2014/4

QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

October – December 2014

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Foreword

Key Activities of NACA Regional Aquatic Animal Health Programme for 2014

The regional aquatic animal health programme of NACA has implemented key activities in the Asia-Pacific region during the year 2014. These are summarized below:

1) Proficiency Testing Program for Aquatic Animal Disease Diagnostic Laboratories in Asia-Pacific

This project was funded by the Australian Department of Agriculture and was implemented in the region in collaboration with NACA, Australian National Quality Assurance Programme (ANQAP) and Commonwealth Scientific and Industrial Research Organisation (CSIRO). It was initiated in 2012 and was participated by 40 laboratories from 13 NACA member countries. The test is limited to PCR diagnostics for 10 important viral pathogens of fish and shrimps, and consisted of 4 rounds of testing (2 in 2013; and 2 in 2014). The fourth round was completed in October 2014. Overall, there was a significant improvement on the performance of most participating laboratories from round 1 to round 4 in detecting shrimp and fish pathogens using their existing PCR diagnostic procedures. The final report is now being prepared and will be published in OIE journal for wider dissemination.

2) Quarterly Aquatic Animal Disease Reporting

This is a continuing programme of NACA in collaboration with OIE and FAO. On the average, NACA received 15 quarterly reports out of the 22 participating governments. This reporting system has been a useful mechanism for recognising emerging and important aquatic animal diseases in the region, as well as excellent regional networking in support of aquatic animal disease surveillance.

3) Activities on Acute Hepatopancreatic Necrosis Disease (AHPND) of Cultured Shrimps

Several activities in the region still focused on this important disease of cultured shrimp. NACA had been involved in several national workshops and meetings (India, Iran and the Philippines), highlighting the importance of and current status of/updates on AHPND among shrimp-producing countries in the region. Disease status and lessons learnt was also presented during the Asia Pacific Fisheries Commission (APFIC) 5th Regional Consultative Forum which was organized by FAO in Hyderabad, India. The research group of Tim Flegel also made progress on the development of a more sensitive PCR primer (AP3) for the specific detection of AHPND bacteria, this is a follow-up of the first PCR primer that they released in December 2013 using AP1 and AP2 (http://www.enaca.org/modules/library/publication.php?publication_id=1145&title=ap4-pcr-detection-method-ahpnd). With the confirmation of the causative agent, change of name from AHPNS to AHPND, as well as more evidence on disease development, the disease card was revised and published online at NACA website.

4) WAA2014 Special Session: Regional Cooperation for Improved Biosecurity

A half-day special session on regional cooperation for improved biosecurity was held at World Aquaculture Adelaide 2014, on 11 June 2014 which was funded by ACIAR. Key experts in the region were invited in this special session to cover important topics on regional cooperation on aquatic animal health management and biosecurity, as well as other factors that might influence disease outbreaks (including genetics). Overall, the session provided an opportunity for industry and scientists performing agricultural research and development to discuss closer cooperation in health management and biosecurity. In particular, it raised awareness of the link between genetic erosion and disease, an issue that has not been previously investigated or addressed by the aquaculture community. This is a foundation issue that must be addressed in domestication and genetic improvement programmes for prominent aquaculture species.

5) Aquatic Animal Health (AAH) Management component of USAID-MARKET Project

NACA in collaboration with ANAAHC (ASEAN Network of Aquatic Animal Health Centers) and Department of Fisheries Thailand, has implemented the AAH component of the project, which focus on the development of Standard Operating Procedures for Responsible Movement of Live Aquatic Animals for ASEAN. The SOP was developed through a series of consultation workshops held in Pattaya, Thailand (August 2014), Ho Chi Minh City, Vietnam (November 2014) and Bangkok, Thailand (February 2015). The SOP is now in its final form and ready for endorsement to the ASEAN.

6) 13th Meeting of the Asia Regional Advisory Group on Aquatic Animal Health (AGM-13)

This annual meeting was held in Ho Chi Minh City, Vietnam on 22-23 November 2014, back to back with the AFS-FHS 9th Symposium on Diseases in Asian Aquaculture (DAA9). It was attended by 10 AG members and 4 co-opted members and discussed current issues on aquatic animal health and other related issues. These include progress reports from NACA and other partner agencies (including OIE, FAO, SEAFDEC AQD, DA Australia, AAHRI Thailand, and Department of Fisheries Malaysia), updates on aquatic animal diseases in the region, status of disease reporting in the Asia-Pacific, and revision of list of diseases for QAAD reporting in 2015. This is a self-sustaining programme of NACA where most members attend the annual meeting on their own.

Reports Received by the NACA Secretariat

Country: AUSTRALIA Period: October - December 2014

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	-(2012)	-(2012)	-(2012)		1
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	-(2013)	+	-(2014)	I	2
6. Red seabream iridoviral disease (RSID)	0000	0000	0000		
7. Infection with Koi herpesvirus (KHV)	0000	0000	0000		
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	-(2014)	+	+	III	3
10.Enteric septicaemia of catfish	+	(2014)	(2014)	III	4
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-(2014)	-(2014)	-(2014)		5
3. Infection with abalone herpesvirus	-(2011)	-(2011)	-(2011)		6
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with ostereid herpesvirus*	-(2014)	+	-(2014)	III	7
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000		
2. White spot disease (WSD)	0000	0000	0000		
3. Yellowhead disease (YHD)	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	-(2014)	-(2014)	-(2014)		8
5. Infectious myonecrosis (IMN)	0000	0000	0000		
6. White tail disease (MrNV)	-(2008)	-(2008)	-(2008)		9
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000		
9. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	-(2008)	-(2008)	-(2008)		10
2. Infection with *Batrachochytrium dendrobatidis*	-(2013)	-(2013)	-(2013)		11
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	**Epizootic haematopoietic necrosis** was not reported this period despite passive surveillance in Victoria (last reported 2012), 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, Tasmania and Western Australia.
2	**Infection with *Aphanomyces invadans* (EUS)** 1. **Reported in Queensland** in November; passive surveillance; 2. **Species affected** – sea mullet (*Mugil cephalus*); 3. **Clinical signs** – skin ulcers consistent with clinical infection; 4. **Pathogen** – *Aphanomyces invadans*; 5. **Mortality rate** – N/A; 6. **Economic loss** – N/A; 7. **Geographic extent** – N/A; 8. **Containment measures** – N/A; 9. **Laboratory confirmation** – N/A; 10. **Publications** – None. EUS is known to have occurred previously in Western Australia (last reported 2013), New South Wales (last reported 2012), the Northern Territory (last reported 2012), Victoria (last reported 2012), and South Australia (last reported 2008). Passive surveillance and never reported in Tasmania. No information available in the Australian Capital Territory.

3	**Viral encephalopathy and retinopathy** 11. **Reported in Queensland** in November and Decmeber; targeted surveillance; 12. **Species affected** – giant grouper (*Epinephelus lanceolatus*); 13. **Clinical signs** – lethargic and not eating; 14. **Pathogen** – *Betanodavirus*; 15. **Mortality rate** – N/A; 16. **Economic loss** – N/A; 17. **Geographic extent** – N/A; 18. **Containment measures** – N/A; 19. **Laboratory confirmation** – histopathology and immunohistochemistry test; 20. **Publications** – None. VER is known to have occurred previously in the Northern Territory (last reported 2013), Western Australia (last reported 2013), New South Wales (last reported 2010), South Australia (last reported 2010) and Tasmania (last reported 2000). Passive surveillance and never reported in Victoria. No information available in the Australian Capital Territory.
4	**Enteric septicaemia of catfish** 1. **Reported in Queensland** in October; targeted surveillance; 2. **Species affected** – eeltailed catfish (*Tandanus tropicanus*); 3. **Clinical signs** – sub-clinical infection; 4. **Pathogen** – *Edwardsiella ictaluri*; 5. **Mortality rate** – N/A; 6. **Economic loss** – N/A; 7. **Geographic extent** – limited to one river; 8. **Containment measures** – N/A; 9. **Laboratory confirmation** – culture identification, PCR and sequencing; 10. **Publications** – None. A survey for *Edwardsiella ictaluri* in wild fish from Northern Australia is ongoing. *E. ictaluri* has been detected in some clinically normal fish from a singler river in Queensland. Enteric septicaemia of catfish is known to have occurred previously in the Northern Territory in a closed aquarium facility also holding imported ornamental fish (last reported 2011). Passive surveillance and reported previously in Queensland (last reported 2008) and Tasmania (last reported 2001) in imported zebrafish (*Brachydanio rerio*) held in PC2 containment facilities. Passive surveillance and never reported in New South Wales, South Australia, Victoria or Western Australia. No information available this period in the Australian Capital Territory.
5	**Infection with *Perkinsus olseni*** was not reported this period despite passive surveillance in Queensland (last reported 2014), South Australia (last reported 2013) New South Wales (last reported 2005) and Western Australia (last reported 2003). Passive surveillance and never reported in the Northern Territory, Tasmania and Victoria. No information available for the Australian Capital Territory (suceptible species not present and no marine water responsibility).
6	**Infection with abalone herpesvirus (abalone viral ganglioneuritis)** was not reported this period despite targeted surveillance in Tasmania (last reported 2011) and passive surveillance in New South Wales (last reported 2011 and eradicated following detection in contained commercial live-holding facilities), and Victoria (last reported 2010). Passive surveillance and never reported in the Northern Territory, Queensland, South Australia and Western Australia. No information available this period for the Australian Capital Territory (no marine water responsibility).

7	**Infection wit Ostereid herpesvirus** 1. **Reported in New South Wales** in November; targeted surveillance; 2. **Species affected** –*Crassostrea gigas,* small spat; 3. **Clinical signs** – N/A; 4. **Pathogen** – Ostereid herpesvirus-1 microvariant; 5. **Mortality rate** – 90% in Georges River, not determinable due to small size of spat in Hawkesbury River; 6. **Economic loss** – N/A; 7. **Geographic extent** – Georges River and Hawkesbury Rover in research population of Pacific oysters; 8. **Containment measures** – Movement of stock and equipment outside of currently infected catchments is prohibited; 9. **Laboratory confirmation** – qPCR (EMAI assay: Georges River and Hawkesbury Rover samples; Martenot Assay: Georges River samples); 10. **Publications** – None. In New South Wales, controls are in place to contain the virus to affected estuaries; targeted surveillance in those areas where OsHV-1 is known to occur, passive surveillance elsewhere. Ostereid herpesvirus-1 µ variant has not been detected in any other jurisdiction in Australia. Targeted surveillance in 2011 in pacific oyster growing areas did return positive tests for the virus outside of the affected estuaries. Passive surveillance and never reported in Northern Territory, Queensland, Victoria, Tasmania, South Australia and Western Australia. No information available for Australian Capital Territory (no marine water responsibility).
8	**Infectious hypodermal and haematopoietic necrosis virus** was not reported this period but is known to have occurred previously in Queensland (last reported 2014) and the 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).
9	**White tail disease** was not reported this period despite passive surveillance in Queensland (last reported 2008). Passive surveillance and never reported from the Australian Capital Territory, New South Wales, the Northern Territory, South Australia, Victoria and Western Australia. No information available this period in Tasmania (susceptible species not present).
10	**Infection with ranavirus** was not reported this period despite passive surveillance in the Northern Territory (last reported 2008, prior to official reporting for ranavirus). 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.
11	**Infection with *Batrachochytrium dendrobatidis*** was not reported this period despite passive surveillance in Tasmania (last reported 2013), Victoria (last reported 2011) and Western Australia (last reported 2008). Suspected but not confirmed through passive surveillance in Queensland. No information available this period in the Australian Capital Territory, New South Wales, the Northern Territory, and South Australia.

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

The AQUAVETPLAN Disease strategy manual – abalone viral ganglioneuritis was published on the Department of Agriculture website in August 2014 (http://www.daff.gov.u/aquavetplan).

Country: HONG KONG SAR, CHINA Period: October - December 2014

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	II	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp (SVC)	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000	III	
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000	III	
6. Red seabream iridoviral disease (RSID)	-	-	-	III	
7. Infection with Koi herpesvirus (KHV)	+	-	-	III	1,2
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-	III	
9. Viral encephalopathy and retinopathy	-	-	-	III	
10.Enteric septicaemia of catfish	0000	0000	0000	II	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	II	
2. Infection with *Perkinsus olseni*	0000	0000	0000	II	
3. Infection with abalone herpesvirus	0000	0000	0000	II	
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000	II	
5. Infection with ostereid herpesvirus*	***	***	***		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	
7. Acute viral necrosis (in scallops)	0000	0000	0000	II	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000	III	
2. White spot disease (WSD)	-	+	-	III	2
3. Yellowhead disease (YHD)	0000	0000	0000	III	
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	0000	0000	0000	II	
5. Infectious myonecrosis (IMN)	0000	0000	0000	II	
6. White tail disease (MrNV)	0000	0000	0000	II	
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000	II	
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000	II	
9. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000	II	
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000	II	
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000	II	
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	Infection with Koi herpesvirus was detected from a group of assorted koi that have been submitted for health certification.
2	White spot syndrome virus was detected in a group of red lobsters which has been submitted for health certification.
3	

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

Country: INDIA **Period: October - December 2014**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	-	-	-		
6. Red seabream iridoviral disease (RSID)	0000	0000	0000		
7. Infection with Koi herpesvirus (KHV)	0000	0000	0000		
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	-	-	-		
10.Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-	-	-		
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with ostereid herpesvirus*	0000	0000	0000		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000		
2. White spot disease (WSD)	+( )	+( )	+( )	I,III	1
3. Yellowhead disease (YHD)	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	+( )	+( )	+( )	III	2
5. Infectious myonecrosis (IMN)	0000	0000	0000		
6. White tail disease (MrNV)	-	-	-		
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	-	-	-		
9. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(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	**White spot disease (WSD):** WSSV was detected in *Litopenaeus vannamei* samples from limited areas of Coddalore, Nagapattinam and Thanjavur districts of Tamil Nadu, Navsari district of Gujarat, Raigad district of Maharashtra, Guntur district of Andhra Pradesh, and Uttar district of Karnataka, in *Penaeus monodon* samples from Kannur and Ernakulum districts of Kerala, and *Panulirus homarus* samples from Nagapattinam district of Tamil Nadu during different months under the reporting period on the basis of level III diagnosis.
2	**Infectious hypodermal and hematopoietic necrosis (IHHN):** IHHNV was detected in *P. monodon* samples from Ernakulum district of Kerala, and *L. vannamei* samples from Kanchipuran and Thirivallur districts of Tamil Nady and Nellore district of Andra Pradesh on the basis of level III diagnosis.
3	

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

The Prevention and Control of Infectious and Contagious Diseases in Animals Act 2009 has been suitably amended to cover aquatic animal diseases vide the Government of India Notifications No. S.O. 995(E) and No. S.O. 996(E) dated 1 April 2014.

Country: I.R. IRAN **Period: October - December 2014**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	-	-		
3. Spring viraemia of carp (SVC)	-	-	-		
4. Viral haemorrhagic septicaemia (VHS)	-	+	+	III	1
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease (RSID)	0000	0000	0000		
7. Infection with Koi herpesvirus (KHV)	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	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Infection with abalone herpesvirus	***	***	***		
4. Infection with *Xenohaliotis californiensis*	***	***	***		
5. Infection with ostereid herpesvirus*					
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
7. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000		
2. White spot disease (WSD)	-	-	-		
3. Yellowhead disease (YHD)	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	0000	0000	0000		
5. Infectious myonecrosis (IMN)	***	***	***		
6. White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis (NHP)	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Acute hepatopancreatic necrosis disease (AHPND)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(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	**VHS** reported in two provinces, 2 fish farm in Kohgiloye&Boirahmad and 1fish farm in Kermanshah:. 1. **Origin of the disease:** unknown, case is under investigation; 2. **Species affected** – *Onchorrhyncus mykiss* (Rainbow trout), 5 months old; 3. **Clinical signs** –pinpoint haemorrhages in visceral organs, pale gills, ascites, exophthalmia, bleeding under the skin around the base of pectoral and pelvic fins; 4. **Pathogen** – VHSV; 5. **Mortality rate** – around 25%, 6. **Economic loss** – not calculated yet 7. **Geographic extent** – Kohgiloye&Boirahmad; Kermanshah; 8. **Control measures** – emergency harvest, stamping out of juveniles, fallowing; 9. **Laboratory confirmation** – Real-time and nested PCR, ELISA, histopathology; confirmed by Centre of Veterinary Laboratory (CVL) and Mashhad PCR Lab; 10. **Publications** – None.

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

Country: JAPAN **Period: October - December 2014**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	I	
2. Infectious haematopoietic necrosis	+	+	-(2014)	I,III	1
3. Spring viraemia of carp (SVC)	0000	0000	0000	I	
4. Viral haemorrhagic septicaemia (VHS)	-(2014)	-(2014)	-(2014)	I	
5. Infection with *Aphanomyces invadans* (EUS)	-(2014)	-(2014)	-(2014)	I	
6. Red seabream iridoviral disease (RSID)	+	+	-(2014)	II,III	2
7. Infection with Koi herpesvirus (KHV)	+	-(2014)	-(2014)	III	3
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000	I	
9. Viral encephalopathy and retinopathy	+	+	-(2014)	III	4
10.Enteric septicaemia of catfish	- (2010)	-(2010)	-(2010)	I	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	I	
2. Infection with *Perkinsus olseni*	- (2007)	-(2007)	-(2007)	I	
3. Infection with abalone herpesvirus	0000	0000	0000	I	
4. Infection with *Xenohaliotis californiensis*	-(2014)	-(2014)	-(2014)	III	
5. Infection with ostereid herpesvirus*	0000	0000	0000	I	
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	-(2014)	+	+	I	5
7. Acute viral necrosis (in scallops)	0000	0000	0000	I	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000	I	
2. White spot disease (WSD)	-(2014)	-(2014)	-(2014)	III	
3. Yellowhead disease (YHD)	0000	0000	0000	I	
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	0000	0000	0000	I	
5. Infectious myonecrosis (IMN)	0000	0000	0000	I	
6. White tail disease (MrNV)	0000	0000	0000	I	
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000	I	
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000	I	
9. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000	I	
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	-(2012)	-(2012)	-(2012)	I	
2. Infection with *Batrachochytrium dendrobatidis*	-(2009)	-(2009)	-(2009)	I	
ANY OTHER DISEASES OF IMPORTANCE					
1. Crayfish plague (*Aphanomyces astaci*)	-(2014)	-(2014)	-(2014)	I	
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	**Infectious haematopoietic necrosis (IHN)** 1. **Reported in** 8 prefectures; 2. **Species affected** – Amago (*Onchorynchus rhodorus*), masou (*O. masou*), rainbow trout (*O. mykiss*); 3. **Disease characteristics** – mortality; lethargy; pale gills, liver and kidney (anemia); threadbare gills; darkening of the skin; exophthalmia; petechial haemorrhages internally; 4. **Pathogen** – Infectious haematopoietic necrosis virus; 5. **Mortality rate** – 2.6-50%; 6. **Economic loss** –; 7. **Geographic extent** – Honshu. Kyushu; 8. **Preventive/control measures** – disinfection of equipment and tanks; removal of dead fish; 9. **Laboratory confirmation** – gross clinical observation, RT-PCR and/or isolation of the virus by prefectural research laboratories; 10. **Publications** – None.

2	**Red seabream iridoviral disease (RSIVD)** 1. **Reported in** 5 prefectures; 2. **Species affected** –red sea bream (*Pagrus major*), chicken grunt (*Parapristipoma trilineatum*), striped jack (*Psuedocaranx dentex*), Japanese parrotfish (*Oplegnathus fasciatus*); 3. **Disease characteristics** – mortality; petechiae on the gills; 4. **Pathogen** – Red seabream iridovirus; 5. **Mortality rate** – 0.2-1 %; 6. **Economic loss** –; 7. **Geographic extent** – Honshu, Shikoku and Kyushu; 8. **Preventive/control measures** – feed restriction, removal of dead fish, prohibition of fish transfer from infected cages, culling of infected fish; 9. **Laboratory confirmation** – histopathology, IFAT or PCR by the fisheries cooperative and prefectural research laboratories; 10. **Publications** – None.
3	**Infection with Koi herpesvirus (KHV)** 1. **Reported in** 1 prefectures; 2. **Species affected** – Koi carp and common carp (*Cyprinus carpio*); 3. **Disease characteristics** – mortality; 4. **Pathogen** – Koi herpesvirus; 5. **Mortality rate** – 11-90 %; 6. **Economic loss** –; 7. **Geographic extent** –Honshu; 8. **Preventive/control measures** – prohibition of fish transfer from infected ponds; culling of infected fish; suspension of the release of rearing water; 9. **Laboratory confirmation** – PCR by prefectural research laboratories; 10. **Publications** – website of Ministry of Agriculture, Forestry and Fisheries (MAFF) and prefectures.
4	**Viral encephalopathy and retinopathy** 1. **Reported in** 2 prefectures; 2. **Species affected** – kelp grouper (*Epinephelus moara*), Malabar grouper (*E. malabaricus*), convict grouper (*E. septemfasciatus*); 3. **Disease characteristics** – mortality, abnormal swimming, lethargy; 4. **Pathogen** – Betanodavirus; 5. **Mortality rate** – 0.008-40%; 6. **Economic loss** –; 7. **Geographic extent** –Honshu, Kyushu; 8. **Preventive/control measures** – feed restriction, control of rearing water temperature, vaccine; 9. **Laboratory confirmation** –PCR by prefectural research laboratories; 10. **Publications** – None.
6	**Infection with *Marteiloioides chungmuensis*** 1. **Reported in** 1 prefectures; 2. **Species affected** – Pacific oyster (*Crassostrea gigas*); 3. **Disease characteristics** – irregular enlargement of the ovary; 4. **Pathogen** – *Marteilioides chungmuensis*; 5. **Mortality rate** – 0%; 6. **Economic loss** –; 7. **Geographic extent** –Honshu; 8. **Preventive/control measures** – none; 9. **Laboratory confirmation** –gross clinical observation by prefectural research laboratories; 10. **Publications** – None.

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

Country: KOREA R.O. **Period: January - March 2014**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	+	-	III	1
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	+	-	-	III	2
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease (RSID)	-	-	-	III	
7. Infection with Koi herpesvirus (KHV)	-	-	-	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	-	-	-	III	
10.Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-	-	-	III	
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with ostereid herpesvirus*					
Non OIE-listed diseases	-	-	-	III	
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000		
2. White spot disease (WSD)	-	-	-	III	
3. Yellowhead disease (YHD)	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	-	-	-	III	
5. Infectious myonecrosis (IMN)	0000	0000	0000		
6. White tail disease (MrNV)	0000	0000	0000		
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000		
9. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
AMPHIBIAN DISEASES	0000	0000	0000		
OIE-listed diseases					
1. Infection with Ranavirus					
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	**Infectious haematopoietic necrosis (IHN)** 1. **Reported** in Pyeongchang, Youngwol and Jeongsun of Gangwon-do in February, 2. **Species affected**: rainbow trout (*Oncorhynchus mykiss*) 3. **Clinical signs**: exophthalmus, hepatorrhagia 4. **Pathogen**: IHNV 5. **Mortality rate**: 50% in Pyeongchang, 0% in Youngwol and Jeongsun 6. **Death total**: information not available 7. **Geographic extent**: limited to one province 8. **Control measures**: self - disinfection of equipment and facilities 9. **Laboratory Confirmation**: PCR method and sequencing by National Fisheries Research and Development Institute (NFRDI) 10. **Publication**: None
2	**Viral haemorrhagic septicaemia (VHS)** 1. **Reported** in Seogwipo of Jeju-do in January 2. **Species affected**: Olive flounder (*Paralichthys olivaceus*) 3. **Clinical signs**: - 4. **Pathogen**: VHSV 5. **Mortality rate**: low(≤1%), decreasing 6. **Death total**: 1,500 fishes 7. **Geographic extent**: limited to one farm 8. **Control measures**: prohibition of movement, disinfection of equipment and facilities 9. **Laboratory Confirmation**: PCR method and sequencing by National Fisheries Research and Development Institute (NFRDI) 10. **Publication**: None

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

Country: KOREA R.O. **Period: April - June 2014**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	-	-	III	
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	+	-	+	III	1
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease (RSID)	-	-	-	III	
7. Infection with Koi herpesvirus (KHV)	-	-	+	III	2
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	-	-	-	III	
10.Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-	-	-	III	
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with ostereid herpesvirus*					
Non OIE-listed diseases	-	-	-	III	
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000		
2. White spot disease (WSD)	-	-	+	III	3
3. Yellowhead disease (YHD)	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	-	-	-	III	
5. Infectious myonecrosis (IMN)	0000	0000	0000		
6. White tail disease (MrNV)	0000	0000	0000		
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000		
9. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
AMPHIBIAN DISEASES	0000	0000	0000		
OIE-listed diseases					
1. Infection with Ranavirus					
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(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	**Viral haemorrhagic septicaemia (VHS)** 1. **Reported** in Seogwipo of Jeju-do in April and June 2. **Species affected**: Olive flounder (*Paralichthys olivaceus*) 3. **Clinical signs**: Darkness, Ascites 4. **Pathogen**: VHSV 5. **Mortality rate**: low(0.23~11.3%), decreasing 6. **Death total**: 20,100 fishes 7. **Geographic extent**: limited to one area 8. **Control measures**: prohibition of movement, disinfection of equipment and facilities 9. **Laboratory Confirmation**: PCR method and sequencing by National Fisheries Research and Development Institute (NFRDI) 10. Publication: None
2	**Koi herpesvirus disease (KHV)** 1. **Reported** in Wanju-gun of Jeollabuk-do in June 2. **Species affected**: Koi carp (*Cyprinus carpio*) 3. **Clinical signs**: - 4. **Pathogen**: KHV 5. **Mortality rate**: - 6. **Death total**: - 7. **Geographic extent**: limited to one farm 8. **Control measures**: prohibition of movement, disinfection of equipment and facilities 9. **Laboratory Confirmation**: PCR method and sequencing by National Fishery products Quality management Service (FIQ) 10. **Publication**: None

3	**White spot disease (WSD)** 1. **Reported** in Taean-gun of Chungchungnam-do in June 2. **Species affected**: Whiteleg Shrimp (*Lipopenaeus vannamei*) 3. **Clinical signs**: - 4. **Pathogen**: WSSV 5. **Mortality rate**: High (80%) 6. **Death total**: 9.6 Tones 7. **Geographic extent**: limited to one farm 8. **Control measures**: prohibition of movement, disinfection of equipment and facilities 9. **Laboratory Confirmation**: PCR method and sequencing by National Fisheries Research and Development Institute (NFRDI) 10. **Publication**: None

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

Country: KOREA R.O. **Period: July - September 2014**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	-	-	III	
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	-	-	-		
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease (RSID)	-	+	+	III	1
7. Infection with Koi herpesvirus (KHV)	+	-	-	III	2
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	-	-	-	III	
10.Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-	-	-	III	
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with ostereid herpesvirus*					
Non OIE-listed diseases	-	-	-	III	
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000		
2. White spot disease (WSD)	-	+	+	III	3
3. Yellowhead disease (YHD)	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	-	-	-	III	
5. Infectious myonecrosis (IMN)	0000	0000	0000		
6. White tail disease (MrNV)	0000	0000	0000		
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000		
9. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
AMPHIBIAN DISEASES	0000	0000	0000		
OIE-listed diseases					
1. Infection with Ranavirus					
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	**Red seabream iridoviral disease (RSID)** 1. **Reported** in Sacheon-si and Namhae-gun, Gyeongsangnam-do/ Jangheung-gun and Yeosu-si, Jeollanam-do from August to September 2. **Species affected**: Rock bream (*Oplegnathus fasciatus*), Mullet (*Mugil cephalus*), Olive flounder (*Paralichthys olivaceus*) 3. **Clinical signs**: Severe anemia, enlargement of the spleen 4. **Pathogen**: Red seabream iridovirus 5. **Mortality rate**: low(≤1%) ~ Moderate 6. **Death total**: 0~100,000 7. **Geographic extent**: limited to a few areas 8. **Control measures**: prohibition of movement, disinfection of equipment and facilities 9. **Laboratory Confirmation**: PCR method and sequencing by National Fisheries Research and Development Institute (NFRDI) 10. **Publication**: None
2	**Koi herpesvirus disease (KHV)** 1. **Reported** in Chuncheon-si, Gangwon-do in July 2. **Species affected**: Koi carp (*Cyprinus carpio*) 3. **Clinical signs**: - 4. **Pathogen**: KHV 5. **Mortality rate**: - 6. **Death total**: - 7. **Geographic extent**: limited to one farm 8. **Control measures**: prohibition of movement, disinfection of equipment and facilities 9. **Laboratory Confirmation**: PCR method and sequencing by National Fisheries Research and Development Institute (NFRDI) 10. **Publication**: None

3	**White spot disease (WSD)** 1. **Reported** in Gangwha-gun, Incheon-si in June from August to September 2. **Species affected**: Whiteleg shrimp (*Lipopenaeus vanamei*) 3. **Clinical signs**: - 4. **Pathogen**: WSSV 5. **Mortality rate**: - 6. **Death total**: - 7. **Geographic extent**: limited to one area 8. **Control measures**: prohibition of movement, disinfection of equipment and facilities 9. **Laboratory Confirmation**: PCR method and sequencing by National Fisheries Research and Development Institute (NFRDI) 10. **Publication**: None

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

Country: KOREA R.O. **Period: October - December 2014**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	-	-		
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	-	+	-	III	1
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease (RSID)	+	+	+	III	2
7. Infection with Koi herpesvirus (KHV)	+	-	-	III	3
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	-	-	-		
10.Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-	-	-		
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with ostereid herpesvirus*					
Non OIE-listed diseases	-	-	-		
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000		
2. White spot disease (WSD)	-	-	-		
3. Yellowhead disease (YHD)	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	-	-	-		
5. Infectious myonecrosis (IMN)	0000	0000	0000		
6. White tail disease (MrNV)	0000	0000	0000		
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	0000	0000	0000		
9. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
AMPHIBIAN DISEASES	0000	0000	0000		
OIE-listed diseases					
1. Infection with Ranavirus					
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(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	**Viral haemorrhagic septicaemia (VHS)** 1. **Reported** in Seogwipo of Jeju-do in November 2. **Species affected**: Olive flounder (*Paralichthys olivaceus*) 3. **Clinical signs**: Darkness, Ascites 4. **Pathogen**: VHSV 5. **Mortality rate**: moderate (30%) 6. **Death total:** 60,000 fishes 7. **Geographic extent**: limited to one farm 8. **Control measures**: prohibition of movement, disinfection of equipment and facilities 9. **Laboratory Confirmation**: PCR method and sequencing by National Fisheries Research and Development Institute (NFRDI) 10. **Publication**: None
2	**Red seabream iridoviral disease (RSID)** 1. **Reported** in Tongyoung-si, Gyeongsangnam-do/ Yeosu-si, Jeollanam-do/ Seogwipo-si of Jeju-do from October to December 2. **Species affected**: Rock bream(*Oplegnathus fasciatus*), Red seabream(*Pagrus major*), Rockfish(*Sebastes schlegeli*) 3. **Clinical signs**: Severe anemia, enlargement of the spleen 4. **Pathogen**: Red seabream iridovirus 5. **Mortality rate**: low~ high(0~96%) 6. **Death total**: 1,645,000 fishes 7. **Geographic extent**: limited to three areas 8. **Control measures**: prohibition of movement, disinfection of equipment and facilities 9. **Laboratory Confirmation**: PCR method and sequencing by National Fisheries Research and Development Institute (NFRDI) 10. **Publication**: None

3	**Koi herpesvirus disease (KHV)** 1. **Reported** in Chuncheon-si, Gangwon-do in October 2. **Species affected**: Koi carp (*Cyprinus carpio*) 3. **Clinical signs**: - 4. **Pathogen**: KHV 5. **Mortality rate**: low 6. **Death total**: - 7. **Geographic extent**: limited to one farm 8. **Control measures**: prohibition of movement, disinfection of equipment and facilities 9. **Laboratory Confirmation**: PCR method and sequencing by National Fisheries Research and Development Institute (NFRDI) 10. **Publication**: None

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

Country: LAO PDR **Period: October - December 2014**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp (SVC)	***	***	***		
4. Viral haemorrhagic septicaemia (VHS)	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	***	***	***		
6. Red seabream iridoviral disease (RSID)	***	***	***		
7. Infection with Koi herpesvirus (KHV)	***	***	***		
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10.Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Infection with abalone herpesvirus	***	***	***		
4. Infection with *Xenohaliotis californiensis*	***	***	***		
5. Infection with ostereid herpesvirus*					
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
7. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	***	***	***		
2. White spot disease (WSD)	***	***	***		
3. Yellowhead disease (YHD)	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	***	***	***		
5. Infectious myonecrosis (IMN)	***	***	***		
6. White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis (NHP)	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Acute hepatopancreatic necrosis disease (AHPND)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	
2	
3	

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

Country: MALDIVES **Period: October - December 2014**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***/0000	***/0000	***/0000		
2. Infectious haematopoietic necrosis	***/0000	***/0000	***/0000		
3. Spring viraemia of carp (SVC)	***/0000	***/0000	***/0000		
4. Viral haemorrhagic septicaemia (VHS)	***/0000	***/0000	***/0000		
5. Infection with *Aphanomyces invadans* (EUS)	***/0000	***/0000	***/0000		
6. Red seabream iridoviral disease (RSID)	***/0000	***/0000	***/0000		
7. Infection with Koi herpesvirus (KHV)					
Non OIE-listed diseases					
8. Grouper iridoviral disease	***/0000	***/0000	***/0000		
9. Viral encephalopathy and retinopathy	***/0000	***/0000	***/0000		
10.Enteric septicaemia of catfish	***/0000	***/0000	***/0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***/0000	***/0000	***/0000		
2. Infection with *Perkinsus olseni*	***/0000	***/0000	***/0000		
3. Infection with abalone herpesvirus	***/0000	***/0000	***/0000		
4. Infection with *Xenohaliotis californiensis*	***/0000	***/0000	***/0000		
5. Infection with ostereid herpesvirus*	***/0000	***/0000	***/0000		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	***/0000	***/0000	***/0000		
7. Acute viral necrosis (in scallops)	***/0000	***/0000	***/0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	***/0000	***/0000	***/0000		
2. White spot disease (WSD)	***/0000	***/0000	***/0000		
3. Yellowhead disease (YHD)	***/0000	***/0000	***/0000		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	***/0000	***/0000	***/0000		
5. Infectious myonecrosis (IMN)	***/0000	***/0000	***/0000		
6. White tail disease (MrNV)	***/0000	***/0000	***/0000		
7. Necrotising hepatopancreatitis (NHP)	***/0000	***/0000	***/0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***/0000	***/0000	***/0000		
9. Acute hepatopancreatic necrosis disease (AHPND)	***/0000	***/0000	***/0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***/0000	***/0000	***/0000		
2. Infection with *Batrachochytrium dendrobatidis*	***/0000	***/0000	***/0000		
ANY OTHER DISEASES OF IMPORTANCE					
1. Parasitic disease					
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	
2	
3	

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

Country: MYANMAR **Period: October - December 2014**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp (SVC)	***	***	***		
4. Viral haemorrhagic septicaemia (VHS)	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	***	***	***		
6. Red seabream iridoviral disease (RSID)	***	***	***		
7. Infection with Koi herpesvirus (KHV)					
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10.Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*					
2. Infection with *Perkinsus olseni*					
3. Infection with abalone herpesvirus					
4. Infection with *Xenohaliotis californiensis*					
5. Infection with ostereid herpesvirus*					
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*					
7. Acute viral necrosis (in scallops)					
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	-	-	-	III	1
2. White spot disease (WSD)	+( )	-	-	III	
3. Yellowhead disease (YHD)	+( )	-	+( )	III	
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	-	-	-	III	
5. Infectious myonecrosis (IMN)	***	***	***		
6. White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis (NHP)	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Acute hepatopancreatic necrosis disease (AHPND)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus					
2. Infection with *Batrachochytrium dendrobatidis*					
ANY OTHER DISEASES OF IMPORTANCE					
1. Parasitic disease					2
2. Bacterial disease					2

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	During this period, we have received 7 samples of shrimps (4 frozen shrimp, 2 alive shrimp for export) for testing, and found that 1 sample is positive for WSSV and 2 samples for YHV.
2	Visited some fish farms in Yangon, Mandalay and Ayeyarwaddy regions during this period. Parasitic infestations (*Dactylogyrus* spp. *Ergasilus* spp., *Argulus* spp., *Trichodina* spp., and protozoans) and bacterial disease (*Streptococcus* sp.) were found in some farms due to poor water quality.
3	

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

Country: PHILIPPINES Period: October - December 2014

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (SVC)	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	-(2002)	-(2002)	-(2002)	I	1
6. Red seabream iridoviral disease (RSID)	0000	0000	0000	III	2
7. Infection with Koi herpesvirus (KHV)	0000	0000	0000	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	-(2008)	-(2008)	-(2008)	III	
9. Viral encephalopathy and retinopathy	+	-	-	III	3
10.Enteric septicaemia of catfish	****	****	****		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	****	****	****		
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with ostereid herpesvirus*	0000	0000	0000		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000	III	4
2. White spot disease (WSD)	+	+	+	III	5
3. Yellowhead disease (YHD)	-(1999)	-(1999)	-(1999)	III	6
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	+	-	+	III	7
5. Infectious myonecrosis (IMN)	0000	0000	0000	III	8
6. White tail disease (MrNV)	0000	0000	0000	III	
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000	III	9
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	****	****	****		
9. Acute hepatopancreatic necrosis disease (AHPND)	-	-	+( )	III	10
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	****	****	****		
2. Infection with *Batrachochytrium dendrobatidis*	****	****	****		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(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	Sixty (60) samples of *Anguilla spp.* were negative for Infection with *Aphanomyces invadans* (EUS) by gross morphological examination. Samples were from Laguna. Examinations were conducted by the Bureau of Fisheries and Aquatic Resources (BFAR) Central Office Fish Health Laboratory.
2	Thirty (30) samples (10 *E.fuscoguttatus, 15 Trachinotus spp.* and 5 blue cod) were analyzed using PCR test. All samples showed negative results for Red Seabream Iridoviral Disease. Samples were collected from Puerto Galera and Palawan. Examinations were conducted by BFAR Central Office Laboratory.
3	Thirty (30) samples (10 *E.fuscoguttatus, 15 Trachinotus spp.* and 5 blue cod) were analyzed using PCR test. One sample of brown Marble Grouper (*E.fuscoguttatus)* showed positive results for Viral Encephalopathy and Retinopathy. The positive sample was collected from Palawan. Examinations were conducted by BFAR Central Office Laboratory.
4	Seventy five (75) samples-(57 *P.*vannamei, 17 *P.monodon,* 1 *M.rosenbergii*) of different stages (brood stock, adult, fry and juvenile) were analyzed using PCR test. All samples showed negative results for Taura Syndrome. The samples were collected from Zambales, Lanao del Norte, Batangas, Surigao del Sur, Dagupan, Davao del Sur, Davao del Norte, Bulacan, Catanduanes, Sarangani Province, General Santos, Malabon, Pampanga, Bataan, Camarines Norte and Zamboanga del Norte. Other samples are imported from Hawaii, U.S.A. Examinations were conducted by BFAR Central Office Laboratory.
5	Two hundred sixty five (265) samples of *P.vannamei, P.monodon,* and *M.rosenbergii* of different stages (fry, juvenile, adult and brood stock) were tested using PCR. Seventy one (71) were positive for White Spot Syndrome Virus. The positive samples were from Davao Oriental, Leyte, Surigao del Sur, Dagupan, General Santos, Malabon, Bulacan, Pampanga, Bataan, Davao del Sur and Zambales. Examinations were conducted by BFAR Central Office and Negros Prawn Producers Cooperative (NPPC) Laboratories.

6	Sixty five (65) samples (51 *P.vannamei*, 13 *P.monodon,* 1 *M.rosenbergii*) in different stages were analyzed using PCR test. All samples showed negative results for Yellowhead Disease. The samples were collected from Zambales, Lanao del Norte, Batangas, Surigao del Sur, Dagupan, Davao del Sur, Lanao del Sur, Bulacan, Catanduanes, Davao City, Sarangani, General Santos City, Malabon, Bulacan, Pampanga and Bataan. Other samples were imported from Hawaii, U.S.A. Examinations were conducted by BFAR Central Office Laboratory.
7	One hundred thirteen (113) samples of *P.vannamei, P.monodon, M.rosenbergii* of different stages (broodstock, adult, fry and juvenile) were analyzed using PCR test. Nineteen (6 *P.monodon,*12 *P.vannamei* and 1 *M.rosenbergii*) samples showed positive results for Infectious hypodermal and haematopoietic necrosis (IHHN). The samples were collected from Surigao del Sur, Bulacan, Pampanga, Bataan, Zambales, Davao City and Zamboanga del Norte. Examinations were conducted by BFAR Central Office Laboratory.
8	Sixty five (65) samples (51 *P.*vannamei, 13 *P.monodon,* 1 *M.rosenbergii*) of different stages were analyzed using PCR test. All samples showed negative results for Infectious myonecrosis (IMNV). The samples were collected from Zambales, Lanao del Norte, Batangas, Surigao del Sur, Dagupan, Davao del Sur, Bulacan, Catanduanes, Davao City, Sarangani Province, General Santos, Malabon, Pampanga, Bataan and Camarines Norte. Other samples are imported from Hawaii, U.S.A. Examinations were conducted by BFAR Central Office Laboratory.
9	One hundred eleven (111) samples (77 *P.vannamei*, 32 *P.monodon,* 1 *M.rosenbergii* and 1 shrimp) of different stages were analyzed using PCR test. All samples showed negative results for Necrotising Hepatopancreatitis (NHPB). The samples were collected from Palawan, Lanao del Norte, Mactan, Negros Oriental,Leyte, Bohol, Zambales, Davao Oriental, Leyte, Cebu, Batangas, Surigao del Sur, Bataan, Agusan del Norte, Dagupan Bulcan, Catanduanes, General Santos and Zamboanga del Norte. Other samples are imported from Hawaii, U.S.A. Examinations were conducted by BFAR Central Office Laboratory.
10	Sixty one (61) samples of *P.vannamei, P.monodon,* of different stages (fry, juvenile and adult) and polychaete worm were tested using PCR. Ten (4 *P.vannamei,* 5 *P.*monodon and 1 polychaete worm) were positive for Acute Hepatocpancreatic Necrosis Disease. The positive samples were from Bulacan, Pampanga, Quezon and Pangasinan. Examinations were conducted by BFAR Central Office Laboratory.

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

Country: SINGAPORE Period: October - December 2014

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease (RSID)	(2014)	(2014)	(2014)	III	1
7. Infection with Koi herpesvirus (KHV)	(2012)	(2012)	(2012)	III	2
Non OIE-listed diseases					
8. Grouper iridoviral disease	(2014)	(2014)	(2014)	III	
9. Viral encephalopathy and retinopathy	(2014)	(2014)	+	III	3
10.Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Infection with abalone herpesvirus	***	***	***		
4. Infection with *Xenohaliotis californiensis*	***	***	***		
5. Infection with ostereid herpesvirus*					
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
7. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000		
2. White spot disease (WSD)	(2013)	(2013)	(2013)	III	4
3. Yellowhead disease (YHD)	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	0000	0000	0000		
5. Infectious myonecrosis (IMN)	0000	0000	0000		
6. White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*				III	5
ANY OTHER DISEASES OF IMPORTANCE					
1. Infectious spleen and kidney necrosis virus (ISKNV) (marine and ornamental fish)	(2014)	(2014)	(2014)	III	1
2. *Aeromonas salmonicida* (in goldfish)	0000	0000	0000	III	6

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	**Red seabream iridovirus (RSIV) and Infectious Spleen and Kidney Necrosis Virus (ISKNV)** was not detected in 26 batches of diseased marine food fish this quarter by PCR. There were no ornamental fish submitted for disease investigation this quarter.
2	**Koi herpesvirus (KHV)** was not detected in 43 batches of ornamental koi his quarter by qPCR. Fish tested were from surveillance programs on imported and locally farmed ornamental fish. There has been no detection of KHV in all consignments of imported koi and locally farmed koi for more than 2 years. The last detection was in September 2012.
3	**Viral nervous necrosis virus (VNNV)** was detected via histopathology in a batch of diseased seabass fry from a landbased hatchery with up to 90% mortality observed at onset. All affected and in-contact fry were culled and the hatchery disinfected. Clinical signs suggestive of VNNV infection were seen in a batch of seabass fry from a landbased nursery. These were culled without confirmatory testing. A batch of diseased juvenile grouper from a floating cage farm was found to be infected with VNNV via RT-PCR and histopathology. The virus was not detected in 15 batches of diseased marine food fish submitted this quarter.
4	**White spot syndrome virus (WSSV)** was not detected by qPCR in 16 batches of imported and locally farmedornamental crustaceans (shrimps and crayfish) submitted from targeted surveillance program, and in 125 *L. vannamei* submitted from a local broodstock farm this quarter.

5	***Batrachochytrium dendrobatidis* (Bd)** was not detected by qPCR in 1 batch of imported frogs this quarter.
6	***Aeromonas salmonicida*** was not detected in 2 batches of goldfish submitted under a targeted surveillance program to meet Australia's export requirements this quarter.

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

Country: SRI LANKA Period: July - September 2014

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***	III	1
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp (SVC)	0000	0000	0000	III	2
4. Viral haemorrhagic septicaemia (VHS)	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	***	***	***		
6. Red seabream iridoviral disease (RSID)	***	***	***		3
7. Infection with Koi herpesvirus (KHV)	0000	0000	0000	III	4
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10.Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Infection with abalone herpesvirus	***	***	***		
4. Infection with *Xenohaliotis californiensis*	***	***	***		
5. Infection with ostereid herpesvirus*	***	***	***		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
7. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	***	***	***		
2. White spot disease (WSD)	+( )	+( )	+( )	III	5
3. Yellowhead disease (YHD)	?( )	?( )	?( )	III	6
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	?( )	?( )	?( )	III	7
5. Infectious myonecrosis (IMN)	***	***	***		
6. White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis (NHP)	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Acute hepatopancreatic necrosis disease (AHPND)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. Laem Singh virus (LSV)	?( )	?( )	?( )	III	8
2. Monodon Baculovirus (MBV)	?( )	?( )	?( )	III	9

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(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	PCR has been established for EHN at Central Veterinary Investigation Center (CVIC)
2	For SVC, 70 samples for export/import (33 carp, 25 guppy, 3 platy, 9 goldfish) have been tested at CVIC by PCR and all samples gave negative result. Surveillance was carried out in 35 goldfish from fish breeding station (Rambodagalla, Panagamuwa) by National Aquaculture Development Authority; all samples gave negative result.
3	CVIC is in the process of establishing the testing facility for RSID.
4	For KHV, 80 samples (45 carps, 5 Koi carp, 17 guppy, 10 goldfish, 3 platy) were tested by PCR in CVIC and Center for Aquatic Disease Diagnosis and Research (CADDAR); all samples were found negative.
5	A total of 283 out of 1,382 samples of *P. monodon* gave positive results for WSSV by PCR. Testing has been carried out in the laboratories of NARA, NAQDA and CADDAR.
6	45 samples of *P. monodon* have been tested for YHV in the laboratory of NARA, and all samples gave negative results.

7	45 samples of *P. monodon* have been tested for IHHNV in the laboratory of NARA, and all samples gave negative results.
8	45 samples of *P. monodon* have been tested for LSV in the laboratory of NARA, and all samples gave negative results.
9	45 samples of *P. monodon* have been tested for MBV in the laboratory of NARA and NAQDA, and only one sample from the month of April gave positive result.

Country: SRI LANKA Period: October - December 2014

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***	III	1
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp (SVC)	0000	0000	0000	III	2
4. Viral haemorrhagic septicaemia (VHS)	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	***	***	***		
6. Red seabream iridoviral disease (RSID)	***	***	***		3
7. Infection with Koi herpesvirus (KHV)	0000	0000	0000	III	4
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10.Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Infection with abalone herpesvirus	***	***	***		
4. Infection with *Xenohaliotis californiensis*	***	***	***		
5. Infection with ostereid herpesvirus*	***	***	***		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
7. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	***	***	***		
2. White spot disease (WSD)	+( )	+( )	+( )	III	5
3. Yellowhead disease (YHD)	?( )	?( )	?( )	III	6
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	?( )	?( )	?( )	III	7
5. Infectious myonecrosis (IMN)	***	***	***		
6. White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis (NHP)	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Acute hepatopancreatic necrosis disease (AHPND)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. Laem Singh virus (LSV)	?( )	?( )	?( )	III	8
2. Monodon Baculovirus (MBV)	?( )	?( )	?( )	III	9

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(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	PCR has been established for EHN at Central Veterinary Investigation Center (CVIC) t Veterinary Research Institute (VRI)
2	A total of 101 samples (23 carp, 74 guppy, 4 platy) have been tested at CVIC by PCR and all samples gave negative result.
3	PCR technique has been developed for Megalocytivirus in CVIC.
4	For KHV, 61 samples (32 carps, 29 guppy) were tested by PCR in CVIC and Center for Aquatic Disease Diagnosis and Research (CADDAR); all samples were found negative.
5	A total of 102 out of 437samples of *P. monodon* gave positive results for WSSV by PCR. Testing has been carried out in the laboratories of NARA, NAQDA and CADDAR.
6	36 samples of *P. monodon* have been tested for YHV in the laboratory of NARA, and all samples gave negative results.
7	36 samples of *P. monodon* have been tested for IHHNV in the laboratory of NARA, and all samples gave negative results.

8	36 samples of *P. monodon* have been tested for LSV in the laboratory of NARA, and all samples gave negative results.
9	36 samples of *P. monodon* have been tested for MBV in the laboratory of NARA and NAQDA, and only one sample from the month of April gave positive result.

Country: THAILAND Period: October - December 2014

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	III	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp (SVC)	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000	III	
5. Infection with *Aphanomyces invadans* (EUS)	(2009)	(2009)	(2009)	II	
6. Red seabream iridoviral disease (RSID)	0000	0000	0000	III	
7. Infection with Koi herpesvirus (KHV)	(2011)	(2011)	(2011)	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	-	-	-	III	
10.Enteric septicaemia of catfish	0000	0000	0000	II	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000	III	
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with ostereid herpesvirus*	0000	0000	0000		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	-	-	-	III	
2. White spot disease (WSD)	-	-	+( )	III	1
3. Yellowhead disease (YHD)	-	-	+( )	III	2
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	-	-	-	III	
5. Infectious myonecrosis (IMN)	0000	0000	0000	III	
6. White tail disease (MrNV)	-	-	-	III	
7. Necrotising hepatopancreatitis (NHP)	***	***	***		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	***	***	***		
9. Acute hepatopancreatic necrosis disease (AHPND)	+( )	+( )	+( )	III	3
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	(2011)	(2011)	(2011)	III	
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	A total of 254 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 1 specimen or 0.39 % recorded as PCR positive or carrying WSSV genes. Shrimp farms with positive testing results were subjected to health improvement, movement control, eradication and/or farm disinfection.
2	A total of 216 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 3 specimens or 1.39 % recorded as RT-PCR positive or carrying YHV genes. Shrimp farms with positive testing results were subjected to health improvement, movement control, eradication and/or farm disinfection.
3	A total of 1,568 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 256 specimens or 16.33 % recorded as PCR positive for AHPND. Shrimp farms with positive testing results were subjected 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: October - December 2014**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	-	-	-		
6. Red seabream iridoviral disease (RSID)	0000	0000	0000		
7. Infection with Koi herpesvirus (KHV)	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	-	-	-		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-	-	-		
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with ostereid herpesvirus*					
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000		
2. White spot disease (WSD)	+	+	+	I,III	1
3. Yellowhead disease (YHD)	+	+	+	I,III	2
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	0000	0000	0000		
5. Infectious myonecrosis (IMN)	0000	0000	0000		
6. White tail disease (MrNV)	-	-	-		
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000		
Non OIE-listed diseases					
8. *Monodon* slow growth syndrome	-	-	-		
9. Acute hepatopancreatic necrosis disease (AHPND)	+	+	+	I,II	3
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					

* listed as Emerging Disease

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
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	?( )	Presence of the disease suspected but not confirmed in a zone
+?	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
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(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	**White Spot Disease (WSD)** **Pathogen**: White spot syndrome virus (WSSV) **Species affected:** *Penaeus monodon* and *Litopenaeus vannamei* (10-100 DOC) **Name of affected area:** reported in 12 provinces (total area 3,433 ha) including Nghe An, Quang Binh, Binh Dinh,Ba Ria-Vung Tau, Ho Chi Minh, Long An, Tien Gang, Ben Tre, Tra Vinh, Soc Trang, Bac Lieu and Ca Mau. **Mortality rate:** average to high, 100% in some cases within 10 d. **Clinical signs:** lethargic or moribund shrimps aggregated 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; **Control measures:** early harvest, strict isolation of infected ponds from movement, strengthened control of transportation, disinfection of infected ponds using Calcium hypochlorite (chlorine).
2	**Yellowhead Disease (YHD)** **Pathogen**: Yellowhead virus (YHV) **Species affected:** *Litopenaeus vannamei* **Name of affected area:** reported in Bac Lieu provinces with 2 ha affected. **Mortality rate:** could reach 100% in 2-5 days after infection. **Clinical signs:** Affected shrimps showed sudden increase in feeding activity and abnormal growth, then loss of appetite; aggregated near the pond surface or at the edge of the ponds followed by mortalities. Body is discolored, cephalothorax/hepatopancreas swollen and turned to color yellow or brown. Tissues of most organs (gills, hepatopancreas, gut epidermis) were necrotic with degenerated cell nuclei. Shrimps were most sucsceptible at the age of 20-70 DOC (no infection in shrimps under 15 DOC). Fastest transmission of the disease was observed in shrimps at 20-30 DOC when mortality could reach 100% over 2-5 days of infection. **Control measures:** Disinfection and discharge of contaminated water; movement and transportation control,.

3	**Acute Hepatopancreatic Necrosis Diseae (AHPND)** **Pathogen**: *Vibrio parahaemolyticus* with Phage A3 **Species affected:** *Penaeus monodon* and *Litopenaeus vannamei* (10-45 DOC) **Name of affected area:** reported in 10 provinces and caused losses in total shrimp culture area of 641 ha. Affected provinces include Ba Ria-Vung Tau, Ho Chi Minh, Ninh Thuan, Dong Nai, Long An, Tien Giang, Ben Tre, Kien Gang, Soc Trang, Bac Lieu and Ca Mau. **Mortality rate:** could reach 95% in intensive and semi-intensive farms; **Clinical signs:** shrimps become lethargic with soft, darkened shells, mottling of the carapace. Pathology is limited to hepatopancreas. **Control measures:** strict isolation of infected ponds from movement and transport controls, disinfection of infected ponds using Calcium hypochlorite (chlorine).

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

List of Diseases in the Asia-Pacific
Quarterly Aquatic Animal Disease Report (Beginning 2014)

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 (SVC)	3.Enteric septicaemia of catfish
4. Viral haemorrhagic septicaemia (VHS)	
5. Infection with *Aphanomyces invadans* (EUS)	
6. Red seabream iridoviral disease (RSID)	
7. Infection with koi herpesvirus (KHV)	
1.2 MOLLUSC DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infection with *Bonamia exitiosa*	1. Infection with *Marteilioides chungmuensis*
2. Infection with *Perkinsus olseni*	2. Acute viral necrosis (in scallops)
3. Infection with abalone herpesvirus	
4. Infection with *Xenohaliotis californiensis*	
5. Infection with ostereid herpesvirus*	
1.3 CRUSTACEAN DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Taura syndrome (TS)	1. Monodon slow growth syndrome
2. White spot disease (WSD)	2. Acute hepatopancreatic necrosis disease (AHPND)
3. Yellowhead disease (YHD)	
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	
5. Infectious myonecrosis (IMN)	
6. White tail disease (MrNV)	
7. Necrotising hepatopancreatitis (NHP)	
1.4 AMPHIBIAN DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infection with Ranavirus	
2. Infection with *Bachtracochytrium dendrobatidis*	
2. DISEASES PRESUMED EXOTIC TO THE REGION	
2.1 Finfish	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infection with HPRdeleted or HPR0 salmon anaemia virus	1. Channel catfish virus disease
2. Infection with salmon pancreas disease virus	
3. Infection with *Gyrodactylus salaris*	
2.2 Molluscs	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infection with *Bonamia ostreae*	
2. Infection with *Marteilia refringens*	
3. Infection with *Perkinsus marinus*	
2.3 Crustaceans	
OIE-listed diseases	**Non OIE-listed diseases**
1. Crayfish plague (*Aphanomyces astaci*)	

*** Listed as Emerging Disease**

Recent Aquatic Animal Health Related Publications

OIE Aquatic Animal Health Code, 16th Edition, 2013. The OIE Aquatic Animal Health Code (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 of 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 health measures in the Aquatic Code have been formally adopted by the World Assembly of OIE Delegates, which constitutes the organisation's highest decision-making body. This 15th edition incorporates modifications to the Aquatic Code agreed at the 80th General Session in May 2012.The 2012 edition includes revised information on the following subjects: glossary; notification of diseases and epidemiological information; criteria for listing aquatic animal diseases; diseases listed by the OIE; import risk analysis; welfare of farmed fish during transport; welfare aspects of stunning and killing of farmed fish for human consumption; and disinfection of salmonid eggs for infectious haematopoietic necrosis, infectious salmon anaemia and viral haemorrhagic septicaemia. This edition includes four new chapters on communication; monitoring of the quantities and usage patterns of antimicrobial agents used in aquatic animals; development and harmonisation of national antimicrobial resistance surveillance and monitoring programmes for aquatic animals; and killing of farmed fish for disease control purposes. The Aquatic Animal Health Code is available for free download http://www.oie.int/international-standard-setting/aquatic-code/access-online/

OIE Manual of Diagnostic Tests for Aquatic Animals, 2014. The purpose of this manual is to provide a uniform approach to the detection of the diseases listed in the OIE *Aquatic Animal Health Code*, so that the requirements for health certification in connection with trade in aquatic animals and aquatic animal products can be met. It includes bibliographical references and a list of the OIE Reference Laboratories for amphibian, crustacean, fish and mollusc diseases. The manual is available for free download at http://www.oie.int/en/international-standard-setting/aquatic-manual/access-online/

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

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

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

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

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

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

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

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

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

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

Please use the following symbols to fill in the forms.

A. Symbols used for negative occurrence are as follows:

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

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

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

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

B. Symbols used for positive occurrence are shown below.

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

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

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

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

+?( ) These symbols mean that confirmed infection/infestation is limited to one of more zones of the country, but no clinical disease.

?( ) These symbols mean the presence of the disease suspected but not confirmed in a zone.

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

C. Levels of Diagnosis

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

D. Subjects to be covered in the Epidemiological Comments

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

IMPORTANT

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

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

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Notes

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