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QUARTERLY
AQUATIC ANIMAL DISEASE REPORT
(Asia and Pacific Region)

April – June 2016

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Network of Aquaculture Centres in Asia-Pacific

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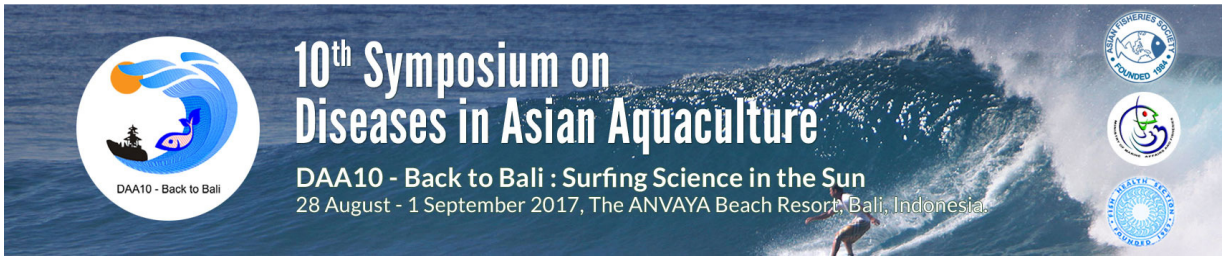
Contents

Foreword

10th Symposium on Diseases in Asian Aquaculture (DAA10)



The 10th Symposium on Diseases in Asian Aquaculture (DAA10), the popular triennial event of the Fish Health Section of the Asian Fisheries Society (AFS-FHS), **will** be held from 28 August – 1 September 2017 at The ANVAYA Beach Resort, Kuta, Bali, Indonesia. The AFS-FHS was founded on 30 January 1989 in Malaysia and held the first Diseases in Asian Aquaculture (DAA) on 26-29 November 1990 in Kuta Beach, Bali, Indonesia. The FHS is credited with holding triennial symposia where members and aquatic animal health professionals meet to discuss broad issues and specific topics related to aquatic animal health in Asian aquaculture. The Society has conducted nine symposia: DAA1 (Bali, Indonesia, 1990), DAA2 (Phuket, Thailand, 1993), DAA3 (Bangkok, Thailand, 1996), DAA4 (Cebu, The Philippines, 1999), DAA5 (Gold Coast, Australia, 2002), DAA6 (Colombo, Sri Lanka, 2005), DAA7 (Taipei, Taiwan, 2008), DAA8 (Mangalore, India, 2011) and DAA9 (Ho Chi Minh City, Vietnam, 2014). To celebrate the milestone of the biggest scientific event on research, diagnostic and services of aquatic animal health in Asian aquaculture, DAA10 is coming back to Bali. The symposium **promises to combine intellectual stimulation and a sunny retreat at an exotic Bali paradise, surfing science in the sun.**DAA10 is anticipating an attendance of 450-500 delegates from 30-40 countries over the five days of the Symposium. With the chosen theme of **"Enhancing Aquatic Animal Health Research and Services through Public-Private Sector Partnerships"** we anticipate to cover topics from classic parasitic, bacterial and viral diseases to emerging trends and cutting-edge research in aquatic animal health. Ample time will be scheduled for networking, public-private round table discussion, field trips and social functions during the Symposium. Trade displays will be exhibited throughout the Symposium.

Important Dates

- Registration and Abstract Submission Open : 2 January 2017
- Abstract Submission Deadline : 31 March 2017
- Abstract Review process : 1 April – 31 May 2017
- Notification of Abstract Acceptance : 31 May 2017
- Early Registration Deadline : 31 May 2017
- Latest Registration Deadline : 31 July 2017
- Symposium Start : 28 August 2017
- Symposium End : 1 September 2017

- Full Paper Submission Deadline : 30 November 2017

Registration Details:

A. FHS-AFS Regular Members
Early Registration : 400 USD (2 January- 31May 2017)
Late Registration : 450 USD (1 June - 31 July 2017)

B. FHS-AFS Student Members
Early Registration : 250 USD (1 January - 31 May 2017)
Late Registration : 300 USD (1 June - 31 July 2017)

C. Non-Members
Early Registration : 450 USD (1 January - 31 May 2017)
Late Registration : 500 USD (1 June- 31 July 2017)

D. Indonesian Nationals
Early Registration : 300 USD (1 January - 31 May 2017)
Late Registration : 350 USD (1 June- 31 July 2017)

E. Indonesian Students
Early Registration : 150 USD (1 January - 31 May 2017)
Late Registration : 200 USD (1 June - 31 July 2017)

Contact Persons

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For further information, please visit our websites: www.fhs-afs.net and www.daa10.org

Reports Received by the NACA and OIE-RRAP

(Officially prepared by OIE Aquatic Focal Point/NACA National Coordinator, and submitted by OIE Delegate)

Country: AUSTRALIA* **Period: April - June 2016**

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	-(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)	-(2016)	-(2016)	-(2016)		2
6. Red seabream iridoviral disease (RSID)	0000	0000	0000		
7. Koi herpesvirus disease (KHV)	0000	0000	0000		
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	+	-(2016)	+	III	3
10.Enteric septicaemia of catfish	-(2014)	(2014)	(2014)		4
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	+	-(2016)	-(2016)	III	5
2. Infection with *Perkinsus olseni*	-(2016)	+	-(2016)	III	6
3. Infection with abalone herpesvirus	-(2011)	-(2011)	-(2011)		7
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with *Bonamia ostreae*	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)	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)	-(2015)	-(2015)	-(2015)		8
5. Infectious myonecrosis (IMN)	0000	0000	0000		
6. White tail disease (MrNV)	-(2008)	-(2008)	-(2008)		9
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000		
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
9. Crayfish plague	0000	0000	0000		
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	0000	0000	0000		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	***	***	***		

*Member of NACA's Asia Regional Aquatic Animal Health Programme

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. Hepatopancreatitis in prawns	-(2016)	+	-(2016)	III	12

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)** was not reported this period despite passive surveillance in New South Wales (last reported march 2016), Queensland (last reported 2014), Western Australia (last reported 2013), 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** 1. **Reported in Queensland** in April and June; passive surveillance; 2. **Species affected** – jungle perch (*Kuhlia rupestris*) in April, barramundi (*Lates calcarifer*) in June; 3. **Clinical signs** – jungle perch lethargic and thin, barramundi pale and swimming erratically at the water surface; 4. **Pathogen** – Betanodavirus; 5. **Mortality rate** –N/A; 6. **Economic loss** – N/A; 7. **Geographic extent** – one farm on each occasion; 8. **Containment measures** –N/A; 9. **Laboratory confirmation** – histopathology and IHC; 10. **Publications** – None. Viral encephalopathy and retinopathy 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** (*Edwardsiella ictaluri*) has been reported from clinically normal fish from a single river in Queensland (October 2014). This is the only occurrence of *E. ictaluri* in wild fish populations in Australia. Active surveillance throughout Northern Australia has found no evidence of *E. ictaluri* in any other wild fish populations. *E. ictaluri* has been detected previously in association with imported ornamental fish including: Northern Territory in closed aquarium (last reported 2011) and in PC2 containment facilities in Tasmania (last reported 2001) and Queensland (last reported 2008). 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 *Bonamia exitiosa*** 1. **Reported in South Australia** in April 2016; targeted surveillance; 2. **Species affected** – native oysters (*Ostrea angasi*); 3. **Clinical signs** – sub-clinical; 4. **Pathogen** – *Bonamia exitiosa*; 5. **Mortality rate** – nil; 6. **Economic loss** – N/A; 7. **Geographic extent** – South Australia; 8. **Containment measures** – N/A; 9. **Laboratory confirmation** – tissue smears, histopathology and PCR and sequencing; 10. **Publications** – nil. Infection with *Bonamia exitiosa* was not reported this period despite passive surveillance in Victoria (last reported January 2016). Passive surveillance in Queensland, New South Wales, Tasmania, Northern Territory, and Western Australia. No information available for the Australian Capital Territory (no marine water responsibility).

6	**Infection with *Perkinsus olseni*** 1. **Reported in Western Australia** in May 2016; targeted surveillance; 2. **Species affected** – farmed greenlip abalone (*Haliotis laevigata*); 3. **Clinical signs** – sub-clinical; 4. **Pathogen** – *Perkinsus olseni*; 5. **Mortality rate** – nil; 6. **Economic loss** – N/A; 7. **Geographic extent** – Western Australia; 8. **Containment measures** – N/A; 9. **Laboratory confirmation** – histopathology, RFTM; 10. **Publications** – None. *Perkinsus olseni* was not reported this period despite passive surveillance in Victoria (last reported March 2015 in *Ostrea angasi*), Queensland (last reported 2014), South Australia (last reported 2013), and New South Wales (last reported 2005). Passive surveillance and never reported in the Northern Territory and Tasmania. No information available for the Australian Capital Territory (suceptible species not present and no marine water responsibility).
7	**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).
8	**Infectious hypodermal and haematopoietic necrosis virus (IHHNV)** was not reported this period but is known to have occurred previously in Queensland (last reported December 2015) 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.

12	**Hepatopancreatitis in Prawns** 1. **Reported in Queensland** in May; passive surveillance; 2. **Species affected** – tiger prawns (*Penaeus monodon*); 3. **Clinical signs** – lethargy, reduced feeding rates, granulomatous hepatopancreatitis pathology with bacterial proliferation in some of the necrotic heaptopancreatic tubules; 4. **Pathogen** – brth enrichment of hepatopancreas tissue was positive for Pir-like genes, no bacterial isolates tested positive for the genes; the disease does not meet the case definition for AHPND in the draft OIE aquatic manual chapter circulated to OIE members; 5. **Mortality rate** – N/A; 6. **Economic loss** – N/A; 7. **Geographic extent** – N/A; 8. **Containment measures** – movement controls on water and animals; 9. **Laboratory confirmation** – bacteriology, PCR, histopathology; 10. **Publications** – nil.

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

New controls on imported ornamental fish were implemented on 1 March 2016. These controls are aimed to reduce risks from iridoviruses. Information on these measures is available at http://www.agriculture.gov.au/biosecurity/risk-analysis/ira/final-animal/ornamental-finfish

Country: HONG KONG SAR, CHINA* **Period: April - June 2016**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	II	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp (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. Koi herpesvirus disease (KHV)	-	+	-	III	1
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-	III	
9. Viral encephalopathy and retinopathy	-	-	-	III	
10.Enteric septicaemia of catfish	0000	0000	0000	II	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	II	
2. Infection with *Perkinsus olseni*	0000	0000	0000	II	
3. Infection with abalone herpesvirus	0000	0000	0000	II	
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000	II	
5. Infection with *Bonamia ostreae*					
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	
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	
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
9. Crayfish plague					
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	0000	0000	0000		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)					

*Member of NACA's Asia Regional Aquatic Animal Health Programme

AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000	II	
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000	II	
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: 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	Koi herpesvirus disease was detected from a group of koi fish submitted for health certification.
2	
3	

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

Country: INDIA* **Period: April - June 2016**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (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. Koi herpesvirus disease (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*	+	+	+	II,III	1
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with *Bonamia ostreae*	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)	+	+	+	III	2
3. Yellowhead disease (YHD)	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	+	+	+	III	3
5. Infectious myonecrosis (IMN)	0000	0000	0000		
6. White tail disease (MrNV)	-	-	-		
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000		
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
9. Crayfish plague	0000	0000	0000		
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	-	-	-		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	+	+	+	III	4

*Member of NACA's Asia Regional Aquatic Animal Health Programme

AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: 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 *Perkinsus olseni* reported in *Perna viridis* from Kasargod and Ernakulam Districts of Kerala.
2	WSSV was detected in *Penaeus monodon* in North 24 Parganas District of West Bengal; Thrissur and Kannur Districts of Kerala; South Andaman District of the Union Territory of Andaman & Nicobar Islands. It was also reported in *P. vannamei* from Nagapattinam,Thiruvallur and Cuddalore Districts of Tamil Nadu; East Godavari, West Godavari, Krishna, Guntur, Nellore and Prakasam Districts of Andhra Pradesh; Belasore and Bhadrak Districts of Odisha. Also in *P. indicus* from Kanyakumari and Chennai in Tamil Nadu.
3	IHHNV was detected in *P. vannamei* from East Godavari, West Godavari and Visakhapatnam Districts of Andhra Pradesh; Nagapattinam, Thiruvallur and Thanjavur Districts of Tamil Nadu. Also from *P. monodon* collected from Kannur District of Kerala; North and Middle Andaman Districts of the Union Territory of Andaman & Nicobar Islands. In *P. indicus* from Chennai in Tamil Nadu.

5	Infection with *Enterocytozoon hepatopanaei* reported from *P. vannamei* in East Godavari, West Godavari, Visakhapatnam, Vijayanagram, Nellore, Guntur and Krishna Districts of Andhra Pradesh; Belasore, Bhadrak and Puri Districts of Odisha; Dakshin Kannada District of Karnataka; Kachipuran, Villupuram, Nagapattinam, Thanjavur and Pudukkotai Districts of Tamil Nadu; Surat District of Gujarat; and Thane District of Maharashta.

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

Country: I.R. IRAN* **Period: January - March 2016**

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)	-	-	-		
4. Viral haemorrhagic septicaemia (VHS)	+( )	+( )	+( )	III	2
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease (RSID)	0000	0000	0000		
7. Koi herpesvirus disease (KHV)	(2015)	(2015)	(2015)		
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*	0000	0000	0000		
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with *Bonamia ostreae*	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)	(2015)	(2015)	(2015)		
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)	***	***	***		
8. Acute hepatopancreatic necrosis disease (AHPND)	***	***	***		
9. Crayfish plague					
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	***	***	***		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	***	***	***		

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AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: 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	**IHN** was reported in January to March in three provinces: two propagation center in Chaharmahal&Bakhtiari; two farms in Zanjan; and one farm in Gilan;. 1. **Origin of the disease:** still under study; 2. **Species affected** – *Onchorrhyncus mykiss* (Rainbow trout), 2-5 months old; 3. **Clinical signs** – mass mortality, lethargic swimming with intermittent bouts of frenzied, abnormal activity, pinpoint haemorrhages in visceral organs, pale gills; 4. **Pathogen** – IHNV, related to genogroup E; 5. **Mortality rate** – 20-30%, 6. **Economic loss** – not calculated yet 7. **Geographic extent** – Chaharmahal & Bakhtiari, Zanjan and Gilan; 8. **Control measures** – emergency harvest, stamping out of juveniles, fallowing; 9. **Laboratory confirmation** – histopathology, nested-PCR and cell culture at Centre of Veterinary Laboratory (CVL); 10. **Publications** – None.

2	**VHS** reported in January to March in two provinces: 2 fish farms in Kordestan; and, two farms in Khozestan. 1. **Origin of the disease:** exotic; 2. **Species affected** – *Onchorrhyncus mykiss* (Rainbow trout); 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 belonging to genogroup 1a-2; 5. **Mortality rate** – 10-30%, 6. **Economic loss** – not calculated yet 7. **Geographic extent** – Kordestan, Ardabil and Ilam; 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: I.R. IRAN* **Period: April - June 2016**

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	1
3. Spring viraemia of carp (SVC)	-	-	-		
4. Viral haemorrhagic septicaemia (VHS)	+( )	+( )	+( )	III	2
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease (RSID)	0000	0000	0000		
7. Koi herpesvirus disease (KHV)	(2015)	(2015)	(2015)		
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*	0000	0000	0000		
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with *Bonamia ostreae*	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)	-	-	+	III	3
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)	***	***	***		
8. Acute hepatopancreatic necrosis disease (AHPND)	***	***	***		
9. Crayfish plague					
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	***	***	***		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	***	***	***		

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AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: 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	**IHN** was reported in April to June in two provinces: two propagation center in Chaharmahal&Bakhtiari; and one farm in Kohkiloieh-Boierahamd;. 1. **Origin of the disease:** still under study; 2. **Species affected** – *Onchorrhyncus mykiss* (Rainbow trout), 2-5 months old; 3. **Clinical signs** – mass mortality, lethargic swimming with intermittent bouts of frenzied, abnormal activity, pinpoint haemorrhages in visceral organs, pale gills; 4. **Pathogen** – IHNV, related to genogroup E; 5. **Mortality rate** – 20-30%, 6. **Economic loss** – not calculated yet 7. **Geographic extent** – Chaharmahal & Bakhtiari, Zanjan and Gilan; 8. **Control measures** – emergency harvest, stamping out of juveniles, fallowing; 9. **Laboratory confirmation** – histopathology, nested-PCR and cell culture at Centre of Veterinary Laboratory (CVL); 10. **Publications** – None.

2	**VHS** reported in April to JUne in three provinces: two fish farms in Chaharmahal&Bakhtiari; one farm in Pars; and, one farm in Lorestan. 1. **Origin of the disease:** exotic; 2. **Species affected** – *Onchorrhyncus mykiss* (Rainbow trout); 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 belonging to genogroup 1a-2; 5. **Mortality rate** – 10-30%, 6. **Economic loss** – not calculated yet 7. **Geographic extent** – Kordestan, Ardabil and Ilam; 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.
3	By implementation of active surveillance system in shrimp farms, WSSV was detected in June in one farm of shrimp in Boieratr Complex (Bushehr Province). 1. **Origin of the disease:** still unknown, under study; 2. **Species affected** – *L. vannamei*, juveniles; 3. **Clinical signs** – sudden decrease in feeding, swimming near the pond edge, reddish body, white spot on cephalothorax, and sudden death; 4. **Pathogen** – WSSV; 5. **Mortality rate** – low (morbidity rate was near 1%) 6. **Economic loss** – - 7. **Geographic extent** – Bushehr province; 8. **Control measures** – affected pond was disinfected with 40 ppm Calcium Chloride; all affected shrimps eradicated; 9. **Laboratory confirmation** – nested PCR; confirmed by National Shrimp Laboratory in Bushehr; 10. **Publications** – None.

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

Country: JAPAN* **Period: April - June 2016**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	Ⅰ	
2. Infectious haematopoietic necrosis	+	+	+	I, III	1
3. Spring viraemia of carp (SVC)	0000	0000	0000	Ⅰ	
4. Viral haemorrhagic septicaemia (VHS)	+	-(2016)	+	I, III	2
5. Infection with *Aphanomyces invadans* (EUS)	-(2015)	-(2015)	-(2015)	Ⅰ	
6. Red seabream iridoviral disease (RSID)	-(2016)	+	+	III	3
7. Koi herpesvirus disease (KHV)	+	+	+	Ⅲ	4
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000	Ⅰ	
9. Viral encephalopathy and retinopathy	+	+	+	Ⅲ	5
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*	-(2015)	-(2015)	-(2015)	Ⅰ	
5. Infection with *Bonamia ostreae*	0000	0000	0000	Ⅰ	
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	-(2014)	-(2014)	-(2014)	Ⅰ	
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)	-(2015)	+	+	Ⅲ	6
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	
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000	Ⅰ	
9. Crayfish plague	0000	0000	0000	Ⅰ	
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	0000	0000	0000	Ⅰ	
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	0000	0000	0000	Ⅰ	

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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.					
2.					

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** 12 prefectures; 2. **Species affected** – Amago (*Onchorynchus rhodorus*), masou (*O. masou*), rainbow trout (*O. mykiss*); 3. **Disease characteristics** – mortality; pale gills, liver and kidney (anemia); threadbare fins; exophthalmia; petechial haemorrhages internally and externally; 4. **Pathogen** – Infectious haematopoietic necrosis virus; 5. **Mortality rate** – 1-70%; 6. **Economic loss** –; 7. **Geographic extent** – Hokkaido, Honshu; 8. **Preventive/control measures** – culling of infected fish; disinfection of equipment; feed restriction; isolation of infected fish, disinfection of eggs; 9. **Laboratory confirmation** – gross clinical observation, PCR, cell culture and/or isolation of the virus by prefectural research laboratories; 10. **Publications** – None.

2	**Viral haemorrhagic septicaemia (VHS)** 1. **Reported in** 1 prefecture; 2. **Species affected** – Olive flounder (*Paralichthys olivaceus*), red seabream (*Pagrus major*); 3. **Disease characteristics** – mortality; 4. **Pathogen** – Viral haemorrhagic septicaemia virus; 5. **Mortality rate** – 0.1-2.0%; 6. **Economic loss** –; 7. **Geographic extent** – Shikoku; 8. **Preventive/control measures** – feed restriction, removal of dead fsh; 9. **Laboratory confirmation** – gross clinical observation or PCR by prefectural research laboratories; 10. **Publications** – None.
3	**Red seabream iridoviral disease (RSID)** 1. **Reported in** 3 prefectures; 2. **Species affected** – red sea bream (*Pagrus major*), great amberjack (*Seriola dumerili*), amberjack (*Seriola lalandi*) 3. **Disease characteristics** – mortality; petechial haemorrhages in the gills, enlargement of spleen; 4. **Pathogen** – Red seabream iridovirus; 5. **Mortality rate** – 1-3%; 6. **Economic loss** –; 7. **Geographic extent** – Honshu, Kyushu; 8. **Preventive/control measures** – removal of dead fish; 9. **Laboratory confirmation** – PCR by prefectural or fisheries cooperative research laboratories; 10. **Publications** – None.
4	**Koi herpesvirus disease (KHV)** 1. **Reported in** 9 prefectures; 2. **Species affected** – Koi carp (*Cyprinus carpio*) 3. **Disease characteristics** – mortalit, exophthalmia; 4. **Pathogen** – Koi herpesvirus; 5. **Mortality rate** – 20-90%; 6. **Economic loss** –; 7. **Geographic extent** – Honshu, Kyushu; 8. **Preventive/control measures** – movement control, culling of infected fish, disinfection of ponds 9. **Laboratory confirmation** – PCR by National Research Institute of Aquaculture, Jpan Fisheries Resource Conservation Association and/or prefectural research laboratories; 10. **Publications** – website of Ministry of Agriculture, Forestry and Fisheries (MAFF) and prefectures.

5	**Viral encephalopathy and retinopathy (VER)** 1. **Reported in** 3 prefectures; 2. **Species affected** – kelp grouper (*Epinephelus moara*), barfin flounder (*Verasper moseri*), chub mackerel (*Scomber japonicusandi*) 3. **Disease characteristics** – mortality; 4. **Pathogen** – Betanodavirus; 5. **Mortality rate** – 5-100%; 6. **Economic loss** –; 7. **Geographic extent** – Hokkaido, Honshu, Kyushu; 8. **Preventive/control measures** – culling of infected fish, disinfection of eggs, disinfection of ponds; 9. **Laboratory confirmation** – RT-PCR by prefectural research laboratories; 10. **Publications** – None.
6	**White spot disease (WSD)** 1. **Reported in** 3 prefectures; 2. **Species affected** – Kuruma prawn (*Penaeus japonicus*)**;** 3. **Disease characteristics** – mortality; 4. **Pathogen** – White spot syndrome virus; 5. **Mortality rate** – 0-90%; 6. **Economic loss** –; 7. **Geographic extent** – Honshu, Kyushu; 8. **Preventive/control measures** – culling of infeted eggs and shrimps, disinfetion of equipment, ponds and facilities; 9. **Laboratory confirmation** – PCR by prefectural research laboratories; 10. **Publications** – None.

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

Country: MONGOLIA **Period: April - June 2016**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (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. Koi herpesvirus disease (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	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 *Bonamia ostreae*	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		
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
9. Crayfish plague					
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	0000	0000	0000		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	0000	0000	0000		

AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: 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: April - June 2016**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp (SVC)	***	***	***		
4. Viral haemorrhagic septicaemia (VHS)	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	***	***	***		
6. Red seabream iridoviral disease (RSID)	***	***	***		
7. Koi herpesvirus disease (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 *Bonamia ostreae*					
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)	***	***	***		
5. Infectious myonecrosis (IMN)	***	***	***		
6. White tail disease (MrNV)	***	***	***		
7. Necrotising hepatopancreatitis (NHP)	***	***	***		
8. Acute hepatopancreatic necrosis disease (AHPND)	***	***	***		
9. Crayfish plague					
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	***	***	***		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)					

*Member of NACA's Asia Regional Aquatic Animal Health Programme

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

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 25 samples of crustaceans (2 frozen shrimp and 3 soft shell crab for export, and live PL samples of *P. vannamei* (4 samples), P. monodon (8 samples) and M. rosenbergii (8 samples) for import) for testing, and found that all samples were negative for WSSV, YHV and TSV.
2	Visited some fish farms in Yangon, Mandalay and Ayeyarwaddy regions during this period. Parasitic infestations (*Dactylogyrus* spp; *Ergasilus* spp.) and bacterial disease 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: NEW CALEDONIA Period: April - June 2016

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp (SVC)	***	***	***		
4. Viral haemorrhagic septicaemia (VHS)	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	***	***	***		
6. Red seabream iridoviral disease (RSID)	***	***	***		
7. Koi herpesvirus disease (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*	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 *Bonamia ostreae*	0000	0000	0000	II	
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	III	
2. White spot disease (WSD)	0000	0000	0000	III	
3. Yellowhead disease (YHD)	0000	0000	0000	III	
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	(2013)	(2013)	(2013)	III	1
5. Infectious myonecrosis (IMN)	0000	0000	0000	III	
6. White tail disease (MrNV)	0000	0000	0000	III	
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000	III	
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000	III	
9. Crayfish plague	0000	0000	0000		
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	0000	0000	0000	III	
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	0000	0000	0000		

AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: 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	New Caledonia transmitted to OIE in March 2016 a self-declaration of free status from IHHNV. It was validated and will be published in the next OIE Bulletin (July-August).
2	
3	

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

Country: NEW ZEALAND Period: April - June 2016

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	III	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp (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)	0000	0000	0000	III	
7. Koi herpesvirus disease (KHV)	0000	0000	0000	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000	III	
9. Viral encephalopathy and retinopathy	0000	0000	0000	III	
10.Enteric septicaemia of catfish	0000	0000	0000	III	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	- (2016)	- (2016)	- (2016)	III	1
2. Infection with *Perkinsus olseni*	- (2015)	- (2015)	+?	III	2
3. Infection with abalone herpesvirus	0000	0000	0000	III	
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000	III	
5. Infection with *Bonamia ostreae*	- (2016)	+?	- (2016)	III	3
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000	III	
7. Acute viral necrosis (in scallops)	0000	0000	0000	III	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000	III	
2. White spot disease (WSD)	0000	0000	0000	III	
3. Yellowhead disease (YHD)	0000	0000	0000	III	
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	0000	0000	0000	III	
5. Infectious myonecrosis (IMN)	0000	0000	0000	III	
6. White tail disease (MrNV)	0000	0000	0000	III	
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000	III	
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000	III	
9. Crayfish plague	0000	0000	0000	III	
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	0000	0000	0000	III	
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	0000	0000	0000	III	

AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000	III	
2. Infection with *Batrachochytrium dendrobatidis*	-(2010)	-(2010)	-(2010)	III	4
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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	***Bonamia exitiosa*** occurs in commercial oyster beds in Foveaux Strait, where it is highly prevalent and associated with mortalities in mid to late summer. It occurs intermittently around the South Island and in Wellington Harbour (bottom of the North Island), and has been previously reported in *Ostrea chilensis* from Hauraki Gulf, Tauranga, the Marlborough Sounds and Wellington Harbour. Annual monitoring of the presence of *B. exitiosa* infection is undertaken in the dredge oyster (*O. chilensis*) population in the Foveaux Strait.
2	***Perkinsus olseni*** was detected in wild New Zealand Scallops (*Pecten Novaezealandiae*) in November 2014. This was the first report of *P. olseni* in this host species. *Perkinsus olseni* was also detected in New Zealand green lipped mussels (*Perna canaliculus*) in a land based aquaculture facility in September 2014. Both of these findings were in the Marlborough region, and were incidental and not associated with mortality events. *P. olseni* was detected in healthy wild abalone (*Haliotis iris*) in 2014 and detected in farmed abalone in July 2013. Both these detections were in Northern New Zealand. *P. olseni* is known to occur in populations of four other wild bivalve species: New Zealand cockles, *Austrovenus stutchburyi* (Veneridae), *Macomona liliana* (Tellinidae), *Barbatia novae-zelandiae* (Arcidae), and *Paphies australis* (Mesodesmatidae). These mollusc species occur widely around the coast of New Zealand, but to date *P.olseni* has only been detected in these species Auckland and northwards.

3	***Bonamia ostreae*** was detected for the first time in New Zealand flat oysters (*Ostrea chilensis*) in January 2015 on one land based aquaculture facility in the upper South Island and on two marine oyster farms in the Marlborough Sounds (in the northern part of the South Island). New Zealand initiated a response with the objectives of restricting the spread and determining the geographical extent of the infection. Movement controls have been established to regulate the movement of susceptible shellfish species from the upper South Island to the key flat oyster areas of Southland, Otago and the Chatham Islands. Ongoing surveillance detected Infection with *Bonamia ostreae* in wild molluscs within a movement control area in May of 2016, no clinical signs were associated with the finding.
4	The first isolation of ***Batrachochytrium dendrobatidis*** was made in 1999 in New Zealand. Since then the fungus has been detected both on the North and South Islands in both native and introduced frog species. It is not certain what level of population decline if any, is associated with the presence of the fungus in native frogs.

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

Country: PHILIPPINES* **Period: April - June 2016**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (SVC)	0000	0000	0000		
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	I, III	2
7. Koi herpesvirus disease (KHV)	0000	0000	0000	I, III	3
Non OIE-listed diseases					
8. Grouper iridoviral disease	-(2008)	-(2008)	-(2008)	I, III	4
9. Viral encephalopathy and retinopathy	-	-	-	I, III	5
10.Enteric septicaemia of catfish	****	****	****		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Infection with abalone herpesvirus	****	****	****		
4. Infection with *Xenohaliotis californiensis*	****	****	****		
5. Infection with *Bonamia ostreae*	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)	0000	0000	0000	I, III	6
2. White spot disease (WSD)	+	+	+	I, III	7
3. Yellowhead disease (YHD)	-(1999)	-(1999)	-(1999)	I, III	8
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	+	+	+	I, III	9
5. Infectious myonecrosis (IMN)	0000	0000	0000	I, III	10
6. White tail disease (MrNV)	0000	0000	0000	I, III	11
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000	I, III	
8. Acute hepatopancreatic necrosis disease (AHPND)	+	+	+	I, III	12
9. Crayfish plague					
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	****	****	****		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	-	+	+	I, III	13

*Member of NACA's Asia Regional Aquatic Animal Health Programme

AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: 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	Three hundred (300) samples *Anguilla* spp. were negative for **Infection with *Aphanomyces invadans* (EUS)** by gross morphological examination. Samples were from Laguna, Antipolo, Bulacan and Batangas. Examination was conducted by BFAR Central Office Laboratory.
2	Thirteen (13) samples- (6 *S.guttatus,* 2 *L.calcarifer* and *5 Epinephelus*spp.) were analyzed using PCR test. All samples showed negative results for **Red seabream iridoviral disease (RSID)**. The samples were collected from Pangasinan, Sarangani and Palawan. Examination was conducted by BFAR Central Office and Southest Asian Fisheries Development Center/ Aquaculture Department (SEAFDEC/AQD) Laboratories.
3	Four (4) samples of koi carp ,*Cyrinus carpio* were analyzed using PCR test. All samples showed negative results for **Koi Herpes Virus (KHV)**. The samples were collected from Ortigas. Examination was conducted by BFAR Central Office Laboratory.

4	Five (5) samples of *Epinephelus*spp. were analyzed using PCR test. All samples showed negative results for **Grouper Iridoviral Disease (GIV)**. The samples were collected from Palawan. Examination was conducted by BFAR Central Office Laboratory.
5	Twenty four (24) samples of *Epinephelus* spp., *E.coioides, L.calcarifer, E.merra, E.lanceolatus* and *S.guttatus* were analyzed using PCR test. All samples showed negative results for **Viral encephalopathy and retinopathy (VER)**. The samples were collected from Palawan, Sarangani, Tawi-tawi, Capiz and Pangasinan. Examination was conducted by BFAR Central Office and SEAFDEC/AQD Laboratories.
6	Two hundred (200) samples- (109 *P.vannamei*, 1 *P.indicus,* 13 *Scylla* spp. and 77 *P. monodon*) of different stages (broodstock, adult, fry and juvenile) were analyzed using PCR test. All samples showed negative results for **Taura Syndrome (TS)**. The samples were collected from Misamis Occidental, Lanao del Norte, Quezon, Zambales, Leyte, Negros Occidental, Pangasinan, Cebu, Sarangani, Aklan, Batangas, Ilocos Sur, Davao City, Zamboanga City, Bohol and Sorsogan. Other samples were imported from Hawaii. Examination was conducted by BFAR Central Office and SEAFDEC/AQD Laboratories.
7	Six hundred forty five (645) samples of *P.vannamei, P.indicus, S.serrata, P.merguensis* and *P. monodon* of different stages (broodstock, adult, fry and juvenile) were analyzed using PCR test. Forty nine (9 *P.monodon, 10 P.vannamei* and 30 *Scylla* spp.) showed positive results for **White spot disease (WSD)**. The samples were collected from Agusan del Norte, Leyte, Zambales, Zamboanga Sibugay, Lanao del Norte, Iloilo, Capiz, Camarines Sur and Misamis Occidental. Examination was conducted by BFAR Central Office and SEAFDEC/AQD Laboratories.
8	Thirty three (33) samples- (10 *P.vannamei,* 13 *Scylla* spp. and 10 *P. monodon*) of different stages (broodstock, adult, fry and juvenile) were analyzed using PCR test. All samples showed negative results for **Yellowhead Virus (YHV)**. The samples were collected from Cebu, Bohol, Iloilo and Sorsogon. Examination was conducted by BFAR Central Office and SEAFDEC/AQD Laboratories.
9	Four hundred forty nine (449) samples of *P.merguensis, P.vannamei, P.indicus* and *P. monodon* of different stages (broodstock, adult, fry and juvenile) were analyzed using PCR test. Fifty three (25 *P.monodon*, 16 *P.vannamei,* 1 *S.indicus,* 2 *P.indicus,* 4 *Scylla* spp., 1 *P.pelagicus* and 4 *P.merguensis*) showed positive results for **Infectious hypodermal and haematopoietic necrosis (IHHN)**. The positive samples were collected from Bohol, Agusan del Norte, Pangasinan, Quezon, Zambales, Cebu, Zamboanga City, Samar, Camarines Sur, Lanao del Norte, Misamis Occidental, Capiz, Guimaras, Iloilo, Masbate and Sorsogon. Examination was conducted by BFAR Central Office and SEAFDEC/AQD Laboratories.
10	Two hundred forty (240)samples- (135 *P.vannamei*, 88 *P.monodon,* 1 *M. rosenbergii,* 13 *Scylla* spp. and 3 *P. merguensis*) of different stages (broodstock, adult, fry and juvenile) were analyzed using PCR test. All samples showed negative results for **Infectious myonecrosis (IMN)**. The samples were collected from Samar, Lanao del Norte, Negros Oriental, Negros Occidental, Cebu, Bohol, Batangas, Quezon, Agusan del Norte, Pangasinan, Leyte, Sorsogon, Zamboanga Sibugay, Rizal, Zambales, Davao del Sur and region 5. Other samples are also imported from Hawaii. Examination was conducted by BFAR Central Office and SEAFDEC/AQD Laboratories.
11	One (1) *M. rosenbergii* Rizal was analyzed using PCR test. The sample showed negative results for **White Tail Disease (MrNV)**. Examination was conducted by BFAR Central Office Laboratory.

	Four hundred sixty six (466) samples of *P.vannamei*, *P.indicus, P.merguensis, Scylla* spp. and *P. monodon* of different stages (broodstock, adult, fry and juvenile) were analyzed using PCR test. Twenty (18 *P.vannamei,* 1 *P.monodon* and 1 *P.merguensis)* showed positive results for **Acute hepatopancreatic necrosis disease (AHPND)**. The positive samples were collected from Cebu, Zambales, Iloilo and Samar. Examination was conducted by BFAR Central Office and SEAFDEC/AQD Laboratories.
	One hundred fifty eight (158) samples of *P.vannamei, P. monodon, P.indicus* and *P.merguensis* of different stages (broodstock, adult, fry and juvenile) were analyzed using Real Time PCR test. Two (2) *P.vannamei* samples showed positive results for **Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)**. The positive samples were collected from Cebu. Examination was conducted by BFAR Central Office Laboratory.

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

Country: SINGAPORE* Period: April - June 2016

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (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)	(2015)	(2015)	(2015)		
7. Koi herpesvirus disease (KHV)	(2015)	(2015)	(2015)		
Non OIE-listed diseases					
8. Grouper iridoviral disease	(2014)	(2014)	(2014)		
9. Viral encephalopathy and retinopathy	+	(2016)	(2016)	II, III	1
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 *Bonamia ostreae*	***	***	***		
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)	+	(2016)	(2016)	III	2
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		
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
9. Crayfish plague	****	****	****		
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	****	****	****		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	****	****	****		

*Member of NACA's Asia Regional Aquatic Animal Health Programme

AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	****	****	****		
2. Infection with *Batrachochytrium dendrobatidis*	(2016)	+	+	III	3
ANY OTHER DISEASES OF IMPORTANCE					
1. Infection with spleen and kidney necrosis virus (ISKNV) (marine and ornamental fish)	+	+	+	III	4,5,6
2. *Aermonas salmonicida* (in goldfish)	0000	0000	0000		

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 Nervous Necrosis Virus (VNNV)** was detected by real-time RT-PCR in a batch of diseased hybrid grouper from a floating net-cage farm on RAS. The farm isolated the clinically affected fish and would subject future-batches of fingerlings to disease screening.
2	**White Spot Syndrome Virus (WSSV)** was detected by real-time PCR in frozen shrimp commodity that was used as feed to elasmobranch species reared in a marine aquarium system. The testing of the feed is part of the investigation of a positive detection of WSSV by real-time PCR and histopathology from diseased Penaeid shrimp reared in the same system as the elasmobranch species, in March 2016. The contaminated feed is likely the source of infection of the Penaeid shrimp.

3	***Batrachochytrium dendrobatidis* (Bd)** was detected by real-time PCR in skin swabs of wild frogs as part of a joint wildlife Chytrid study with the National Parks Board. The samples were collected from peri-urban parks as well as nature reserves. The frogs all appeared clinically healthy during sampling.
4	**Megalocytivirus** was detected by real-time PCR and histopathology in diseased seabass from a coastal fish farm. There was high mortality reported (~98% of 11,000 fingerlings stocked). The virus was identified as Infectious Spleen and Kidney Necrosis Virus (ISKNV) by conventional PCR using OIE primer set 1 (Kurita et al., 1998).
5	**Megalocytivirus** was detected by real-time PCR in healthy ornamental fish (platy) from exporters' premises. The virus was identified as Infectious Spleen and Kidney Necrosis Virus (ISKNV) by conventional PCR using OIE primer set 1 (Kurita et al., 1998).
6	**Megalocytivirus** was detected by real-time PCR in healthy ornamental fish (fighting fish) from exporters' premises.

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

Country: TAIPEI CHINA Period: April - June 2016

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp (SVC)	***	***	***		
4. Viral haemorrhagic septicaemia (VHS)	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	-	-	-		
6. Red seabream iridoviral disease (RSID)	-	-	-		
7. Koi herpesvirus disease (KHV)	-	-	+	LDCCs	1
Non OIE-listed diseases					
8. Grouper iridoviral disease	+	+	+	LDCCs	2
9. Viral encephalopathy and retinopathy	+	+	+	LDCCs	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 *Bonamia ostreae*	***	***	***		
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)	-	+	+	LDCCs	4
3. Yellowhead disease (YHD)	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	-	-	-		
5. Infectious myonecrosis (IMN)	***	***	***		
6. White tail disease (MrNV)	-	-	-		
7. Necrotising hepatopancreatitis (NHP)	***	***	***		
8. Acute hepatopancreatic necrosis disease (AHPND)	***	***	***		
9. Crayfish plague	-	-	-		
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	***	***	***		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	***	***	***		

AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	-	-	-		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					

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	1. **Taoyuan city**. **1 outbreak report from 1 farm.** 2. **Date**: (1) Jun 13. 3. **Species:** (1) *Cyprinus carpio*. 4. **Mortality rate:** high. 5. **Total number of death:** (1)20/30.

2	1. **Kaohsiung city. 38 outbreak reports from 30 farms**. 2. **Date:** (1), (2) Apr 8; (3) Apr 11; (4) Apr 13; (5) Apr 14; (6) Apr 15; (7), (8) Apr 19; (9) Apr 20; (10), (11) Apr 26; (12) Apr 29; (13), (14) May 3; (15), (16) May 10; (17) May 17; (18), (19) May 23; (20), (21) May 24; (22) May 26; (23), (24) May 30; (25) May 31; (26) Jun 6; (27) Jun 13; (28), (29), (30) Jun 14; (31), (32) Jun 20; (33) Jun 21; (34), (35), (36) Jun 23; (37) Jun 27; (38) Jun 28. 3. **Species:** (1), (3), (4), (5), (7), (8), (11), (12), (13), (14), (15), (16), (17), (19), (20), (21), (22), (23), (24), (25), (26), (27), (28), (29), (30), (31), (32), (34), (35), (36), (37), (38) *Lates calcarifer*; (2) *Epinephelus fuscoguttatus*; (6), (9), (18), (33) *Epinephelus malabaricus*; (10) *Bidyanus bidyanus*. 4. **Mortality rate:** low. 5. **Total number of death:** (1), (3), (4), (5), (7), (8), (10), (12), (14), (15), (16), (17), (19), (20), (22), (23), (24), (25), (26), (27), (28), (31), (32), (34), (35), (36), (37), (38) 0/40000; (2), (6), (9), (18), (33) 0/10000; (11), (13) 0/50000; (21) 0/4000; (29) 0/70000; (30) 300/40000.
3	1. **Kaohsiung city, Tainan city. 41 outbreak reports from 28 farms.** 2. **Date:** (1), (2), (3), (4), (5), (6) Apr 11; (7) Apr 13; (8) Apr 14; (9) Apr 18; (10) Apr 19; (11) Apr 20; (12) Apr 21; (13), (14) Apr 22; (15), (16) May 3; (17) May 9; (18) May 10; (19), (20), (21), (22) May 16; (23), (24), (25) May 17; (26), (27) May 18; (28), (29), (30) May 24; (31) May 30; (32) Jun 1; (33) Jun 4; (34), (35), (36), (37) Jun 6; (38) Jun 13; (39) Jun 23; (40) Jun 24; (41) Jun 27. 3. **Species:** (1), (29), (36) *Epinephelus lanceolatus*; (2), (4), (10), (28), (39) *Epinephelus fuscoguttatus*; (3), (5), (6), (7), (8), (9), (11), (13), (14), (15), (16), (17), (18), (19), (20), (22), (23), (24), (25), (26), (27), (30), (31), (32), (33), (34), (35), (37), (38), (40), (41) *Epinephelus malabaricus*; (6), (21) *Lates calcarifer*; (12) *Epinephelus coioides*. 4. **Mortality rate:** low. 5. **Total number of death:** (1), (29), (36) 0/1000; (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (13), (14), (15), (16), (17), (18), (20), (22), (23), (24), (25), (26), (27), (28), (30), (31), (32), (33), (34), (35), (37), (38), (39), (40), (41) 0/10000; (6), (21) 0/40000; (12), 0/2000; (19) 100/20000.
4	1. **Chiayi county, Tainan city. 4 outbreak reports from 4 farms.** 2. **Date:** (1) May 9; (2) May 27; (3) Jun 15; (4) Jun 22. 3. **Species:** (1), (3) *Litopenaeus vannamei*; (2) *Caridina multidentata*; (4) *Penaeus monodon*. 4. **Mortality rate:** low. 5. **Total number of death:** (1) 0/200000; (2) 0/2000; (3), (4) 0/100000.

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

Country: THAILAND **Period: January - March 2016**

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	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. Koi herpesvirus disease (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 *Bonamia ostreae*	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	3
5. Infectious myonecrosis (IMN)	0000	0000	0000	III	
6. White tail disease (MrNV)	-	-	-	III	
7. Necrotising hepatopancreatitis (NHP)	-	-	-	III	
8. Acute hepatopancreatic necrosis disease (AHPND)	-	+( )	+( )	III	4
9. Crayfish plague	0000	0000	0000	III	
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	***	***	***		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	+?( )	+?( )	+?( )	III	5

AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	(2011)	(2011)	(2011)		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					

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 3096 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 12 specimens or 0.39 % recorded as PCR positive or carrying **WSSV** genes. Shrimp farm with positive testing results is subjected to health improvement, movement control, eradication and/or farm disinfection.
2	A total of 3096 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 2 specimens or 0.06 % recorded as RT-PCR positive or carrying **YHV** genes. Shrimp farm with positive testing results is subjected to health improvement, movement control, eradication and/or farm disinfection.
3	A total of 3096 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 32 specimens or 1.03 % recorded as PCR positive or carrying **IHHNV** genes. Shrimp farm with positive testing results is subjected to health improvement, movement control, eradication and/or farm disinfection.

4	A total of 564 shrimp samples from shrimp farms had been tested by PCR assay at the DOF's laboratories under active surveillance, 15 specimens or 2.70 % recorded as PCR positive for **AHPND**. Shrimp farms with positive testing results have been subjected to shrimp health management control and pond improvement.
5	A total of 564 shrimp samples from shrimp farms had been tested by PCR assay at the DOF's laboratories under active surveillance, 36 specimens or 6.38 % recorded as PCR positive for **HPM-EHP**. Shrimp farms with positive testing results have been subjected to shrimp health management control and pond improvement.

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

Country: THAILAND **Period: April - June 2016**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	III	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp (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. Koi herpesvirus disease (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 *Bonamia ostreae*	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	3
7. Necrotising hepatopancreatitis (NHP)	-	-	-	III	
8. Acute hepatopancreatic necrosis disease (AHPND)	+( )	+( )	+( )	III	4
9. Crayfish plague	0000	0000	0000	III	
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	***	***	***		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	+?( )	+?( )	+?( )	III	5

AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	(2011)	(2011)	+( )	III	6
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					

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 1148 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 4 specimens or 0.35 % recorded as PCR positive or carrying **WSSV** genes. Shrimp farm with positive testing results is subjected to health improvement, movement control, eradication and/or farm disinfection.
2	A total of 1148 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 8 specimens or 0.69 % recorded as RT-PCR positive or carrying **YHV** genes. Shrimp farm with positive testing results is subjected to health improvement, movement control, eradication and/or farm disinfection.
3	A total of 65 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 1 specimen or 1.54 % recorded as RT-PCR positive or carrying **MrNV** genes. Shrimp farm with positive testing result is subjected to health improvement, movement control, eradication and/or farm disinfection.

4	A total of 828 shrimp samples from shrimp farms had been tested by PCR assay at the DOF's laboratories under active surveillance, 14 specimens or 1.71 % recorded as PCR positive for **AHPND**. Shrimp farms with positive testing results have been subjected to shrimp health management control and pond improvement.
5	A total of 828 shrimp samples from shrimp farms had been tested by PCR assay at the DOF's laboratories under active surveillance, 86 specimens or 10.37 % recorded as PCR positive for **HPM-EHP**. Shrimp farms with positive testing results have been subjected to shrimp health management control and pond improvement.
6	Passive surveillance found the diseased frogs in a farm in Rachaburi province, Central Thailand. The diseased frogs gave positive virus isolaton in EPC cell line. The **ranavirus** was confirmed using PCR technique. All tests were performed at Inland Aquatic Animal Health Research Institute, Department of Fisheries. The frogs had approximately 50 % mortality. All death and remaining frogs in the farm were destroyed. Ponds and water were cleaned and disinfected.

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

Country: VIETNAM* **Period: April - June 2016**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (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. Koi herpesvirus disease (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	+	+	+	I, II	1
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-	-	-		
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with *Bonamia ostreae*	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	2
3. Yellowhead disease (YHD)	-	-	-		
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		
8. Acute hepatopancreatic necrosis disease (AHPND)	+	+	+	I, III	3
9. Crayfish plague	0000	0000	0000		
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome	-	-	-		
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	0000	0000	0000		

*Member of NACA's Asia Regional Aquatic Animal Health Programme

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					

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	**Enteric Septicaemia of Catfish (*Edwardsiella ictaluri*)** Infection found in intensive catfish (*Pangasius micronema*, *P. hypophthalmus*) farms. The disease occurred in An Giang and Dong Thap provinces (11.3 ha).
2	**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 23 provinces (total area 1,371 ha) including Hai Phong, Thai Binh, Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri, Thua Thien Hue, Quang Nam, Quang Ngai, Binh Dinh, Phu Yen, Khanh Hoa, Ho Chi Minh, Ninh Thuan, Long An, Tien Giang, Ben Tre, Tra Vinh, Kien Giang, 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).

3	**Acute Hepatopancreatic Necrosis Disease (AHPND)** **Pathogen**: *Vibrio parahaemolyticus* with Phage A3 **Species affected:** *Penaeus monodon* and *Litopenaeus vannamei* (10-45 DOC) **Name of affected area:** reported in 23 provinces and caused losses in total shrimp culture area of 2,325 ha. Affected provinces include Hai Phong, Quang Ninh, Nghe An, Ha Tinh, Quang Tri, Da Nang,Quang Ngai, Quang Nam, Binh Dinh, Phu Yen, Khanh Hoa, Ho Chi Minh, Ba Ria-Vung Tau, Ninh Thuan,Binh Thuan, Long An, Tien Giang, Tra Vinh, Ben Tre, Kien Giang, 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

Country: FRENCH POLYNESIA Period: April - June 2016

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp (SVC)	***	***	***		
4. Viral haemorrhagic septicaemia (VHS)	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	***	***	***		
6. Red seabream iridoviral disease (RSID)	0000	0000	0000	III	
7. Koi herpesvirus disease (KHV)	***	***	***		
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	(2005)	(2005)	(2005)	III	1
10.Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	III	2
2. Infection with *Perkinsus olseni*	+	+	+	III	2
3. Infection with abalone herpesvirus					4
4. Infection with *Xenohaliotis californiensis*	***	***	***		
5. Infection with *Bonamia ostreae*	0000	0000	0000	III	2
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	2
7. Acute viral necrosis (in scallops)					
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome (TS)	0000	0000	0000	III	3
2. White spot disease (WSD)	0000	0000	0000	III	3
3. Yellowhead disease (YHD)	0000	0000	0000	III	3
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	(2008)	(2008)	(2008)	III	3
5. Infectious myonecrosis (IMN)	0000	0000	0000	III	3
6. White tail disease (MrNV)	0000	0000	0000	III	3
7. Necrotising hepatopancreatitis (NHP)	0000	0000	0000	III	3
8. Acute hepatopancreatic necrosis disease (AHPND)	***	***	***		
9. Crayfish plague					4
Non OIE-listed diseases					
10. *Monodon* slow growth syndrome					4
11. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)					4

AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus					4
2. Infection with *Batrachochytrium dendrobatidis*					4
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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 encephalopathy and retinopathy** was first diagnosed in the breeders of *Lates calcarifer* (1989). In 2004, the disease caused mass mortality in *Platus orbicularis* and *Polydactylus sexifilis* breeders. Since 2005, the experimental hatchery of *P. orbicularis* is biosecured. Only broodstock (sourced from the wild) free of nodavirus are maintained. Annual check of all broodstok and larvae is made. Since 2005, no sample was found positive.
2	**Bonamiosis and Marteiliosis**: not reported since the start of active surveillance in 2003 in *Pinctada margaritifera*. Since January 2012, pearl oyster network has been extended to giant clam and *Perkinsus olseni* was detected by PCR in wild specimen of *Tridacna maxima* (PYF 06-12-12 OIE Alert). *P. olseni* was also detected in *Pinctada margaritifera* (OIE Report 13451, May 14th 2013).

3	In 2008 and 2010, a survey of all production units was conducted and samples (30/unit) were sent out for analysis to Aquaculture Pathology Laboratory, University of Arizona (Prof. Lightner). None of the important shrimp viruses was detected. Positive isolation was last reported in 2001 in *Penaeus vannamei*, a non-indigenous species which is no longer cultivated in the country and considered extinct since 2005. Similar survey was done in 2011 and 2012. In 2013, detection for TS, WSD and IHHN were done in the country, and all results were negative. No mortality was observed in *Litopenaeus stylirostris* during this period.
4	Susceptible species are not present in the country.

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

Order No. 979 CM-24 July 2015 – Establishing the list of commodities likely to carry transmissible animal disease agents and the list of foodstuffs and animal feed likely not to meet food safety requirements. Effective date: 24 October 2015.

List of Diseases in the Asia-Pacific
Quarterly Aquatic Animal Disease Report (Beginning 2016)

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. Koi herpesvirus disease (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 *Bonamia ostreae*	
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. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)
3. Yellowhead disease (YHD)	
4. Infectious hypodermal and haematopoietic necrosis (IHHN)	
5. Infectious myonecrosis (IMN)	
6. White tail disease (MrNV)	
7. Necrotising hepatopancreatitis (NHP)	
8. Acute hepatopancreatic necrosis disease (AHPND)	
9. Crayfish plague	
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 *Marteilia refringens*	
2. Infection with *Perkinsus marinus*	

Recent Aquatic Animal Health Related Publications

OIE Aquatic Animal Health Code, 19th Edition, 2016. The OIE Aquatic Animal Health Code (the Aquatic Code) sets out standards for the improvement of aquatic animal health and welfare of farmed fish worldwide, and 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 Competent Authorities of importing and exporting countries for early detection, reporting and control of agents pathogenic to aquatic animals and to prevent their transfer via international trade in aquatic animals and their products, while avoiding unjustified sanitary barriers to trade. The standards 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 19th edition incorporates modifications to the Aquatic Code agreed at the 84th General Session in May 2016. It includes updates of the table of contents and glossary, and revised text included in Chapter 1.1. Notification of diseases and provision of epidemiological information and Chapter 5.1. General obligations related to certification. Chapter 4.3. Disinfection of aquaculture establishments and equipment has been extensively revised and the title amended accordingly. Chapter 9.2. Infection with yellow head virus genotype 1 has been amended to clarify the scope of this chapter and the title revised accordingly. In addition, some minor consequential amendments have been made in Articles 1.4.3., 1.5.2., 2.1.4., 4.2.3. and 4.6.3. to ensure that the use of 'vector' is consistent with the new definition of 'vector'.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, 2016. The purpose of this Manual of Diagnostic Tests for Aquatic Animals (Aquatic Manual) is to provide a uniform approach to the detection of the diseases listed in the OIE Aquatic Code, so that the requirements for health certification in connection with disease prevention and control programmes, and trade in aquatic animals and aquatic animal products can be met. Although many publications exist on the detection and control of aquatic animal diseases, the Aquatic Manual is a key and unique document describing the methods that should be applied to the OIE-listed diseases in aquatic animal health laboratories all over the world, thus increasing efficiency and promoting improvements in aquatic animal health world-wide. The requirements published in this Aquatic Manual are recognised as international standards by the WTO. The manual is available for free download at http://www.oie.int/international-standard-setting/aquatic-manual/access-online/

Lio-Po, G.D. and E.M. Leaño, 2016. **Chapter 13: Important diseases of penaeid shrimps**. In: IC Liao, NH Chao and EM Leaño (editors), Progress of Shrimp and Prawn Aquaculture in the World. National Taiwan Ocean University, Keelung, Taiwan, The Fisheries Society of Taiwan, Keelung, Taiwan, Asian Fisheries Society, Selangor, Malaysia and World Aquaculture Society, Loisiana, USA. p. 269-315.

Liu, Z., Zhang, Q.-L., Wan, X.-Y., Huang, J., 2016. **Development of real-time PCR assay for detection of microsporidian *Enterocytozoon hepatopenaei* and detection in shrimp samples under different growth rates.** Progress in Fishery Sciences. In press (in Chinese. Abstract in English).

Dabu, I.M., Lim, J.J., Arabit, P.M.T., Orense, S.J.A.B., Tabardillo Jr., J.A., Corre, V.L. and Maningas, M.B.B., 2015. **The first record of acute hepatopancreatic necrosis disease in the Philippines.** Aquacul. Res. doi: 10.1111/are.12923

de la Peña,L.D., N.A.R. Cabillon, D.D. Catedral, E.C. Amar, R.C. Usero, W.D. Monotilla, A.T. Calpe, D.D.G. Fernandez and C.P. Saloma, 2015. **Acute hepatopancreatic necrosis disease (AHPND) outbreaks in *Penaeus vannamei* and *P. monodon* cultured in the Philippines.** Diseases of Aquatic Organisms, 116:251-254.

Kondo, H., Van, P.T., Dang, L.T. and Hirono, I., 2015. **Draft genome sequence of non-*Vibrio parahaemolyticus* acute hepatopancreatic necrosis disease strain KC13.17.5, isolated from diseased shrimp in Vietnam**. Genome Announc 3(5):e00978-15. doi:10.1128/genomeA.00978-15.

Liu, L., Xiao, J., Xia, X., Pan, Y., Yan, S. and Wang, Y., 2015. **Draft genome sequence of *Vibrio owensii* strain SH-14, which causes shrimp acute hepatopancreatic necrosis disease.** Genome Announc 3(6):e01395-15. doi:10.1128/genomeA.01395-15.

Soto-Rodriguez, S.A., Gomez-Gil, B., Lozano-Olvera, R., Betancourt-Lozano, M. and Morales-Covarrubias, M.S., 2015. **Field and experimental evidence of *Vibrio parahaemolyticus* as the causative agent of acute hepatopancreatic necrosis disease of cultured shrimp (*Litopenaeus vannamei*) in Northwestern Mexico.** Applied and Environmental Microbiology, 81: 1-11.

Han, J.E., Tang, K.F.J., Tran, L.H. and Lightner, D.V. , 2015. **Photorhabdus insect-related (Pir) toxin-like genes in a plasmid of *Vibrio parahaemolyticus*, the causative agent of acute hepatopancreatic necrosis disease (AHPND) of shrimp**. Dis. Aquat. Org., 113:33-40

Sirikharin, R., Taengchaiyaphum, S., Sanguanrut, P., Chi, T.D., Mavichak, R., Proespraiwong, P., et al., 2015. **Characterization and PCR Detection Of Binary, Pir-Like Toxins from *Vibrio parahaemolyticus* Isolates that Cause Acute Hepatopancreatic Necrosis Disease (AHPND) in Shrimp**. PLoS ONE 10(5): e0126987. doi:10.1371/journal.pone.0126987

Zhang, Q., Liu, Q., Liu, S., Yang, H., Liu, S., Zhu, L., Yang, B., Jin, J., Ding, L., Wang, X., Liang, Y., Wang, Q. and Huang, J., 2014. **A new nodavirus associated with covert mortality disease of shrimp**. J. Gen. Virol., 95:2700-2709.

Tran, L.H., Fitzsimmons, K., Lightner, D.V., 2014. **AHPND/EMS: From the academic science perspective to the production point of view.** Aquaculture Asia-Pacific, March/April 2014: 14-18.

Tran, L.H., Fitzsimmons, K., Lightner, D.V., 2014. **Tilapia could enhance water conditions, help control EMS in shrimp ponds.** Global Aquaculture Advocate, Jan/Feb 2014: 26-28

Mohan, C.V. and Leaño, E., 2014. **Shrimp early mortality syndrome (EMS)/Acute hepatopancreatic necrosis syndrome (AHPNS): an emerging aquatic animal disease in the Asia Pacific.** In: Aquaculture New Possibilities and Concerns (VRP Sinha and P Jayashankar, editors). p. 133-140.

FAO, 2013. **Report of the FAO/MARD Technical Workshop on Early Mortality Syndrome (EMS) or Acute Hepatopancreatic Necrosis Syndrome (AHPNS) of Culture Shrimps (Under TCP/VIE/3304).** FAO Fisheries and Aquaculture Report No. 1053. Food and Agriculture Organization of the United Nations, Rome, Italy. 65 pp.

Tran, L., Nunan, L., Redman, R.M., Mohney, L.L., Pantoja, C.R., Fitzsimmons, K., Lightner, D.V., 2013. **Determination of the infectious nature of the agent of acute hepatopancreatic necrosis syndrome affecting penaeid shrimp**. Diseases of Aquatic Organisms, 105:45-55.

Tangprasittipap, A., Srisala, J., Chouwdee, S., Somboon, M., Chuchird, N., Limsuwan, C., Srisuvan, T., Flegel, T.W., Sritunyalucksana, K., 2013. **The microsporidian *Enterocytozoon hepatopenaei* is not the cause of white feces syndrome in whiteleg shrimp *Penaeus (Litopenaeus) vannamei***. BMC Veterinary Research, 9:139.

NACA, 2012. **Final Report. Asia Pacific Regional Consultation on the Emerging Shrimp Disease – Early Mortality Syndrome (EMS)/Acute Hepatopancreatic Necrosis Syndrome (AHPNS).** Network of Aquaculture Centres in Asia-Pacific, Bangkok, Thailand. http://www.enaca.org/modules/library/publication.php?publication_id=1059

OIE, 2012. **Proceedings of OIE Global Conference on Aquatic Animal Health – Aquatic Animal Health Programmes: their Benefits for Global Food Security**. World Organisation for Animal Health, Paris, France. 205 pp.

FAO, 2012. **Improving biosecurity through prudent and responsible use of veterinary medicines in aquatic food production.** FAO Fisheries and Aquaculture Technical Paper No. 547. FAO, Rome. 207 pp.

Leaño, E. M, and C.V. Mohan. 2012. **Early mortality syndrome threatens Asia's shrimp farms.** Global Aquaculture Advocate, July/August 2012: 38-39

Flegel, T.W., 2012. **Historic emergence, impact and current status of shrimp pathogens in Asia**. J. Invertebrate Pathology, 110:166-173.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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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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