myanmar | 24 |
| Nepal | 26 |
| Philippines | 28 |
| Singapore | 31 |
| Sri Lanka | 33 |
| Thailand | 35 |
| Vietnam | 37 |
| List of Diseases under the Asia-Pacific Quarterly Aquatic Animal Disease Report | 40 |
| Recent related publications | 41 |
| List of National Coordinators | 44 |
| Instructions on how to fill in the <i>Quarterly Aquatic Animal Disease Report</i> | 47 |

Foreword

Case definition: Acute Hepatopancreatic Necrosis Syndrome (AHPNS)

Early Mortality Syndrome (EMS) is used generically to describe unusually high mortality that can occur commonly within the first 30 days of shrimp grow-out due to a variety of pond management and pathogen related factors. From 2009, however, a new distinctive pattern of mortalities has become evident in the early stages of grow-out of both *Penaeus vannamei* and *P. monodon*. The syndrome involves mass mortalities of up to 100% during the first 20-30 days after stocking. Affected shrimp consistently showed an abnormal hepatopancreas (HP), which is usually shrunken and white and is accompanied by loose shells, pale overall coloration and moribund shrimp sinking to die at the bottom of the pond. Examination of the histology of the HP of affected shrimp revealed massive necrosis of the HP. Given these specific signs, the name "Acute Hepatopancreatic Necrosis Syndrome" has been proposed as a more appropriate term, to distinguish this condition from other causes of early mortalities.

Considering the consistent progressive pathology observed in the HP of juvenile shrimp that die soon after pond stocking, this newly emerged disease has been named Acute Hepatopancreatic Necrosis Syndrome (AHPNS). Dr Lightner has proposed the following animal level case definition for AHPNS to clearly distinguish it from other causes of EMS and as a base-line for future research on this specific condition:

- Idiopathic: No specific disease causing agent (infectious or toxic) has been identified.
- Pathology: Acute progressive degeneration of HP from medial to distal tubule regions with dysfunction of B, F, R and E cells; prominent karyomegaly and necrosis and sloughing of these tubule epithelial cells. In the terminal stage, marked inter- and intra-tubular hemocytic inflammation and development of secondary bacterial infections occur in association with necrotic and sloughed HP tubule cells.

At the pond level, the following clinical signs provide a presumptive diagnosis to be confirmed by animal level histopathology:

- Often pale to white HP due to pigment loss in the connective tissue capsule.
- Significant atrophy (shrinkage) of the HP.
- Often soft shells and guts with discontinuous contents or no contents.
- Black spots or streaks sometimes visible within the HP.
- HP does not squash easily between the thumb & forefinger.
- Onset of clinical signs and mortality starting as early as 10 days post stocking
- Moribund shrimp sink to the pond bottom.

In the absence of identified biotic or abiotic cause(s) of the syndrome, the above pond- and animal-level case definitions can be used to properly diagnose mass mortalities among shrimp farms which are caused by AHPNS. A disease card was also prepared based on the results of the

Emergency Regional Consultation on Early Mortality Syndrome /Acute Hepatopancreatic Necrosis Syndrome (http://www.enaca.org/modules/news/article.php?article_id=1952) held in Bangkok on 9-10 August 2012. This disease card provides relevant information on signs that can be used for presumptive (pond level) and confirmative (animal level) diagnosis of this emerging shrimp disease problem. The disease card is available for free download at NACA website (<http://www.enaca.org/modules/wfdownloads/singlefile.php?cid=10&lid=1060>).

Reports Received by the NACA Secretariat

Country: **AUSTRALIA**Period: **April - June 2012**

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|---------|---------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | April | May | June | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | + | -(2012) | -(2012) | III | 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 | + | ? | ? | II | 2 |
| 6. Red seabream iridoviral disease | 0000 | 0000 | 0000 | | |
| 7. Koi herpesvirus disease | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | 0000 | 0000 | 0000 | | |
| 9. Viral encephalopathy and retinopathy | -(2012) | + | -(2012) | III | 3 |
| 10. Enteric septicaemia of catfish | (2011) | (2011) | (2011) | | 4 |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | 0000 | 0000 | 0000 | | |
| 2. Infection with <i>Perkinsus olseni</i> | -(2011) | -(2011) | -(2011) | | 5 |
| 3. Infection with abalone herpes-like virus | -(2011) | -(2011) | -(2011) | | 6 |
| Non OIE-listed diseases | | | | | |
| 4. Infection with <i>Marteilioides chungmuensis</i> | 0000 | 0000 | 0000 | | |
| 5. Acute viral necrosis (in scallops) | *** | *** | *** | | |
| 6. Akoya oyster disease | 0000 | 0000 | 0000 | | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Taura syndrome | 0000 | 0000 | 0000 | | |
| 2. White spot disease | 0000 | 0000 | 0000 | | |
| 3. Yellowhead disease | 0000 | 0000 | 0000 | | |
| 4. Infectious hypodermal and haematopoietic necrosis | -(2008) | -(2008) | -(2008) | | 7 |
| 5. Infectious myonecrosis | 0000 | 0000 | 0000 | | |
| 6. White tail disease (MrNV) | -(2008) | -(2008) | -(2008) | | 8 |
| 7. Necrotising hepatopancreatitis | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 8. <i>Monodon</i> slow growth syndrome | 0000 | 0000 | 0000 | | |
| 9. Milky haemolymph disease of spiny lobster (<i>Panulirus</i> spp.) | 0000 | 0000 | 0000 | | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | -(2008) | -(2008) | -(2008) | | 9 |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | -(2011) | -(2011) | -(2011) | | 10 |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. | | | | | |
| 2. | | | | | |

DISEASES PRESUMED EXOTIC TO THE REGION^b

LISTED BY THE OIE

Finfish: Infectious salmon anaemia; Infection with *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>Epizootic haematopoietic necrosis</p> <ol style="list-style-type: none"> Reported in Victoria in April 2012, passive surveillance; Species affected – Redfin perch (<i>Perca fluviatilis</i>), wild fish, yearlings; Clinical signs – Information not available; Pathogen – Epizootic haematopoietic necrosis virus; Mortality rate – 200 fish found dead, wild population size not known; Economic loss – Information not available; Geographic extent – Lake Boga, Victoria; Containment measures – None undertaken. Discrete lake with no site of water egress; Laboratory confirmation – PCR at CSIRO AAHL confirmed epizootic haematopoietic necrosis virus; Publications – None. <p>Epizootic haematopoietic necrosis is known to have occurred previously in the Australian Capital Territory (last reported 2011), New South Wales (last reported 2009) and South Australia (last reported 1992). Passive surveillance and never reported in the Northern Territory, Queensland and Western Australia. Targeted surveillance and never reported in Tasmania.</p> |

| | |
|---|---|
| 2 | <p>Epizootic ulcerative syndrome</p> <ol style="list-style-type: none"> 1. Reported in New South Wales in April 2012, passive surveillance; 2. Species affected – Golden perch (<i>Macquaria ambigua</i>) and bony herring (<i>Nematalosa erebi</i>); 3. Clinical signs – Ulcerative skin lesions observed in approximately 8.7% of golden perch and 0.2% of bony herring; 4. Pathogen – <i>Aphanomyces invadans</i>; 5. Mortality rate – Six fish submitted for diagnosis; 6. Economic loss – Not applicable, wild fish; 7. Geographic extent – Lower Murray river and tributaries; 8. Containment measures – Not applicable. EUS is considered to be endemic in many New South Wales catchments; 9. Laboratory confirmation – Histopathology confirmed <i>Aphanomyces invadans</i> infection in three of six fish submitted; 10. Publications – None. <ol style="list-style-type: none"> 1. Reported in Queensland in May 2012, passive surveillance; 2. Species affected – Mullet (<i>Mugil cephalus</i>) and barramundi (<i>Lates calcarifer</i>); 3. Clinical signs – Digital photographs of affected fish were submitted by members of the public. Clinical signs were consistent with EUS; 4. Pathogen – <i>Aphanomyces invadans</i>; 5. Mortality rate – Unknown; 6. Economic loss – Not applicable, wild fish; 7. Geographic extent – Reported from Kendal and Holroyd rivers, Cape York; 8. Containment measures – Not applicable; 9. Laboratory confirmation – No laboratory confirmation. <i>Aphanomyces invadans</i> infection was suspected based on gross lesions and a history of significant rain preceding the appearance of clinical signs; 10. Publications – None. <ol style="list-style-type: none"> 1. Reported in Queensland in June 2012, passive surveillance; 2. Species affected – Bony herring (<i>Nematalosa erebi</i>) (also known as bony bream); 3. Clinical signs – Digital photographs of affected fish were submitted by members of the public. Clinical signs were consistent with EUS; 4. Pathogen – <i>Aphanomyces invadans</i>; 5. Mortality rate – Unknown; 6. Economic loss – Not applicable, wild fish; 7. Geographic extent – Reported from a water hole at Julia Creek, Carpentaria; 8. Containment measures – Not applicable; 9. Laboratory confirmation – No laboratory confirmation. <i>Aphanomyces invadans</i> infection was suspected based on gross lesions and a history of significant rain preceding the appearance of clinical signs; 10. Publications – None. <p>Epizootic ulcerative syndrome is known to have occurred previously in Victoria (last reported 2012), the Northern Territory (last reported 2011), South Australia (last reported 2008), and Western Australia (last reported 2009). Passive surveillance and never reported in Tasmania. No information available in the Australian Capital Territory.</p> |
|---|---|

| | |
|---|--|
| 3 | <p>Viral encephalopathy and retinopathy</p> <ol style="list-style-type: none"> 1. Reported in Queensland in May 2012, passive surveillance; 2. Species affected – Gold-spot cod (<i>Epinephelus coioides</i>), 52 day old fingerlings; 3. Clinical signs – Lethargy, black body colour, shrunken abdomen; 4. Pathogen – Viral encephalopathy and retinopathy virus (a <i>Betanodavirus</i>); 5. Mortality rate – 50 dead fish. 200 fish displayed clinical signs from a population of 36,000 fish; 6. Economic loss – Information not available; 7. Geographic extent – 10 tanks in a research hatchery; 8. Containment measures – Not applicable; 9. Laboratory confirmation – Histopathology and <i>Nodavirus</i> specific immunohistochemistry; 10. Publications – None. <p>Viral encephalopathy and retinopathy is known to have occurred previously in the Northern Territory (last reported 2011), New South Wales (last reported 2010), South Australia (last reported 2010), Western Australia (last reported 2005) and Tasmania (last reported 2000). Never reported from Victoria despite passive surveillance. No information available this period in the Australian Capital Territory.</p> |
| 4 | <p>Enteric septicemia of catfish was not reported this period despite passive surveillance but is known to have occurred previously in the Northern Territory [in a closed aquarium facility also holding imported ornamental fish] (last reported 2011). Reported previously in Queensland (last reported 2008) and Tasmania (last reported 2001) in zebrafish (<i>Brachydanio rerio</i>) held in PC2 containment facilities. 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> |
| 5 | <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 2011) and New South Wales (last reported 2005). Not reported despite targeted surveillance in Western Australia (last reported 2003). Passive surveillance and never reported in the Northern Territory, Queensland, Tasmania and Victoria. No information available for the Australian Capital Territory (no marine water responsibility).</p> |
| 6 | <p>Infection with abalone herpes-like virus (abalone viral ganglioneuritis) was not reported this period despite passive surveillance but is known to have occurred previously in Tasmania (last reported 2011), New South Wales (last reported 2011), Victoria (last reported 2010). Active surveillance and never reported in South Australia. Passive surveillance and never reported in Queensland and Western Australia. No surveillance and never reported in Northern Territory. No information available for the Australian Capital Territory (no marine water responsibility).</p> |
| 7 | <p>Infectious hypodermal and haematopoietic necrosis virus was not reported this period despite passive surveillance but is known to have occurred previously in Queensland (last reported 2008) and Northern Territory (last reported 2003). Passive surveillance and never reported in New South Wales, South Australia, Victoria and Western Australia. No information available this period in the Australian Capital Territory (no marine responsibility) and Tasmania (susceptible species not present).</p> |
| 8 | <p>White tail disease was not reported this period from Queensland despite passive surveillance (last 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.</p> |

| | |
|----|--|
| 9 | <p>Infection with ranavirus was not reported this period despite passive surveillance but is known to have occurred previously in the Northern Territory (last reported 2008, prior to official reporting). Suspected but not confirmed through 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.</p> |
| 10 | <p>Infection with <i>Batrachochytrium dendrobatidis</i> was not reported this period but is known to have occurred previously in Victoria (last reported 2011) and Tasmania (last reported 2010). Not reported this period despite passive surveillance in Western Australia (last reported 2008). Suspected but not confirmed through passive surveillance in Queensland. No information available this period in the Australian Capital Territory, South Australia, New South Wales and Northern Territory.</p> |

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

Nil

Country: **HONG KONG SAR**

 Period: **April - June 2012**

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|------|------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | April | May | June | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | 0000 | 0000 | 0000 | II | |
| 2. Infectious haematopoietic necrosis | 0000 | 0000 | 0000 | III | |
| 3. Spring viraemia of carp | 0000 | 0000 | 0000 | III | |
| 4. Viral haemorrhagic septicaemia | 0000 | 0000 | 0000 | III | |
| 5. Epizootic ulcerative syndrome | 0000 | 0000 | 0000 | II | |
| 6. Red seabream iridoviral disease | - | - | - | III | |
| 7. Koi herpesvirus disease | - | - | - | III | |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | - | - | - | III | |
| 9. Viral encephalopathy and retinopathy | - | - | - | III | |
| 10. Enteric septicaemia of catfish | 0000 | 0000 | 0000 | II | |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | 0000 | 0000 | 0000 | II | |
| 2. Infection with <i>Perkinsus olseni</i> | 0000 | 0000 | 0000 | II | |
| 3. Infection with abalone herpes-like virus | 0000 | 0000 | 0000 | II | |
| Non OIE-listed diseases | | | | | |
| 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 | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 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 | |
| 7. Necrotising hepatopancreatitis | 0000 | 0000 | 0000 | II | |
| Non OIE-listed diseases | | | | | |
| 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 | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | 0000 | 0000 | 0000 | II | |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | 0000 | 0000 | 0000 | II | |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. | | | | | |
| 2. | | | | | |

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: 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 (White spot disease) was detected from a group of red lobsters that had been submitted for health certification. |
| | |
| | |

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

Country: INDIA
Period: April - June 2012

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|------|------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | April | May | June | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 2. Infectious haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 3. Spring viraemia of carp | 0000 | 0000 | 0000 | | |
| 4. Viral haemorrhagic septicaemia | 0000 | 0000 | 0000 | | |
| 5. Epizootic ulcerative syndrome | - | - | - | | |
| 6. Red seabream iridoviral disease | 0000 | 0000 | 0000 | | |
| 7. Koi herpesvirus disease | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | 0000 | 0000 | 0000 | | |
| 9. Viral encephalopathy and retinopathy | 0000 | 0000 | 0000 | | |
| 10. Enteric septicaemia of catfish | 0000 | 0000 | 0000 | | |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | 0000 | 0000 | 0000 | | |
| 2. Infection with <i>Perkinsus olseni</i> | - | - | - | | |
| 3. Infection with abalone herpes-like virus | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 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 | | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Taura syndrome | 0000 | 0000 | 0000 | | |
| 2. White spot disease | +() | +() | +() | I | 1 |
| 3. Yellowhead disease | *** | *** | *** | | |
| 4. Infectious hypodermal and haematopoietic necrosis | *** | *** | *** | | |
| 5. Infectious myonecrosis | 0000 | 0000 | 0000 | | |
| 6. White tail disease (MrNV) | - | - | - | | |
| 7. Necrotising hepatopancreatitis | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 8. <i>Monodon</i> slow growth syndrome | - | - | - | | |
| 9. Milky haemolymph disease of spiny lobster (<i>Panulirus</i> spp.) | 0000 | 0000 | 0000 | | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | 0000 | 0000 | 0000 | | |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | 0000 | 0000 | 0000 | | |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. | | | | | |
| 2. | | | | | |

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: 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>White spot disease: Reported in <i>Penaeus monodon</i> from very limited areas in West Godavari and Krishna districts of Andhra Pradesh; Navasari and Vaslad districts of Hujarat; Uttat Kannada and Udupi districts of Karnataka; Ganjam, Jagatsinghpur, Kendrepada, Bhadrak and Balasore districts of Odisha; and Nagapattinam district of Tamil Nadu, during different months under the reporting period.</p> |
| 2 | |
| 3 | |

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

Country: INDONESIA
Period: April - June 2012

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|------|------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | April | May | June | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 2. Infectious haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 3. Spring viraemia of carp | 0000 | 0000 | 0000 | | |
| 4. Viral haemorrhagic septicaemia | 0000 | 0000 | 0000 | | |
| 5. Epizootic ulcerative syndrome | 0000 | 0000 | 0000 | | |
| 6. Red seabream iridoviral disease | 0000 | 0000 | 0000 | | |
| 7. Koi herpesvirus disease | +() | +() | +() | III | 1 |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | 0000 | 0000 | 0000 | | |
| 9. Viral encephalopathy and retinopathy | 0000 | 0000 | 0000 | | |
| 10. Enteric septicaemia of catfish | 0000 | 0000 | 0000 | | |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | 0000 | 0000 | 0000 | | |
| 2. Infection with <i>Perkinsus olseni</i> | 0000 | 0000 | 0000 | | |
| 3. Infection with abalone herpes-like virus | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 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 | | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Taura syndrome | 0000 | 0000 | 0000 | | |
| 2. White spot disease | +() | +() | +() | III | 2 |
| 3. Yellowhead disease | 0000 | 0000 | 0000 | | |
| 4. Infectious hypodermal and haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 5. Infectious myonecrosis | | | | | |
| 6. White tail disease (MrNV) | 0000 | 0000 | 0000 | | |
| 7. Necrotising hepatopancreatitis | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 8. <i>Monodon</i> slow growth syndrome | 0000 | 0000 | 0000 | | |
| 9. Milky haemolymph disease of spiny lobster (<i>Panulirus</i> spp.) | 0000 | 0000 | 0000 | | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | 0000 | 0000 | 0000 | | |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | 0000 | 0000 | 0000 | | |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. | | | | | |
| 2. | | | | | |

| | | | |
|--|---|--------|--|
| DISEASES PRESUMED EXOTIC TO THE REGION^b | | | |
| LISTED BY THE OIE | | | |
| Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i> . | | | |
| Molluscs: Infection with <i>Bonamia ostreae</i> ; <i>Marteilia refringens</i> ; <i>Perkinsus marinus</i> ; <i>Xenohaliotis californiensis</i> . | | | |
| Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). | | | |
| 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>KHV</p> <ol style="list-style-type: none"> - Species affected: common carp (<i>Cyprinus carpio</i>); Clinical signs: Reduced appetite, red and white spots on the gills, gills become pale, swimming on water surface, sunken eyes, scale drop and blisters on skin, ulcers on tail; Pathogen: Koi herpes virus; Mortality rate: <30%; Economic loss: Rp. 3,000,000.00; Names of infected areas: fish breeding pond, Sukoharjo (Central Java Province) and Limapuluh Kota (West Sumatra); Preventive/control measures: quarantine, herbal drugs, and Vitamin C; Laboratory confirmation: provincial Aquaculture Laboratory Jakarta, Veterinary Laboratory Bukittinggi, West Sumatra Publications : not published. |
| 2 | <p>WSSV</p> <ol style="list-style-type: none"> - Species affected: <i>Penaeus monodon</i>, <i>Litopenaeus vannamei</i> (PL, juveniles and adults) Clinical signs: White spot on carapace of infected shrimps, shrimp becoming weak and swimming on the surface, reduced appetite; Pathogen: White spot syndrome virus; Mortality rate: high (60-100%) Economic loss: high; Names of infected areas: PL state in hatchery and pond: Jepara, Pati, Brebes (Central Java Province); Kalimantan, Alue Naga, Bireun, Banda Aceh, East Aceh (Aceh Province); West Lombok (West Nusa Tenggara Province), Jembrana (Bali Province); Preventive/control measures: chlorination 50 ppm, quarantine, and eradication of stock; Laboratory confirmation: Mariculture Development Center Lombok Laboratory, Brackishwater Aquaculture Development Center Situbondo Laboratory, Main Center Brackishwater Aquaculture Development Laboratory Jepara, Brackishwater Aquaculture Development Center Aceh Laboratory; Publications : not published. |

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

Country: **IRAN**

 Period: **April - June 2012**

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

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: 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, WSSV has been detected in two hatcheries in Boushehr:</p> <ol style="list-style-type: none"> 1. The suspected origin of viruses in hatchery was from feeds that were illegally imported into the country. 2. Species affected: <i>L. vannamei</i>; 3. The disease occurred in May 2012; 4. Name of infected area: Boushehr province; 5. Pathogen was detected by nested-PCR in National Shrimp Disease Laboratory in Boushehr; 6. Infected post larvae in hatcheries were destroyed and tanks were disinfected. |
| 2 | <p>White spot disease occurred in one shrimp culture farm in Khozestan province (Choebdeh):</p> <ol style="list-style-type: none"> 1. The origin of the disease was unknown but presumed to be from infected PLs; 2. Species affected: <i>L. vannamei</i>; 3. The disease occurred in June 2012; 4. Name of infected area: Khozestan province (Choebdeh); 5. Clinical signs: sudden decrease in feeding, swimming near the edges of pond, reddish body and white spot on the cephalothorax; 6. Pathogen was detected by nested-PCR; 7. Morbidity rate: undetermined; 8. All the infected ponds were disinfected with 40 ppm calcium chloride, and all infected shrimps were destroyed. |

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

Country: **JAPAN**

 Period: **April - June 2012**

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|------|------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | April | May | June | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | 0000 | 0000 | 0000 | I | |
| 2. Infectious haematopoietic necrosis | + | + | + | III | |
| 3. Spring viraemia of carp | 0000 | 0000 | 0000 | I | |
| 4. Viral haemorrhagic septicaemia | - | + | - | III | |
| 5. Epizootic ulcerative syndrome | - | - | - | I | |
| 6. Red seabream iridoviral disease | - | + | + | III | |
| 7. Koi herpesvirus disease | + | + | - | III | |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | 0000 | 0000 | 0000 | I | |
| 9. Viral encephalopathy and retinopathy | - | +? | - | III | |
| 10. Enteric septicaemia of catfish | - | - | - | I | |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | 0000 | 0000 | 0000 | I | |
| 2. Infection with <i>Perkinsus olseni</i> | - | - | - | I | |
| 3. Infection with abalone herpes-like virus | 0000 | 0000 | 0000 | I | |
| Non OIE-listed diseases | | | | | |
| 4. Infection with <i>Marteilioides chungmuensis</i> | - | - | - | I | |
| 5. Acute viral necrosis (in scallops) | 0000 | 0000 | 0000 | I | |
| 6. Akoya oyster disease | - | - | - | I | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Taura syndrome | 0000 | 0000 | 0000 | I | |
| 2. White spot disease | - | + | + | III | |
| 3. Yellowhead disease | 0000 | 0000 | 0000 | I | |
| 4. Infectious hypodermal and haematopoietic necrosis | 0000 | 0000 | 0000 | I | |
| 5. Infectious myonecrosis | 0000 | 0000 | 0000 | I | |
| 6. White tail disease (MrNV) | 0000 | 0000 | 0000 | I | |
| 7. Necrotising hepatopancreatitis | 0000 | 0000 | 0000 | I | |
| Non OIE-listed diseases | | | | | |
| 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 | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | - | - | +? | | 1 |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | - | - | - | | |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. Infection with <i>Xenohaliotis californiensis</i> | +? | - | +? | III | 2 |
| 2. | | | | | |

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: 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>Fejervarya limnocharis</i> without any clinical symptoms in June. |
| 2 | DNA of <i>Xenohaliotis californiensis</i> was isolated from <i>Haliotis discus hannai</i> (domestic), <i>Haliotis gigantea</i> (domestic) and <i>Haliotis discus discus</i> (wild) without any clinical symptom. |
| 3 | |

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

Country: **LAO PDR**

 Period: **January - March 2012**

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

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: Channel catfish virus disease</p> | | | |
| <p><u>a/</u> 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><u>b/</u> 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: **LAO PDR**

 Period: **April - June 2012**

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

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: Channel catfish virus disease</p> | | | |
| <p><u>a/</u> 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><u>b/</u> 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: **MALAYSIA**

 Period: **April - June 2012**

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|--------|--------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | April | May | June | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 2. Infectious haematopoietic necrosis | 0000 | 0000 | 0000 | I,II,III | |
| 3. Spring viraemia of carp | - | - | - | I,II,III | 1 |
| 4. Viral haemorrhagic septicaemia | 0000 | 0000 | 0000 | I,II,III | |
| 5. Epizootic ulcerative syndrome | (1986) | (1986) | (1986) | I,II | |
| 6. Red seabream iridoviral disease | 0000 | 0000 | + | I,II,III | |
| 7. Koi herpesvirus disease | - | + | - | I,II,III | 2 |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | + | + | - | III | 3 |
| 9. Viral encephalopathy and retinopathy | - | - | + | III | 4 |
| 10. Enteric septicaemia of catfish | 0000 | 0000 | 0000 | | |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | 0000 | 0000 | 0000 | | |
| 2. Infection with <i>Perkinsus olseni</i> | 0000 | 0000 | 0000 | | |
| 3. Infection with abalone herpes-like virus | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 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 | | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Taura syndrome | - | - | - | I,III | 5 |
| 2. White spot disease | + | - | + | I,III | 6 |
| 3. Yellowhead disease | - | - | - | I,III | 7 |
| 4. Infectious hypodermal and haematopoietic necrosis | + | - | - | I,III | 8 |
| 5. Infectious myonecrosis | - | - | - | III | 9 |
| 6. White tail disease (MrNV) | + | - | + | III | 10 |
| 7. Necrotising hepatopancreatitis | - | - | - | III | 11 |
| Non OIE-listed diseases | | | | | |
| 8. <i>Monodon</i> slow growth syndrome | - | - | - | | |
| 9. Milky haemolymph disease of spiny lobster (<i>Panulirus</i> spp.) | 0000 | 0000 | 0000 | | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | - | - | - | | |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | 0000 | 0000 | 0000 | | |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. Hepatopancreatic parvo virus disease | - | - | - | III | 12 |

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: Channel catfish virus disease</p> | | | |
| <p><u>a/</u> 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><u>b/</u> 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>Spring viraemia of carp</p> <p>1. No positive cases detected (PCR) although active surveillance was conducted by DOF</p> |
| 2 | <p>Koi herpesvirus disease</p> <p>1. One (1) positive cases detected (PCR) during DOF active surveillance programme.</p> |
| 3 | <p>Grouper Iridoviral disease (GIV)</p> <p>1. All fish samples from Kedah and Penang were negative for Iridovirus tested in NaFisH for diagnostic cases. 2. One (1) barramundi fry sample from local farm was positive for Iridovirus, tested in Penang Biosecurity Laboratory.</p> |
| 4 | <p>Viral encephalopathy and retinopathy</p> <p>1. All fish samples from Kedah and Penang were negative for VNN, tested in NaFisH for diagnostic cases.</p> |
| 5 | <p>Taura syndrome virus (TSV) (<i>Penaeus monodon</i>, <i>Litopenaeus vannamei</i>)</p> <p>1. TSV was not detected in all the samples sent to Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes. 2. No positive on reported cases detected by PCR although active surveillance was conducted by DOF in West and East Malaysia.</p> |

| | |
|----|--|
| 6 | <p>White Spot Syndrome Virus (WSSV)</p> <ol style="list-style-type: none"> 1. No positive case was reported. |
| 7 | <p>Yellow head disease (YHV) (<i>P. monodon</i>, <i>Litopenaeus vannamei</i>)</p> <ol style="list-style-type: none"> 1. YHV was not detected in all the samples sent to Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes. 2. No positive cases detected (PCR) although active surveillance was conducted by DOF in East Malaysia |
| 8 | <p>Infectious hypodermal and haematopoietic necrosis virus (IHHNV) (<i>Macrobrachium rosenbergi</i>, <i>P. monodon</i>, <i>Litopenaeus vannamei</i>)</p> <ol style="list-style-type: none"> 1. IHHNV was detected in two (2) samples sent to Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes. 2. No positive on reported cases detected by PCR although active surveillance was conducted by DOF in West and East Malaysia. |
| 9 | <p>Infectious Myonecrosis (IMNV)</p> <ol style="list-style-type: none"> 1. IMNV was not detected in all the samples of <i>P. monodon</i> and <i>Litopenaeus vannamei</i> sent to Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes. 2. No positive on reported cases detected by PCR, although active surveillance was conducted by DOF in West and East Malaysia. |
| 10 | <p><i>Macrobrachium rosenbergii</i> Nodavirus (MrNV)</p> <ol style="list-style-type: none"> 1. 27 samples in June were found positive for MrNV, tested by DOF in Muda River(4 out of 4 samples), Perak (13 out of 21 samples) and Kedah (10 out of 18 samples). |
| 11 | <p>Necrotising hepatopancreatitis (NHPB)</p> <ol style="list-style-type: none"> 1. NHPB was not detected in all the samples of <i>P. monodon</i> and <i>Litopenaeus vannamei</i> sent to Lab Industrial Resources laboratory (LIR) for routine and monitoring purposes. |
| 12 | <p>Hepatopancreatic parvo virus disease (HPV) (<i>P. monodon</i> and <i>L. vannamei</i>)</p> <ol style="list-style-type: none"> 1. No positive HPV in all samples tested by Lab Industrial Resource laboratory (LIR) for routine and monitoring purposes. |

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

Country: **MYANMAR**

 Period: **April - June 2012**

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|-----|------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | April | May | June | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | *** | *** | *** | | |
| 2. Infectious haematopoietic necrosis | *** | *** | *** | | |
| 3. Spring viraemia of carp | *** | *** | *** | | |
| 4. Viral haemorrhagic septicaemia | *** | *** | *** | | |
| 5. Epizootic ulcerative syndrome | *** | *** | *** | | |
| 6. Red seabream iridoviral disease | *** | *** | *** | | |
| 7. Koi herpesvirus disease | | | | | |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | *** | *** | *** | | |
| 9. Viral encephalopathy and retinopathy | *** | *** | *** | | |
| 10. Enteric septicaemia of catfish | *** | *** | *** | | |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | | | | | |
| 2. Infection with <i>Perkinsus olseni</i> | | | | | |
| 3. Infection with abalone herpes-like virus | | | | | |
| Non OIE-listed diseases | | | | | |
| 4. Infection with <i>Marteilioides chungmuensis</i> | | | | | |
| 5. Acute viral necrosis (in scallops) | | | | | |
| 6. Akoya oyster disease | | | | | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 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) | *** | *** | *** | | |
| 7. Necrotising hepatopancreatitis | *** | *** | *** | | |
| Non OIE-listed diseases | | | | | |
| 8. <i>Monodon</i> slow growth syndrome | *** | *** | *** | | |
| 9. Milky haemolymph disease of spiny lobster (<i>Panulirus</i> spp.) | *** | *** | *** | | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | | | | | |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | | | | | |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. | | | | | |
| 2. | | | | | |

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: Channel catfish virus disease</p> | | | |
| <p><u>a/</u> 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><u>b/</u> 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, IHNV and TSV of 2 samples (1 frozen shrimps and 1 live adult shrimps) intended for export. All samples were found negative for the viruses. |
| 2 | Additional Note: Farm visits in Yangon, Ayeyarwaddy and Bago regions during this period showed parasitic infestations on the same farms reported in the previous quarter. The infestation was due to poor water quality management and climate change(?). |
| 3 | |

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

Country: **NEPAL**

 Period: **April - June 2012**

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

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: Channel catfish virus disease</p> | | | |
| <p><u>a/</u> 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><u>b/</u> 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 ulcerative syndrome (EUS) Seen in Dhanusha and Bara districts in June. Species affected: mostly <i>Labeo rohita</i> and <i>Cirrhinus mrigala</i>; 100-300 g size; 3 ha ponds. Disease signs: red spots and ulcer wounds on the body. Mortality and loss not reported. Control Measures: liming at 500 kg/ha. Publications: None</p> |
| 2 | |
| 3 | |

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

Country: **PHILIPPINES**

 Period: **April - June 2012**

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|----------|----------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | April | May | June | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 2. Infectious haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 3. Spring viraemia of carp | 0000 | 0000 | 0000 | | |
| 4. Viral haemorrhagic septicaemia | 0000 | 0000 | 0000 | | |
| 5. Epizootic ulcerative syndrome | - (2002) | - (2002) | - (2002) | | |
| 6. Red seabream iridoviral disease | *** | *** | *** | | |
| 7. Koi herpesvirus disease | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | + | - | - | III | 1 |
| 9. Viral encephalopathy and retinopathy | - | - | - | III | 2 |
| 10. Enteric septicaemia of catfish | *** | *** | *** | | |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | 0000 | 0000 | 0000 | | |
| 2. Infection with <i>Perkinsus olseni</i> | 0000 | 0000 | 0000 | | |
| 3. Infection with abalone herpes-like virus | *** | *** | *** | | |
| Non OIE-listed diseases | | | | | |
| 4. Infection with <i>Marteilioides chungmuensis</i> | 0000 | 0000 | 0000 | | |
| 5. Acute viral necrosis (in scallops) | *** | *** | *** | | |
| 6. Akoya oyster disease | *** | *** | *** | | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Taura syndrome | 0000 | 0000 | 0000 | III | 3 |
| 2. White spot disease | + | - | - | III | 4 |
| 3. Yellowhead disease | - (1999) | - (1999) | - (1999) | III | 5 |
| 4. Infectious hypodermal and haematopoietic necrosis | - | - | - | III | 6 |
| 5. Infectious myonecrosis | 0000 | 0000 | 0000 | III | 7 |
| 6. White tail disease (MrNV) | 0000 | 0000 | 0000 | | |
| 7. Necrotising hepatopancreatitis | 0000 | 0000 | 0000 | III | 8 |
| Non OIE-listed diseases | | | | | |
| 8. <i>Monodon</i> slow growth syndrome | *** | *** | *** | | |
| 9. Milky haemolymph disease of spiny lobster (<i>Panulirus</i> spp.) | *** | *** | *** | | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | *** | *** | *** | | |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | *** | *** | *** | | |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. | | | | | |
| 2. | | | | | |

| | | | |
|--|---|--------|--|
| DISEASES PRESUMED EXOTIC TO THE REGION^b | | | |
| LISTED BY THE OIE | | | |
| Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i> . | | | |
| Molluscs: Infection with <i>Bonamia ostreae</i> ; <i>Marteilia refringens</i> ; <i>Perkinsus marinus</i> ; <i>Xenohaliotis californiensis</i> . | | | |
| Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). | | | |
| NOT LISTED BY THE OIE | | | |
| Finfish: Channel catfish virus disease | | | |
| <u>a/</u> 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 |
| <u>b/</u> 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 | Eighteen (18) samples of grouper (<i>Epinephelus spp.</i>) were analyzed using the PCR test. Four (4) samples showed a positive result for Iridovirus that were collected from Looc, Occidental Mindoro (1) and Padre Burgos, Quezon Province (3). The 18 samples analyzed were collected from Coron, Palawan (4); Looc, Occidental Mindoro (2); Padre Burgos, Quezon Province (7); Cabuynan, Tanauan, Leyte (1); Guiuan, Eastern Samar (1); Pantad, Dumalinao, Zamboanga del Sur (1); and Ubay, Bohol (2). Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory. |
| 2 | Seventeen (17) samples of grouper (<i>Epinephelus spp.</i>) were analyzed using the PCR test and all showed a negative result for Viral Encephalopathy and Retinopathy . The samples analyzed were collected from Coron, Palawan (4); Padre Burgos, Quezon Province (7); Cabuynan, Tanauan, Leyte (1); Guiuan, Eastern Samar (1); Calauan, Laguna (2); and Ubay, Bohol (2). Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory. |
| 3 | Sixty-six (66) samples (38 <i>Penaeus vannamei</i> and 28 <i>Penaeus monodon</i>) of different stages (fry, nauplii, post-larval, broodstock and adult) were analyzed using the PCR test. All 66 samples showed a negative result for Taura Syndrome Virus . The samples were collected from Cebu, Batangas, Zambales, Pangasinan, Tacloban City, Samar, Camarines Sur, Quezon Province and Iloilo City. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory. |
| 4 | Fifty-seven (57) samples (42 <i>Penaeus vannamei</i> , 11 <i>Penaeus monodon</i> , 2 hermit crabs and 2 <i>Scylla serrata</i>) of different stages (fry, nauplii, broodstock, post-larval and adult) were analyzed using the PCR test. Three (3) samples showed a positive result for White Spot Disease Virus out of the total 27 samples. The positive samples were two (2) adult <i>P. monodon</i> from Zamboanga Sibugay and one (1) post-larval <i>P. vannamei</i> from Batangas. The samples for analysis were collected from Zambales, Pangasinan, Batangas, Cebu, Zamboanga Sibugay, Davao City, Pampanga, Quezon Province and Camarines Sur. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory. |

| | |
|---|--|
| 5 | Fifty-eight (58) samples (33 <i>Penaeus vannamei</i> and 25 <i>Penaeus monodon</i>) of different stages (fry, nauplii, post-larval, broodstock and adult) were analyzed using the PCR test. All 58 samples showed a negative result for Yellowhead Virus . The samples were collected from Cebu, Batangas, Zambales, Pampanga, Pangasinan, Tacloban City, Samar, Camarines Norte, Camarines Sur and Quezon Province. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory. |
| 6 | Thirty-seven (37) samples (32 <i>Penaeus vannamei</i> and 5 <i>Penaeus monodon</i>) of different stages (fry, nauplii, broodstock, post-larval and adult) were analyzed using the PCR test. All 37 samples showed a negative result for Infectious Hypodermal and Haematopoietic Necrosis Virus through PCR test. The samples for analysis were collected from Zambales, Pampanga, Cebu, Samar, Camarines Sur and Batangas. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory. |
| 7 | Sixty-seven (67) samples (42 <i>Penaeus vannamei</i> and 25 <i>Penaeus monodon</i>) of different stages (fry, nauplii, post-larval, broodstock and adult) were analyzed using the PCR test. All 67 samples showed a negative result for Infectious Myonecrosis Virus . The samples were collected from Cebu, Pampanga, Batangas, Zambales, Pangasinan, Tacloban City, Samar, Camarines Norte, Camarines Sur, Quezon Province and Iloilo City. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory. |
| 8 | Thirty-eight (38) samples (30 <i>Penaeus vannamei</i> and 8 <i>Penaeus monodon</i>) of different stages (fry, nauplii, broodstock, post-larval and adult) were analyzed using the PCR test and all samples showed a negative result for Necrotising Hepatopancreatitis . The samples were collected from Zambales, Pampanga, Pangasinan, Cebu, Samar, Camarines Sur and Batangas. Examinations/tests were conducted by the BFAR Central Office Fish Health Laboratory. |

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

Country: **SINGAPORE**

 Period: **April - June 2012**

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|--------|--------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | April | May | June | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 2. Infectious haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 3. Spring viraemia of carp | 0000 | 0000 | 0000 | | |
| 4. Viral haemorrhagic septicaemia | 0000 | 0000 | 0000 | | |
| 5. Epizootic ulcerative syndrome | 0000 | 0000 | 0000 | | |
| 6. Red seabream iridoviral disease | + | (2012) | (2012) | II,III | 1 |
| 7. Koi herpesvirus disease | (2011) | (2011) | +() | III | 2 |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | + | - | + | I,II,III | 3 |
| 9. Viral encephalopathy and retinopathy | + | + | + | II,III | 4 |
| 10. Enteric septicaemia of catfish | 0000 | 0000 | 0000 | | |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | *** | *** | *** | | |
| 2. Infection with <i>Perkinsus olseni</i> | *** | *** | *** | | |
| 3. Infection with abalone herpes-like virus | *** | *** | *** | | |
| Non OIE-listed diseases | | | | | |
| 4. Infection with <i>Marteilioides chungmuensis</i> | *** | *** | *** | | |
| 5. Acute viral necrosis (in scallops) | *** | *** | *** | | |
| 6. Akoya oyster disease | *** | *** | *** | | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Taura syndrome | 0000 | 0000 | 0000 | | |
| 2. White spot disease | (2011) | (2011) | (2011) | | |
| 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) | *** | *** | *** | | |
| 7. Necrotising hepatopancreatitis | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 8. <i>Monodon</i> slow growth syndrome | *** | *** | *** | | |
| 9. Milky haemolymph disease of spiny lobster (<i>Panulirus</i> spp.) | *** | *** | *** | | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | *** | *** | *** | | |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | *** | *** | *** | | |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. | | | | | |

| | | | |
|--|---|--------|--|
| DISEASES PRESUMED EXOTIC TO THE REGION^b | | | |
| LISTED BY THE OIE | | | |
| Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i> . | | | |
| Molluscs: Infection with <i>Bonamia ostreae</i> ; <i>Marteilia refringens</i> ; <i>Perkinsus marinus</i> ; <i>Xenohaliotis californiensis</i> . | | | |
| Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). | | | |
| 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 | Follow up investigations to detection in March 2012 (refer to earlier report). Red Seabream Iridovirus (RSIV) was detected in Seabass fingerling sampled from the source farm by PCR. The clinically affected fish were disposed of, and the farm was instructed not to move or sell fish to other fish farming establishments. There are no further updates. |
| 2 | 42 batches of Koi were submitted under the targeted Koi Import Surveillance this quarter, out of which 1 consignment of imported koi in quarantine tested positive for Koi Herpesvirus (KHV) by real-time PCR. All fish in the infected consignment was culled, and the facilities and equipment thoroughly cleaned and disinfected. |
| 3 | Infectious Spleen and Necrosis Virus (ISKNV) was reported in a land-based nursery and coastal grow out fish farm as part of passive surveillance. The farms were experiencing chronic low to moderate grade mortality up to 60%. The farms were advised to dispose of all dead and ill fishes appropriately. ISKNV DNA was detected by PCR, and histopathological findings were consistent with that of an Iridoviral infection. |
| 4 | Viral nervous necrosis virus (VNNV) was reported in diseased Pompano, Hybrid groupers and Seabass from passive surveillance. The farms had been experiencing low grade mortality post-stocking, up to 10-20%. VNNV RNA was detected in samples collected by real-time RT-PCR, and histopathology examination revealed mild to moderate vacuolations in the brain and retina. |

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

Country: **SRI LANKA**

 Period: **April - June 2012**

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|-----|------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | April | May | June | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | *** | *** | *** | | |
| 2. Infectious haematopoietic necrosis | *** | *** | *** | | |
| 3. Spring viraemia of carp | *** | *** | *** | | 5 |
| 4. Viral haemorrhagic septicaemia | *** | *** | *** | | |
| 5. Epizootic ulcerative syndrome | *** | *** | *** | | |
| 6. Red seabream iridoviral disease | *** | *** | *** | | |
| 7. Koi herpesvirus disease | *** | *** | *** | | |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | *** | *** | *** | | |
| 9. Viral encephalopathy and retinopathy | *** | *** | *** | | |
| 10. Enteric septicaemia of catfish | *** | *** | *** | | |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | *** | *** | *** | | |
| 2. Infection with <i>Perkinsus olseni</i> | *** | *** | *** | | |
| 3. Infection with abalone herpes-like virus | *** | *** | *** | | |
| Non OIE-listed diseases | | | | | |
| 4. Infection with <i>Marteilioides chungmuensis</i> | *** | *** | *** | | |
| 5. Acute viral necrosis (in scallops) | *** | *** | *** | | |
| 6. Akoya oyster disease | *** | *** | *** | | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Taura syndrome | *** | *** | *** | | |
| 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) | *** | *** | *** | | |
| 7. Necrotising hepatopancreatitis | *** | *** | *** | | |
| Non OIE-listed diseases | | | | | |
| 8. <i>Monodon</i> slow growth syndrome | *** | *** | *** | | |
| 9. Milky haemolymph disease of spiny lobster (<i>Panulirus</i> spp.) | *** | *** | *** | | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | *** | *** | *** | | |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | *** | *** | *** | | |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. Laem Singh virus (LSV) | - | - | - | III | 4 |
| 2. <i>Monodon</i> Baculovirus (MBV) | +() | +() | +() | III | 5 |

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: 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 | WSSV was reported in <i>P. monodon</i> in the coastal area of Northwestern province. 113 samples were tested by PCR and 101 samples gave positive results. The tests were carried out in NAQDA (National Aquaculture Development Authority) and NARA (National Aquatic Resource and Research Agency) laboratories. |
| 2 | A total of 25 samples have been tested for YHD and none of the samples gave positive results. YHV was detected in the first quarter of 2012 in <i>P. monodon</i> . |
| 3 | For IHNN, one out of 25 samples of <i>P. monodon</i> tested by PCR gave positive result. |
| 4 | 25 samples of <i>P. monodon</i> were tested for LSV and all samples gave negative results. |
| 5 | 126 samples of <i>P. monodon</i> were tested for MBV and 36 samples were found to be positive. PCR method was used for testing. |

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

Country: **THAILAND**

 Period: **April - June 2012**

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|-----------|-----------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | April | May | June | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | 0000 | 0000 | 0000 | III | |
| 2. Infectious haematopoietic necrosis | 0000 | 0000 | 0000 | III | |
| 3. Spring viraemia of carp | 0000 | 0000 | 0000 | III | |
| 4. Viral haemorrhagic septicaemia | 0000 | 0000 | 0000 | III | |
| 5. Epizootic ulcerative syndrome | (2009) | (2009) | (2009) | II | |
| 6. Red seabream iridoviral disease | 0000 | 0000 | 0000 | III | |
| 7. Koi herpesvirus disease | (05/2011) | (05/2011) | (05/2011) | III | |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | - | - | - | III | |
| 9. Viral encephalopathy and retinopathy | - | - | - | III | |
| 10. Enteric septicaemia of catfish | 0000 | 0000 | 0000 | II | |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | 0000 | 0000 | 0000 | II | |
| 2. Infection with <i>Perkinsus olseni</i> | 0000 | 0000 | 0000 | II | |
| 3. Infection with abalone herpes-like virus | 0000 | 0000 | 0000 | II | |
| Non OIE-listed diseases | | | | | |
| 4. Infection with <i>Marteilioides chungmuensis</i> | 0000 | 0000 | 0000 | II | |
| 5. Acute viral necrosis (in scallops) | *** | *** | *** | | |
| 6. Akoya oyster disease | *** | *** | *** | | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 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) | - | - | - | III | |
| 7. Necrotising hepatopancreatitis | *** | *** | *** | | |
| Non OIE-listed diseases | | | | | |
| 8. <i>Monodon</i> slow growth syndrome | *** | *** | *** | | |
| 9. Milky haemolymph disease of spiny lobster (<i>Panulirus</i> spp.) | 0000 | 0000 | 0000 | II | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | (07/2011) | (07/2011) | (07/2011) | III | |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | 0000 | 0000 | 0000 | II | |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. | | | | | |
| 2. | | | | | |

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: Channel catfish virus disease</p> | | | |
| <p><u>a/</u> 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><u>b/</u> 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 | A total of 179 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 1 specimen or 0.56% recorded as PCR positive or carrying TSV genes. Shrimp farm with positive testing results is subjected to health improvement, movement control, eradication and/or farm disinfection. |
| 2 | A total of 179 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 1 specimen or 0.56% recorded as PCR positive or carrying WSSV genes. Shrimp farm with positive testing results is subjected to health improvement, movement control, eradication and/or farm disinfection. |
| 3 | A total of 179 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 1 specimens or 0.56% recorded as RT-PCR positive or carrying YHV genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm disinfection. |
| 4 | A total of 163 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 6 specimens or 3.68% 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. |

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

Country: VIETNAM

Period: January - March 2012

| Item | Disease status ^{a/} | | | Level of diagnosis | Epidemiological comment numbers |
|---|------------------------------|----------|-------|--------------------|---------------------------------|
| | Month | | | | |
| DISEASES PREVALENT IN THE REGION | January | February | March | | |
| FINFISH DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Epizootic haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 2. Infectious haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 3. Spring viraemia of carp | 0000 | 0000 | 0000 | | |
| 4. Viral haemorrhagic septicaemia | 0000 | 0000 | 0000 | | |
| 5. Epizootic ulcerative syndrome | *** | *** | *** | | |
| 6. Red seabream iridoviral disease | 0000 | 0000 | 0000 | | |
| 7. Koi herpesvirus disease | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 8. Grouper iridoviral disease | 0000 | 0000 | 0000 | | |
| 9. Viral encephalopathy and retinopathy | 0000 | 0000 | 0000 | | |
| 10. Enteric septicaemia of catfish | - | +() | +() | I,II | 1 |
| MOLLUSC DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with <i>Bonamia exitiosa</i> | 0000 | 0000 | 0000 | | |
| 2. Infection with <i>Perkinsus olseni</i> | + | - | + | I,II | 2 |
| 3. Infection with abalone herpes-like virus | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 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 | | |
| CRUSTACEAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Taura syndrome | 0000 | 0000 | 0000 | | |
| 2. White spot disease | + | + | + | I,II,III | 3 |
| 3. Yellowhead disease | *** | *** | *** | | |
| 4. Infectious hypodermal and haematopoietic necrosis | 0000 | 0000 | 0000 | | |
| 5. Infectious myonecrosis | 0000 | 0000 | 0000 | | |
| 6. White tail disease (MrNV) | *** | *** | *** | | |
| 7. Necrotising hepatopancreatitis | 0000 | 0000 | 0000 | | |
| Non OIE-listed diseases | | | | | |
| 8. <i>Monodon</i> slow growth syndrome | *** | *** | *** | | |
| 9. Milky haemolymph disease of spiny lobster (<i>Panulirus</i> spp.) | - | - | - | | |
| AMPHIBIAN DISEASES | | | | | |
| OIE-listed diseases | | | | | |
| 1. Infection with Ranavirus | 0000 | 0000 | 0000 | | |
| 2. Infection with <i>Batrachochytrium dendrobatidis</i> | 0000 | 0000 | 0000 | | |
| ANY OTHER DISEASES OF IMPORTANCE | | | | | |
| 1. Unknown disease (<i>P. monodon</i> and <i>P. vannamei</i>) | | | | | 4 |
| 2. | | | | | |

| | | | |
|---|---|--------|--|
| <p>DISEASES PRESUMED EXOTIC TO THE REGION^b LISTED BY THE OIE Finfish: Infectious salmon anaemia; Infection with <i>Gyrodactylus salaris</i>. Molluscs: Infection with <i>Bonamia ostreae</i>; <i>Marteilia refringens</i>; <i>Perkinsus marinus</i>; <i>Xenohaliotis californiensis</i>. Crustaceans: Crayfish plague (<i>Aphanomyces astaci</i>). NOT LISTED BY THE OIE Finfish: 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>Pathogen: <i>Edwardsiella ictaluri</i></p> <p>Infected catfish (<i>Pangasius micronema</i>, <i>P. hypophthalmus</i>) were found in intensive ponds, but not in a wide range, in scattered areas in An Giang and Ben Tre provinces.</p> |
| 2 | <p>Pathogen: <i>Perkinsus olseni</i></p> <p>Species affected: <i>Meretrix lyrata</i></p> <p>The disease was reported in Nam Thinh commune, Tien Ha district, Thai Binh since 2 April 2012. Laboratory results from the Research Institute for Aquaculture No. 1 showed that <i>Perkinsus olseni</i> was one of the causative agents that caused 80% loss in a total of 800 ha clam farms. Infection rate was from 40 to 45%.</p> <p>Another disease outbreak was reported on 11 June 2012 in Can Thanh, Can Gio district, Ho Chi Minh City, affecting 75 ha of clam farms at 10-11 months post-stocking.</p> |

| | |
|---|---|
| 3 | <p>Pathogen: White spot syndrome virus (WSSV)</p> <p>Species affected: black tiger shrimp (<i>Penaeus monodon</i>) and white leg shrimp (<i>Litopenaeus vannamei</i>);</p> <p>Clinical signs: lethargic or moribund shrimp accumulated at pond surface and edges, slow to erratic swimming behavior. Overall body color often reddish. Minute to large (0.5-2.0 mm diameter) white inclusions embedded in the cuticle, especially in the removed carapace held to the light after scraping off attached tissues (not always seen).</p> <p>Mortality rate: medium to high, 100% within 10 days in some cases;</p> <p>The disease was reported in Nam Dinh, Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Thua Tien Hue, Phu Yen, Ho Chi Minh City, Ben Tre, Kien Giang, Soc Trang and Ca Mau provinces. Shrimps were affected from 20-50 days post stocking;</p> |
| 4 | <p>Acute Hepatopancreatic Necrosis Syndrome (AHPNS):</p> <p>The disease has continued affecting the Mekong Delta area (Ben Tre, Tien Giang, Tra Vinh, Soc Trang, Bac Lieu and Ca Mau provinces), and in the South Central Coast (Thanh Hoa, Nghe An, Quang Tri, Quang Ngai, Ninh Thuan, Binh Thuan and Phu Yen provinces). Affected area accounted a total of 11,122 ha. Mortalities recorded at 10-75 days post stocking in both <i>P.monodon</i> and <i>P. vannamei</i> under intensive and semi-intensive farming systems.</p> <p>Pathogen(s) is still unknown. Initial findings suggested that primary causes of death might be due to accumulated toxicity from chemical in aquaculture and/or microorganisms (bacteria). Histological examination showed various stages of acute hepatopancreatic degeneration and necrosis. Case definition has been described as follows:</p> <ul style="list-style-type: none"> — Acute progressive degeneration of HP; — Lack of mitotic activity in E cells; — Central HP dysfunction of B, F, and R cells; — Prominent karyomegaly and sloughing of cells; — Terminal stages include intertubular haemocytic aggregation and secondary bacterial infections. |

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

List of Diseases in the Asia-Pacific Quarterly Aquatic Animal Disease Report (Beginning 2012)

| 1. DISEASES PREVALENT IN THE REGION | |
|--|---|
| 1.1 FINFISH DISEASES | |
| OIE-listed diseases | Non OIE-listed diseases |
| 1. Epizootic haematopoietic necrosis | 1. Grouper iridoviral disease |
| 2. Infectious haematopoietic necrosis | 2. Viral encephalopathy and retinopathy |
| 3. Spring viraemia of carp | 3. Enteric septicaemia of catfish |
| 4. Viral haemorrhagic septicaemia | |
| 5. Epizootic ulcerative syndrome | |
| 6. Red seabream iridoviral disease | |
| 7. Infection with koi herpesvirus | |
| 1.2 MOLLUSC DISEASES | |
| OIE-listed diseases | Non OIE-listed diseases |
| 1. Infection with <i>Bonamia exitiosa</i> | 1. Infection with <i>Marteilioides chungmuensis</i> |
| 2. Infection with <i>Perkinsus olseni</i> | 2. Akoya oyster disease |
| 3. Infection with abalone herpes-like virus | 3. Acute viral necrosis (in scallops) |
| 1.3 CRUSTACEAN DISEASES | |
| OIE-listed diseases | Non OIE-listed diseases |
| 1. Taura syndrome | 1. Monodon slow growth syndrome |
| 2. White spot disease | 3. Milky haemolymph disease of spiny lobster (<i>Panulirus</i> spp.) |
| 3. Yellowhead disease | |
| 4. Infectious hypodermal and haematopoietic necrosis | |
| 5. Infectious myonecrosis | |
| 6. White tail disease (MrNV) | |
| 7. Necrotising hepatopancreatitis | |
| 1.4 AMPHIBIAN DISEASES | |
| OIE-listed diseases | Non OIE-listed diseases |
| 1. Infection with Ranavirus | |
| 2. Infection with <i>Bachtracochytrium dendrobatidis</i> | |
| 2. DISEASES PRESUMED EXOTIC TO THE REGION | |
| 2.1 Finfish | |
| OIE-listed diseases | Non OIE-listed diseases |
| 1. Infectious salmon anaemia | 1. Channel catfish virus disease |
| 2. Infection with <i>Gyrodactylus salaris</i> | |
| 2.2 Molluscs | |
| OIE-listed diseases | Non OIE-listed diseases |
| 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>Xenohalotis californiensis</i> | |
| 2.3 Crustaceans | |
| OIE-listed diseases | Non OIE-listed diseases |
| 1. Crayfish plague (<i>Aphanomyces astaci</i>) | |

Recent Aquatic Animal Health Related Publications

OIE Aquatic Animal Health Code, 14th Edition, 2011. The Aquatic Animal Health Code (hereafter referred to as the 'Aquatic Code') sets out standards for the improvement of aquatic animal health and welfare and veterinary public health worldwide, including through standards for safe international trade in aquatic animals (amphibians, crustaceans, fish and molluscs) and their products. The health measures in the *Aquatic Code* should be used by the veterinary authorities of importing and exporting countries to provide for early detection, reporting and control agents pathogenic to aquatic animals and, in the case of zoonotic diseases, for humans, and to prevent their transfer via international trade in aquatic animals and aquatic animal products, while avoiding unjustified sanitary barriers to trade. The 14th edition incorporates the modifications to the *Aquatic Code* agreed during the 79th General Session in May 2011. It includes revised information on the following subjects: glossary; diseases listed by the OIE; criteria to assess the safety of aquatic animal commodities; quality of Aquatic Animal Health Services; criteria for listing aquatic animal disease; control of hazards in aquatic animal feeds; introduction to the recommendations for controlling antimicrobial resistance; welfare of farmed fish during transport; welfare aspects of stunning and killing of farmed fish for human consumption; disinfection of salmonid eggs for infectious haematopoietic necrosis, infectious salmon anaemia and viral haemorrhagic septicaemia; epizootic haematopoietic necrosis; Taura syndrome and aquatic animal products listed in Articles X.X.3. and X.X.11. (amphibians and fish chapters) / X.X.12. (crustaceans and molluscs chapters) all disease chapters (except epizootic haematopoietic necrosis, Taura syndrome, *B. ostreae*). The Aquatic Animal Health Code is available for free download <http://www.oie.int/international-standard-setting/aquatic-code/access-online/>. The book may be also be ordered from OIE online bookshop at <http://www.oie.int/boutique/index.php?lang=en>.

OIE Manual of Diagnostic Tests for Aquatic Animals, 2011. The purpose of this manual is to provide a uniform approach to the detection of the diseases listed in the OIE *Aquatic Animal Health Code*, so that the requirements for health certification in connection with trade in aquatic animals and aquatic animal products can be met. It includes bibliographical references and a list of the OIE Reference Laboratories for amphibian, crustacean, fish and mollusc diseases. The manual is available for free download at <http://www.oie.int/international-standard-setting/aquatic-manual/access-online/> and can be ordered at <http://www.oie.int/boutique/index.php?lang=en>.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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**Instructions on how to fill in the
QUARTERLY AQUATIC ANIMAL DISEASE REPORT**

(Revised during the Provisional Meeting of the AG¹, Bangkok, Thailand, November 7-9, 2001)

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

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

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

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

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

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

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

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

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

Please use the following symbols to fill in the forms.

A. Symbols used for negative occurrence are as follows:

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

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

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

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

B. Symbols used for positive occurrence are shown below.

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

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

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

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

¹ Regional Advisory Group on Aquatic Animal Health (AG)

C. Levels of Diagnosis

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

D. Subjects to be covered in the Epidemiological Comments

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

IMPORTANT

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

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

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