2018/4

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AQUATIC ANIMAL DISEASE REPORT
(Asia and Pacific Region)

October – December 2018

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Contents

Foreword

Revisions in Quarterly Aquatic Animal Disease (QAAD) Reporting for 2019

The list of diseases on the QAAD reporting form is revised annually to conform with changes to the OIE *Aquatic Animal Health Code* and to reflect the aquatic animal disease situation in the region. It was agreed that all OIE listed diseases should be included in the regional QAAD reporting system. However, delisting of diseases by the OIE should not lead to their automatic delisting from the regional QAAD list because a globally delisted disease may still have relevance to the region.

As per recommendations by the 17th AG (Asia Regional Advisory Group on Aquatic Animal Health), updates were made on the list of diseases for QAAD reporting for 2019 as follows:

- Renaming of all OIE-listed Finfish Diseases as per revisions in the OIE Aquatic Code (Infection with "pathogen") as follows:

FROM:	**TO:**
1. Epizootic haematopoietic necrosis	Infection with epizootic haematopoietic necrosis virus
2. Infectious haematopoietic necrosis	Infection with infectious haematopoietic necrosis virus
3. Spring viraemia of carp (SVC)	Infection with spring viremia of carp virus
4. Viral haemorrhagic septicaemia (VHS)	Infection with viral haemorrhagic septicaemia virus
5. Infection with *Aphanomyces invadans* (EUS)	No change
6. Red sea bream iridoviral disease (RSID)	Infection with red sea bream iridovirus
7. Koi herpesvirus disease (KHV)	Infection with koi herpesvirus

- Listing of "Shrimp haemocyte iridescent virus (SHIV)" to replace "Iridovirus in crayfish" under non-OIE listed diseases of crustaceans

- Addition of "Infection with *Batrachochytrium salamamdrivorans*" under OIE-listed diseases of amphibians

These changes have been included in revised QAAD reporting form in Excel format distributed to all OIE Aquatic Focal Points in the Asia-Pacific region, and will be used for disease reporting commencing the first quarter (January-March) of 2019.

Reports Received by the NACA and OIE-RRAP

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

Country: AUSTRALIA* **Period: October - December 2018**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	-(2012)	-(2012)	-(2012)		1
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	-(2017)	-(2017)	-(2017)		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	-(2018)	+(2018)	-(2018)	III	3
10.Enteric septicaemia of catfish	-(2014)	-(2014)	-(2014)		4
11. Carp edema virus disease	***	***	***		
12. Tilapia lake virus (TiLV)	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	+(2018)	-(2018)	-(2018)	III	5
2. Infection with *Perkinsus olseni*	-(2018)	-(2018)	-(2018)	I	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. Infection with Taura syndrome virus	0000	0000	0000		
2. Infection with white spot syndrome virus	-(2018)	-(2018)	-(2018)		8
3. Infection with yellow head virus genotype 1	0000	0000	0000		
4. Infection with infectious hypodermal and haematopoietic necrosis virus	+(2018)	-(2018)	-(2018)	III	9
5. Infection with infectious myonecrosis virus	0000	0000	0000		
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	-(2008)	-(2008)	-(2008)		10
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	0000	0000	0000		
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000		
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	0000	0000	0000		
11. Viral covert mortality disease (VCMD) of shrimps	***	***	***		

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12. *Spiroplasma eriocheiris* infection	***	***	***		
13. Iridovirus in crayfish	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	-(2008)	-(2008)	-(2008)		11
2. Infection with *Batrachochytrium dendrobatidis*	-(2018)	-(2018)	-(2018)		12
ANY OTHER DISEASES OF IMPORTANCE					
1. *Hepatopancreatitis* in prawns	-(2017)	-(2017)	-(2017)		13
2. Infection with *Batrachochytrium salamandrivorans*	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	**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 July 2017) and the Northern Territory (last reported May 2017), Queensland (last reported 2014), Western Australia (last reported 2013), Victoria (last reported 2012), and South Australia (last reported 2008). Passive surveillance and never reported in Tasmania. No information available this period in the Australian Capital Territory.

3	**Viral encephalopathy and retinopathy (VER)** 1. **Reported in** New South Wales in November 2018, active surveillance; 2. **Species affected** – Australian bass juveniles (*Macquaria novemaculeata*); 3. **Clinical signs** – no clinical signs and affected fish observed to be healthy and actively feeding; 4. **Pathogen** – Betanodavirus; 5. **Mortality rate** – no mortlaity; 6. **Economic loss** – none; 7. **Geographic extent** – across five ponds in one farm (NSW); 8. **Containment measures** – eradication by destruction of affected individuals; 9. **Laboratory confirmation** – RT-PCR; 10. **Publications** – nil. VER is known to occur previously in the Northern Territory (last reported 2013), Western Australia (last reported 2013), South Australia (last reported 2010), Tasmania (last reported 2000) and Queensland (last reported 2018). Passive surveillance and never reported Victoria. No information available this period in the Australian Capital Territory.
4	**Enteric septicaemia of catfish (*E. ictaluri*)** was not reported this period despite 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. It was reported from clinically normal fish from a single river in Queensland (last reported 2014), the only occurence 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; the Northern Territory in a closed aquarium (last reported in 2011), and in PC2 containment facilities in Tasmania (last reported in 2001) and Queensland (last reported 2008).
5	**Infection with *Bonamia exitiosa*** 1. **Reported in** South Australia in October 2018, targeted surveillance; 2. **Species affected** – flat oyster (*Ostrea angasi*); 3. **Clinical signs** – none; 4. **Pathogen** – *Bonamia exitiosa*; 5. **Mortality rate** – none; 6. **Economic loss** – none; 7. **Geographic extent** – Cowell, Coffin Bay and Streaky Bay farming regions; 8. **Containment measures** – none; 9. **Laboratory confirmation** – PCR, tissue smears; 10. **Publications** – nil. *Bonamia exitiosa* is known to have occurred previously in Western Australia (last reported February 2017) and Victoria (last reported 2016). Passive surveillance and never reported in Queensland, New South Wales, Tasmania and Northern Territory. No information available for the Australian Capital Territory (no marine water responsibility).
6	**Infection with *Perkinsus olseni*** was not reported in this period despite passive surveillance in South Australia (last reported 2018) and Western Australia (last reported 2018). It is known to occur previously in Victoria (last reported 2015), Queensland (last reported 2014), 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 (no marine water responsibility).

7	**Infection with abalone herpesvirus (abalone viral ganglioneuritis)** was not reported this period despite passive surveillance in Tasmania (last reported 2011), 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 in the Australian Capital Territory (no marine water responsibility).
8	**Infection with white spot syndrome virus (white spot disease)** was not reported this period despite targeted surveillance in Queensland (last reported 2018). White spot disease has never been reported despite active and passive surveillance in New South Wales, South Australia, Western Australia, Victoria and Northern Territory. Never reported in Tasmania despite passive surveillance. No information available for the Australian Capital Territory (no marine water responsibility).
9	**Infection with infectious hypodermal and haematopoietic necrosis virus** 1. **Reported in** Queensland in October 2018, passive surveillance; 2. **Species affected** – juvenile black tiger prawn (*Penaeus monodon*); 3. **Clinical signs** – moribund prawns; 4. **Pathogen** – Infectious hypodermal and haemotopoietic necrosis virus; 5. **Mortality rate** – variable rates of mortality; 6. **Economic loss** – N/A; 7. **Geographic extent** – two of four tanks sampled in one hatchery; 8. **Containment measures** – none; 9. **Laboratory confirmation** – RT-PCR, histopathology; 10. **Publications** – nil. Infectious hypodermal and haematopoietic necrosis virus is known to occur previously in 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 water responsibility) and Tasmania (susceptible species not present).
10	**Infection with *Macrobrachium rosenbergii* nodavirus (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).
11	**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 and New South Wales. No information available this period in the Australian Capital Territory, South Australia, Victoria and Western Australia.
12	**Infection with *Batrachochytrium dendrobatidis*** is know to occur previously in Queensland (last reported in April 2018, was not reported this period despite passive surveillance), Victoria (last reported 2016), Tasmania (last reported 2013), New South Wales (last reported 2012), and Western Australia (last reported 2008). Passive surveillance and never reported from the Northern Territory. No information available this period in the Australian Capital Territory and South Australia.
13	**Hepatopancreatitis** in prawns was not reported this period despite passive surveillance in Queensland (last reported 2017). Passive surveillance and never reported in New South Wales. No information available in the Australian Capital Territory, Victoria, Norther Territory, South Australia, Western Australia and Tasmania.

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

Nil

Country: CHINESE TAIPEI **Period: October - December 2018**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp (SVC)	***	***	***		
4. Viral haemorrhagic septicaemia (VHS)	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	-	-	-		
6. Red seabream iridoviral disease (RSID)	+	+	+	AHRI	1
7. Koi herpesvirus disease (KHV)	-	-	-		
Non OIE-listed diseases					
8. Grouper iridoviral disease	+	+	+	AHRI	2
9. Viral encephalopathy and retinopathy	+	+	+	AHRI	3
10.Enteric septicaemia of catfish	***	***	***		
11. Carp edema virus disease	-	-	-		
12. Tilapia lake virus (TiLV)	-	-	-		
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. Infection with Taura syndrome virus	-	-	-		
2. Infection with white spot syndrome virus	+	+	-	AHRI	4
3. Infection with yellow head virus genotype 1	-	-	-		
4. Infection with infectious hypodermal and haematopoietic necrosis virus	-	-	-		
5. Infection with infectious myonecrosis virus	***	***	***		
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	-	-	-		
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	***	***	***		
8. Acute hepatopancreatic necrosis disease (AHPND)	***	+	-	AHRI	5
9. Infection with *Aphanomyces astaci* (Crayfish plague)	-	-	-		
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	+	-	-	AHRI	6

11. Viral covert mortality disease (VCMD) of shrimps	***	***	***		
12. *Spiroplasma eriocheiris* infection	***	***	***		
13. Iridovirus in crayfish	***	***	***		
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	1. Pingtung county. 7 outbreak reports from 6 farms. 2. Date: (1) Oct 10; (2) Nov 7; (3) Nov 15; (4) Nov 19; (5) Nov 27; (6) Nov 29; (7) Dec 2. 3. Species: (1), (5) Epinephelus fuscoguttatus x Epinephelus lanceolatus; (2) Epinephelus lanceolatus; (3), (6), (7) Lates calcarifer; (4) Epinephelus coioides. 4. Mortality rate: low. 5. Total number of death: (1) 420/33000; (2) 5/400; (3) 1000/60000; (4) 100/5000; (5) 20/2500; (6) 1500/25000; (7) 15/40000.

2	1. Kaohsiung city. 25 outbreak reports from 19 farms. 2. Date: (1) Oct 1; (2), (3) Oct 8; (4) Oct 12; (5), (6) Oct 15; (7), (8), (9) Oct 17; (10) Oct 18; (11) Oct 22; (12) Oct 29; (13) Nov 8; (14) Nov 12; (15) Nov 14; (16) Nov 16; (17) Nov 26; (18) Nov 28; (19) Dec 3; (20) Dec 10; (21) Dec 12; (22), (23) Dec 14; (24) Dec 20; (25) Dec 26. 3. Species: (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12), (13), (14), (15), (16), (17), (19), (20), (21), (22), (24), (25) Lates calcarifer; (18) Epinephelus lanceolatus; (23) Epinephelus fuscoguttatus x Epinephelus lanceolatus. 4. Mortality rate: low. 5. Total number of death: (1), (9), (12) 0/20000; (2), (4), (14), (15), (16), (20), (22), (25) 0/40000; (3) 0/32000; (5) 0/45000; (6) 0/28000; (7), (18) 0/10000; (8) 0/19000; (10), (13), (17), (21), (24) 0/30000; (11) 0/27000; (19) 0/25000; (23)0/1000.
3	1. Kaohsiung city, Pingtung county. 44 outbreak reports from 29 farms. 2. Date: (1) Oct 8; (2) Oct 31; (3) Nov 2; (4) Nov 5; (5) Nov 6; (6) Nov 12; (7) Nov 13; (8) Nov 16; (9), (10) Nov 20; (11) Nov 26; (12), (13) Nov 28; (14), (15), (16), (17) Nov 29; (18), (19) Dec 3; (20), (21) Dec 5; (22) Dec 7; (23) Dec 10; (24) Dec 11; (25) Dec 12; (26), (27), (28), (29), (30), (31) Dec 14; (32), (33), (34), (35), (36), (37), (38), (39) Dec 17; (40) Dec 21; (41), (42), (43) Dec 24; (44) Dec 27. 3. Species: (1), (20), (21), (23), (26), (32), (33), (41) Epinephelus lanceolatus; (2), (3), (5), (6), (7), (8), (11), (12), (13), (14), (16), (17), (18), (19), (22), (24), (25), (27), (35), (36), (37), (39), (43) Epinephelus fuscoguttatus x Epinephelus lanceolatus; (4), (10), (15), (28), (29), (30), (31), (34), (38), (40), (42), (44) Epinephelus malabaricus; (9) Micropterus salmoides. 4. Mortality rate: low. 5. Total number of death: (1), (26), (41) 0/1000; (2), (3), (4), (6), (7), (8), (10), (11), (14), (16), (17), (18), (19), (29), (32), (33), (35), (36), (37), (38), (39), (40), (43), (44) 0/10000; (5) 0/5000; (9) 2000/120000; (12), (15), (20), (21), (25) 0/20000; (13), (23) 0/30000; (22), (34), (42) 0/50000; (24) 0/12000; (27) 0/4000; (28) 0/11000; (30) 0/13000; (31) 0/8000.
4	1. Chiayi county. 4 outbreak reports from 3 farms. 2. Date: (1) Oct 11; (2) Oct 15; (3) Oct 18; (4) Nov 28. 3. Species: (1), (4) Litopenaeus vannamei; (2), (3) Penaeus monodon. 4. Mortality rate: low. 5. Total number of death: (1) 0/600000; (2) 0/10000; (3) 0/6000; (4) 200000/400000.
5	1. Taitung county. 1 outbreak report from 1 farm. 2. Date: (1) Nov 25. 3. Species: (1) Penaeus vannamei. 4. Mortality rate: low. 5. Total number of death: (1) 5000/400000.
6	1. Pingtung county, Taitung county. 5 outbreak reports from 2 farms. 2. Date: (1) Oct 7; (2) Oct 12; (3) Oct 15; (4) Oct 24; (5) Oct 30. 3. Species: (1), (2), (3), (4), (5) Litopenaeus vannamei; . 4. Mortality rate: low. 5. Total number of death: (1) 14/350000; (2), (4) 0/350000; (3) 6/350000; (5) 500/1400000.

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

Country: HONG KONG SAR, CHINA* Period: October - December 2018

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	II	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp (SVC)	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000	III	
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000	III	
6. Red seabream iridoviral disease (RSID)	-	_	-	III	1
7. Koi herpesvirus disease (KHV)	-	-	-	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-	III	
9. Viral encephalopathy and retinopathy	-	-	-	III	
10.Enteric septicaemia of catfish	0000	0000	0000	II	
11. Carp edema virus disease	***	***	***		
12. Tilapia lake virus (TiLV)	***	***	***		
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. Infection with Taura syndrome virus	0000	0000	0000	III	
2. Infection with white spot syndrome virus	-	-	-	III	
3. Infection with yellow head virus genotype 1	0000	0000	0000	III	
4. Infection with infectious hypodermal and haematopoietic necrosis virus	0000	0000	0000	II	
5. Infection with infectious myonecrosis virus	0000	0000	0000	II	
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	0000	0000	0000	II	
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	***	***	***	II	
8. Acute hepatopancreatic necrosis disease (AHPND)	***	***	***	II	
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000	II	
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	***	***	***		
11. Viral covert mortality disease (VCMD) of shrimps	***	***	***		

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12. *Spiroplasma eriocheiris* infection	***	***	***		
13. Iridovirus in crayfish	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	(1 Apr 2017)	(1 Apr 2017)	(1 Apr 2017)	III	
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000	III	
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	RSID caused by ISKNV was identified in samples of Sabah hybrid grouper fry and giant grouper fry. Clinical signs included inappetance, lethargy, emaciation, dark colouration of body and enlargement of spleen. Mortaltiy rate was reported to be low to moderate. The affected farm was approximately 230 m^2. Adoption of preventive measrues including the use of virus-free stocks and disinfection of contaminated facilities as well as good aquaculture practices were recommended to the farmer.
2	
3	

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

Country: INDIA* **Period: October - December 2018**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	+( )	+( )	+( )	III	1
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		
11. Carp edema virus disease	-	-	-		
12. Tilapia lake virus (TiLV)	+( )	+( )	-	III	2
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-	+( )	+( )	II, III	3
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. Infection with Taura syndrome virus	0000	0000	0000		
2. Infection with white spot syndrome virus	+( )	+( )	+( )	III	4
3. Infection with yellow head virus genotype 1	0000	0000	0000		
4. Infection with infectious hypodermal and haematopoietic necrosis virus	-	-	+( )	III	5
5. Infection with infectious myonecrosis virus	-	-	-		
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	-	-	-		
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	0000	0000	0000		
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000		
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	+( )	+( )	+( )	III	6

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11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000		
12. *Spiroplasma eriocheiris* infection	0000	0000	0000		
13. Iridovirus in crayfish	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	****	****	****		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: 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 *Aphanomyces invadans*** was reported in *Labeo bata* from Sepahijala district of Tripura; and *Cirrhinus mrigala, Labeo rohita, Catla catla, Cirrhinus reba, Puntius japonicus, Labeo gonius, Channa* spp. from Nagaon, Morigaon, Kamrup and Lakhimpur districts of Assam.
2	**Tilapia lake virus** disease was reported from very limited areas of Vellore district of Tamil Nadu; and Ernakulam and Pathanamthitta district of Kerala.
3	**Infection with *P. olseni*** was reported in farmed samples of *Perna viridis* in Kasaragode district of Kerala. Infection was also detected in wild samples of *P. viridis* from Kozhikode, Kerala, *Andara granosa* in Kakinada, Andhra Pradesh and *Paphia malabarica* in Kasaragode, Kerala.

4	**Infection with white spot syndrome virus (WSSV)** was reported in *Litopenaeus vannamei* from very limited areas of Nagapattinam, Villupuram and Pudukkoattai districts of Tamil Nadu; Thane and Raigad districts of Maharashtra; Srikakulam, East Godavari, West Godavari, Viziyanagaram and Krishna districts of Andhra Pradesh; and Uttar Kannada district of Karnataka; Kannur and Thrissur districts of Kerala.
5	**Infection with infectious hypodermal and haematopoietic necrosis virus** was reported in *Litopenaeus vannamei* from very limited areas of Thrissur district of Kerala.
6	**Infection with *Enterocytozoon hepatopenaei***, was reported in *Litopenaeus vannamei* from very limited areas of Balasore and Bhadrak districts of Odisha; Uttar Kannada and Udupi districts of Karnataka; Thane district of Maharashtra; Gir Somnath district of Gujarat; Nagapattinam, Thiruvallur, Cuddalore, Kanchipuram, Pudukkottai and Ramanathapuram districts of Tamil Nadu; Srikakulam, Nellore, East Godavari and West Godavari districts of Andhra Pradesh; Mansa district of Punjab, Thrissur district of Kerala

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

Country: JAPAN* **Period: October - December 2018**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	I	
2. Infectious haematopoietic necrosis	+	+	+	III	1
3. Spring viraemia of carp (SVC)	0000	0000	0000	I	
4. Viral haemorrhagic septicaemia (VHS)	-(2018)	-(2018)	-(2018)	I	
5. Infection with *Aphanomyces invadans* (EUS)	-(2015)	-(2015)	-(2015)	I	
6. Red seabream iridoviral disease (RSID)	+	+	-	II,III	2
7. Koi herpesvirus disease (KHV)	+	+	+	III	3
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000	I	
9. Viral encephalopathy and retinopathy	-	+	-	III	4
10.Enteric septicaemia of catfish	-(2010)	-(2010)	-(2010)	I	
11. Carp edema virus disease	+	-	-	III	5
12. Tilapia lake virus (TiLV)	0000	0000	0000	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. Infection with Taura syndrome virus	0000	0000	0000	I	
2. Infection with white spot syndrome virus	-(2018)	-(2018)	-(2018)	I	
3. Infection with yellow head virus genotype 1	0000	0000	0000	I	
4. Infection with infectious hypodermal and haematopoietic necrosis virus	0000	0000	0000	I	
5. Infection with infectious myonecrosis virus	0000	0000	0000	I	
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	0000	0000	0000	I	
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	0000	0000	0000	I	
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000	I	
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000	I	
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	0000	0000	0000	I	
11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000	I	

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12. *Spiroplasma eriocheiris* infection	0000	0000	0000	I	
13. Iridovirus in crayfish	0000	0000	0000	I	
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	-(2012)	-(2012)	-(2012)	I	
2. Infection with *Batrachochytrium dendrobatidis*	-(2009)	-(2009)	-(2009)	I	
ANY OTHER DISEASES OF IMPORTANCE					
1.					
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** 9 prefectures 2) **Species affected:** Amago (*Onchorynchus masou ishikawae*), Yamame (*O. masou masou*), Rainbow trout (*O.mykiss*); 3) **Disease characteristics:** Mortality, anemia, haemorrahges, exophthalmia, discoloration, blackening of the body, unusual swimming, body surface ulcers; 4) **Pathogen:** Infectious haematopoietic necrosis virus 5) **Mortality rate:** 1-50% 6) **Economic loss:** － 7) **Names of infected areas:** Honshu, Shikoku; 8) **Preventive/control measures taken:** Feed restriction, disinfection of facilities and tools, movement control, removal of dead fish; 9) **Laboratories for confirmation: C**ell culture, PCR, isolation of the virus, and observation of CPE by prefectural research laboratories 10) **Publications:** None

2	**Red seabream iridiviral disease (RSID)** 1) **Reported in** 6 prefectures 2) **Species affected:** Red seabream (*Pagrus major*), Pacific Bluefin funa (*Thunnus orientalis*), White trevally (*Pseudocaranx dentex*); 3) **Disease characteristics:** Mortality, black spots on gills; 4) **Pathogen:** Red seabream iridovirus 5) **Mortality rate:** 1-20% 6) **Economic loss:** － 7) **Names of infected areas:** Honsyu, Shikoku, Kyushu; 8) **Preventive/control measures taken:** Removal of dead fish, movement control, feed restriction, notification to concerned authorities; 9) **Laboratory confirmation:** Histopathological observation, PCR, inspection of IFAT by prefectural research laboratories. 10) **Publications:** None
3	**Koi herpesvirus disease (KHV)** 1) **Reported in** 3 prefectures 2) **Species affected:** Koi carp (*Cyrpinus carpio*); 3) **Disease characteristics:** Mortality; 4) **Pathogen:** Koi herpesvirus; 5) **Mortality rate:** 8-100% 6) **Economic loss:** － 7) **Names of infected areas:** Honshu; 8) **Preventive/control measures taken:** Movement control, removal of dead fish, culling of infected fish, disinfection of ponds, facilities and tools, notification to concerned authorities; 9) **Laboratory confirmation:** PCR by National Research Institute of Aquaculture and prefectural research laboratories. 10) **Publications:** Website of Ministry of Agriculture, Forestry and Fisheries (MAFF), website of Prefectures, notification to press.
4	**Viral encephalopathy and retinopathy (VER)** 1) **Reported in** 3 prefectures 2) **Species affected:** Convict grouper (*Epinephelus septemfasciatus*), Pacific Bluefin tuna (*Thunnus orientalis*); 3) **Disease characteristics:** Mortality, haemorrhages, unusual swimming; 4) **Pathogen:** Betanodavirus; 5) **Mortality rate:** 1% 6) **Economic loss:** － 7) **Names of infected areas:** Honsyu, Kyushu; 8) **Preventive/control measures taken:** Removal of dead fish. 9) **Laboratory confirmation:** PCR, inspection of IFAT by prefectural research laboratory. 10) **Publications:** none.

5	**Carp edema virus disease (CEV)** 1) **Reported in** 1 prefecture 2) **Species affected:** Koi carp (*Cyprinus carpio*); 3) **Disease characteristics:** Reddening of body surface and fins; 4) **Pathogen:** Carp edema virus; 5) **Mortality rate:** 33% 6) **Economic loss:** － 7) **Names of infected areas:** Kyushu; 8) **Preventive/control measures taken:** Removal of dead fish. 9) **Laboratory confirmation:** PCR prefectural research laboratory. 10) **Publications:** none.

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

Country: MALAYSIA* **Period: October - December 2018**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (SVC)	0000	0000	0000	I,II,III	1
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	(1986)	(1986)	(1986)	I	2
6. Red seabream iridoviral disease (RSID)	-	-	-	I,III	3
7. Koi herpesvirus disease (KHV)	(2017)	(2017)	(2017)	I,III	4
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	(2015)	(2015)	(2015)	III	5
10.Enteric septicaemia of catfish	0000	0000	0000		
11. Carp edema virus disease	0000	0000	0000		
12. Tilapia lake virus (TiLV)	(2018)	(2018)	(2018)	III	6
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	?(2016)	?(2016)	?(2016)		7
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. Infection with Taura syndrome virus	-	-	-	I,III	8
2. Infection with white spot syndrome virus	?(2016)	?(2016)	?(2016)	I,III	9
3. Infection with yellow head virus genotype 1	0000	0000	0000	I,III	10
4. Infection with infectious hypodermal and haematopoietic necrosis virus	(2016)	(2016)	(2016)	III	11
5. Infection with infectious myonecrosis virus	(2018)	(2018)	(2018)	III	12
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	-	-	-		
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	0000	0000	0000		
8. Acute hepatopancreatic necrosis disease (AHPND)	(2014)	(2014)	(2014)		13
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000		
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	(2016)	(2016)	(2016)		14
11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000		

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12. *Spiroplasma eriocheiris* infection	0000	0000	0000		
13. Iridovirus in crayfish	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. Megalocytivirus (Requirement for export to Australia)	(2016)	(2016)	(2016)	III	15
2. Enteric red mouth disease (Requirement for export to Japan)	0000	0000	0000	III	16

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	**Spring viraemia of carp (SVC)** No positive case was detected (PCR) during DoF active surveillance programme.
2	**Infection with *Aphanomyces invadans* (EUS)** No positive case was detected (gross observation) during DoF active surveillance programme.
3	**Red seabream iridoviral disease (RSID)** No positive case was detected (PCR) during DoF active surveillance programme.
4	**Koi herpesvirus disease (KHV)** No positive case was detected (PCR) during DoF active surveillance programme. Infection with KHV is known to occurin the state of Selangor (2017)

5	**Viral encephalopathy and retinopathy (VER)/ (VNN)** No positive case was detected (PCR) during DoF active surveillance programme. Infection with VER is known to occur in the state of Perak (2015) and Kelantan (May 2015).
6	**Tilapia lake virus (TiLV)** No positrive case was detected (PCR) suring DoF active surveillance programme The disease is known to have occurred previously in Kedah (June 2017), Perlis (July 2017), Sarawak (July 2017), Negeri Sembilan (October 2017), Kedah and Sarawak (March 2018), and Terengganu (July 2018).
7	**Infection with *Perkinsus olseni*** No positive case was detected (PCR) during DoF active surveillance programme. Infection with *Perkinsus olseni* was suspected to occur in 2016, but not confirmed in a zone.
8	**Infection with Taura syndrome virus (TSV)** *Penaeus monodon* and *P. vannamei* No positive case was detected (PCR) during DoF active surveillance programme.
9	**Infection with White spot syndrome virus (WSD)** No positive case was detected (PCR) during DoF active surveillance programme. WSD was suspected to occur in 2016 but not confirmed in a zone.
10	**Infection with Yellow head virus genotype 1 (YHD)** *Penaeus monodon* and *P. vannamei* No positive case was detected (PCR) during DoF active surveillance programme.
11	**Infection with Infectious hypodermal and haematopoietic virus (IHHNV)** No positive case was detected (PCR) during DoF active surveillance programme. IHHNV is known to occur in Terengganu (last reported June 2016).
12	**Infection with Infectious myonecrosis virus (IMNV)** No positive case was detected (PCR) during DoF active surveillance programme. IMNV is known to occur previously in the state of Sabah (2014) and Malacca (June 2018).
13	**Acute hepatopancreatic necrosis disease (AHPND)** No positive case was detected (PCR) during DoF active surveillance programme. AHPND is kown to occur previously in several states in Malaysia (2014)
14	**Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)** No positive case was detected (PCR) during DoF active surveillance programme. HPM-EHP is known to occur previously in several states in Malaysia (2016)
15	**Megalocytivirus** No positive case was detected (PCR) during DoF active surveillance programme. The disease is known to have occurred previously in 2013 and 2014 in several states in Malaysia.

16	**Enteric redmouth disease (ERD)** No positive case was detected (biochemical test and PCR) during DoF active surveillance programme.

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

Country: MYANMAR* **Period: October - December 2018**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp (SVC)	***	***	***		
4. Viral haemorrhagic septicaemia (VHS)	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	***	***	***		
6. Red seabream iridoviral disease (RSID)	***	***	***		
7. Koi herpesvirus disease (KHV)					
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10.Enteric septicaemia of catfish	***	***	***		
11. Carp edema virus disease					
12. Tilapia lake virus (TiLV)					
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. Infection with Taura syndrome virus	-	-	-	III	1
2. Infection with white spot syndrome virus	-	-	-	III	
3. Infection with yellow head virus genotype 1	-	-	-		
4. Infection with infectious hypodermal and haematopoietic necrosis virus	***	***	***	III	
5. Infection with infectious myonecrosis virus	-	-	-	III	
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	-	-	-	III	
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	***	***	***		
8. Acute hepatopancreatic necrosis disease (AHPND)	-	-	-	III	
9. Infection with *Aphanomyces astaci* (Crayfish plague)	***	***	***		
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	***	***	***		
11. Viral covert mortality disease (VCMD) of shrimps	***	***	***		

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12. *Spiroplasma eriocheiris* infection	***	***	***		
13. Iridovirus in crayfish	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus					
2. Infection with *Batrachochytrium dendrobatidis*					
ANY OTHER DISEASES OF IMPORTANCE					
1. Parasitic disease					2
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 55 samples of crustaceans (10 frozen shrimp and 10 soft shell crab for export), live PL samples of *P. vannamei* (18 samples) *Macrobrachium rosenbergii* (16 sample), and *P. monodon* (1 sample) and *M. rosenbergii* (2 samples) for import and local use) for testing, and found that all samples were negative for WSSV, MrNV, YHV, IMN, AHPND and TSV.
2	Visited some fish farms in Yangon, Mandalay and Ayeyarwaddy regions during this period. Parasitic infestations (*Dactylogyrus* spp., *Trichodina* spp.) 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: October - December 2018

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp (SVC)	***	***	***		
4. Viral haemorrhagic septicaemia (VHS)	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	***	***	***		
6. Red seabream iridoviral disease (RSID)	***	***	***		
7. Koi herpesvirus disease (KHV)	***	***	***		
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	+	+	+		1
10.Enteric septicaemia of catfish	***	***	***		
11. Carp edema virus disease	***	***	***		
12. Tilapia lake virus (TiLV)	***	***	***		
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*	0000	0000	0000	II	
7. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Infection with Taura syndrome virus	0000	0000	0000	III	
2. Infection with white spot syndrome virus	0000	0000	0000	III	
3. Infection with yellow head virus genotype 1	0000	0000	0000	III	
4. Infection with infectious hypodermal and haematopoietic necrosis virus	2013	2013	2013	III	
5. Infection with infectious myonecrosis virus	0000	0000	0000	III	
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	0000	0000	0000	III	
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	0000	0000	0000	III	
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000	III	
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000	III	
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	0000	0000	0000	III	
11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000	III	

12. *Spiroplasma eriocheiris* infection	***	***	***		
13. Iridovirus in crayfish	***	***	***		
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	
2	
3	

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

Country: NEW ZEALAND Period: October - December 2018

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	III	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp (SVC)	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000	III	
5. Infection with *Aphanomyces invadans* (EUS)	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	
11. Carp edema virus disease	0000	0000	0000	III	
12. Tilapia lake virus (TiLV)	0000	0000	0000	III	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	- (2018)	- (2018)	- (2018)	III	1
2. Infection with *Perkinsus olseni*	- (2018)	+	- (2018)	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*	- (2017)	- (2017)	- (2017)	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. Infection with Taura syndrome virus	0000	0000	0000	III	
2. Infection with white spot syndrome virus	0000	0000	0000	III	
3. Infection with yellow head virus genotype 1	0000	0000	0000	III	
4. Infection with infectious hypodermal and haematopoietic	0000	0000	0000	III	
5. Infection with infectious myonecrosis virus	0000	0000	0000	III	
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	0000	0000	0000	III	
7. Infection with *Hepatobacter penaei* (Necrotising	0000	0000	0000	III	
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000	III	
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000	III	
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	0000	0000	0000	III	
11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000	III	

12. *Spiroplasma eriocheiris* infection	0000	0000	0000	III	
13. Iridovirus in crayfish	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	**Infection with *Bonamia exitiosa*** occurs in commercial oyster beds in Foveaux Strait, Southland 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 (southern end of the North Island), and has been previously reported in *Ostrea chilensis* from Hauraki Gulf (Auckland region), Tauranga (Bay of Plenty region), the Marlborough Sounds and Wellington Harbour. Annual monitoring of the presence of *B. exitiosa* infection is undertaken in the flat oyster (*O. chilensis*) population in the Foveaux Strait.

2	**Infection with *Perkinsus olseni*** was first detected in New Zealand in 1999, in wild wedge shells (*Macomona liliana*). It was then found in wild populations of New Zealand cockles (*Austrovenus stutchburyi*), ark shells (*Barbatia novaezelandiae*) and pipi (*Paphies australis*) in 2000-2001. In July 2013, *P. olseni* was detected for the first time in farmed black foot pāua (*Haliotis iris*), a type of abalone native to New Zealand. Further detections were made in wild *H. iris* populations in 2014. These mollusc species occur widely around the coast of New Zealand, but to date *P. olseni* has only been detected in these species from the Auckland region northwards. *Perkinsus olseni* was found for the first time on the South Island in New Zealand green lipped mussels (*Perna canaliculus*) in a land based aquaculture facility in September 2014, and then in wild New Zealand scallops (*Pecten novaezelandiae*) in November 2014. Both of these findings were in the Marlborough region, and were incidental and not associated with mortality events. In November 2017, passive surveillance detected *P. olseni* from New Zealand scallops in two sites within Kaipara harbour, Auckland region, and again was thought to be incidental and not associated with significant pathology in scallops.
3	**Infection with *Bonamia ostreae*** was detected for the first time in New Zealand flat oysters (*Ostrea chilensis*) in January 2015. It was found on one land-based aquaculture facility in the Nelson region, and on two marine farms in the Marlborough region, both regions being in northern part of the South Island. Since that time, movement controls have been in place to regulate the movement of susceptible shellfish from the northern regions of the South Island and active surveillance has been conducted for the purposes of early detection of spread. In 2016, *B. ostreae* was detected in both farmed and wild flat oysters within the Marlborough region (the same region as initially reported), and was associated with pathology and mortality in the farmed population. In May 2017 surveillance detected *B. ostreae* in marine flat oyster farms in Big Glory Bay, Stewart Island (situated in the Southland region, at the southern end of the South Island). No clinical signs or elevated mortality was observed in association with *B. ostreae* in farmed flat oysters in Big Glory Bay. Following this detection, movement controls to manage risk movements from Stewart Island were issued, and depopulation of all flat oyster farms within areas where *B. ostreae* had been detected commenced. Depopulation of farms in Big Glory Bay commenced on the 19 June 2017 and was completed September 2017. Depopulation of farms in Marlborough Sounds commenced on the 11 July and was completed in December 2017. Active surveillance continues for the purposes of early detection of spread.
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: July - September 2018**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (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)	?	?	?	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	
9. Viral encephalopathy and retinopathy	-	+	-	I, III	4
10.Enteric septicaemia of catfish	***	***	***		
11. Carp edema virus disease	0000	0000	0000		
12. Tilapia lake virus (TiLV)	-	-	+	I, III	5
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. Infection with Taura syndrome virus	0000	0000	0000	I, III	6
2. Infection with white spot syndrome virus	+	+	+	I, III	7
3. Infection with yellow head virus genotype 1	0000	0000	0000	I, III	8
4. Infection with infectious hypodermal and haematopoietic necrosis virus	+	+	+	I, III	9
5. Infection with infectious myonecrosis virus	0000	0000	0000	I, III	10
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	0000	0000	0000	I, III	
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	0000	0000	0000	I, III	11
8. Acute hepatopancreatic necrosis disease (AHPND)	+	+	+	I, III	12
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000		
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	+	+	+	I, III	13
11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000		

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12. *Spiroplasma eriocheiris* infection	0000	0000	0000		
13. Iridovirus in crayfish	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	**Infection with *Aphanomyces invadans* (EUS)** EUS was not detected by gross morphological examinations in *Anguilla* spp. and Tilapia fromAntipolo City, Batangas, Cavite, Cebu City, Compostela Valley, Davao City, Davao del Sur, Laguna, Nueva Ecija, and Zambales. Examinations were conducted by Bureau of Fisheries and Aquatic Resources (BFAR) Central and Regional Fish Health Laboratories.
2	**Red Seabream Iridoviral Disease (RSID)** Samples of Green chromis, Three stripe damsel and Grouper from 2 farms in Camarines Sur and Las Piñas City showed positive results for Megalocytivirus by PCR. No clinical signs and significant mortalities were observed in samples tested. Examination was conducted by BFAR Central Fish Health Laboratory.

3	**Koi herpesvirus disease (KHV)** Koi analyzed using PCR test showed negative results of Koi herpesvirus disease.Examination was conducted by BFAR Central Fish Health Laboratory.
4	**Viral Encephalopathy and Retinopathy (VER)** **Origin of the disease or pathogen (history of the disease) –**detected in 1 farm **Species affected:** Tilapia **Pathogen:** Viral Encephalopathy and Retinopathy Virus **Size of infected areas or names of infected areas:** Pampanga **Samples sent to national or international laboratories for confirmation (indicate the name of laboratories):** Polymerase Chain Reaction Test (PCR) / BFAR Central Fish Health Laboratory
5	**Tilapia Lake Virus (TiLV)** **Origin of the disease or pathogen (history of the disease)-**detected in 1 farm **Species affected:** Tilapia **Pathogen:** Tilapia Lake Virus **Size of infected areas or names of infected areas:** Batangas **Samples sent to national or international laboratories for confirmation (indicate the name of laboratories):** Polymerase Chain Reaction Test (PCR) / BFAR Central Fish Health Laboratory
6	**Infection with Taura Syndrome virus (TS)** *Pennaeus vannamei*, *P.monodon*, and Freshwater Shrimp of different stages (zoea, post-larvae, adult, grow-outand broodstock) analyzed using PCR test showed negative results for Taura Syndrome. Samples were collected from Agusan del Norte, Basilan, Batangas, Bohol, Bulacan, Camarines Norte, Camarines Sur,Cebu,Davao Oriental, General Santos City, Iloilo, Maguindanao, Negros Occidental, Oriental Mindoro, Pangasinan,Quezon,Saranggani, Zambales, Zamboanga del Norte, and Zamboanga del Sur. Other samples examined were imported from Hawaii, USA. Examinations were conducted by BFAR Central, Regional and SEAFDEC Fish Health Laboratories.
7	**Infection with White spot syndrome virus (WSD)** **Origin of the disease or pathogen (history of the disease)-**detected in 12 farms **Species affected:** *P. vannamei*, *P. indicus*and *P.monodon* **Pathogen:** White Spot Virus **Size of infected areas or names of infected areas:** Agusan del Norte, Bulacan,Camarines Norte, Camarines Sur, Davao del Sur, Iloilo, Negros Occidental, and Oriental Mindoro **Samples sent to national or international laboratories for confirmation (indicate the name of laboratories):** Polymerase Chain Reaction Test (PCR) / BFAR Central, Regional andSEAFDEC Fish Health Laboratories

8	**Infection with Yellow head virus (YHV)** *P.vannamei*, *P.monodon*, and Freshwater Shrimp of different stages (post-larvae, grow-out and broodstock) analyzed using PCR test showed negative results for Yellow Head Virus. Samples were collected from Agusan del Norte, Batangas, Bohol, Bulacan, Camarines Norte, Camarines Sur, Cebu, Davao Oriental, General Santos City, Negros Occidental, Oriental Mindoro, Pangasinan, Quezon,Saranggani, Zambales, Zamboanga del Norte, and Zamboanga del Sur. Other samples examined were imported from Hawaii, USA. Examination was conducted by BFAR Central and Fish Health Laboratory.
9	**Inrection with Infectious hypodermal and heamatopoetic necrosis virus (IHHNV)** **Origin of the disease or pathogen (history of the disease) –** detected in 14farms **Species affected:** *P. vannamei*,and *P.monodon*, **Pathogen:** Infectious Hypodermal and Heamatopoietic Virus **Size of infected areas or names of infected areas:** Agusan del Norte, Batangas, Bulacan, Camarines Norte, Camarines Sur, Davao del Sur, General Santos City, Negros Occidental, Oriental Mindoro, Quezon, and Zambales **Samples sent to national or international laboratories for confirmation (indicate the name of laboratories):** Polymerase Chain Reaction Test (PCR) / BFAR Central, Regional and SEAFDEC Fish Health Laboratories
10	**Infection with Infectious myonecrosis virus (IMN)** *P. vannamei*, *P.monodon*, Banded Shrimp and Freshwater Shrimp of different stages (zoea, post-larvae, adult, grow-out and broodstock) analyzed using PCR test showed negative for Infectious Myonecrosis. Samples were collected from Agusan del Norte, Batangas, Bohol, Bulacan, Camarines Norte, Camarines Sur, Cebu,Davao Oriental, General Santos City, Negros Occidental, Oriental Mindoro,Pangasinan, Quezon, Saranggani, Zambales, Zamboanga del Norte, and Zamboanga del Sur. Some samples examined were imported from Hawaii, USA. Examinations were conducted by BFAR Central, Regional and SEAFDEC Fish Health Laboratories.
11	**Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis; NHP)** *P.vannamei*, *P.monodon* and Freshwater Shrimp of different stages (zoea, post-larvae, grow-outand broodstock) analyzed using PCR test showed negative for NecrotisingHepatopancreatitis. Samples were collected from Agusan del Norte, Batangas, Bulacan, Camarines Norte, Camarines Sur, Cebu,Davao Oriental, General Santos City, Oriental Mindoro,Pangasinan, Quezon, Saranggani, Zambales, Zamboanga del Norte, Zamboanga del Sur and. Some samples examined were imported from Hawaii, USA. Examinations were conducted by BFAR Central and Regional Fish Health Laboratories.
12	**Acute Hepatopancreatic Necrosis Disease (AHPND)** **Origin of the disease or pathogen (history of the disease) –** detected in 10 farms **Species affected:** *P. vannamei*, and *P.monodon* **Pathogen:** AHPND *Vibrio parahaemolyticus* **Size of infected areas or names of infected areas:** Agusan del Norte, Batangas, Bohol, Camarines Sur, Cebu, and Zambales, **Samples sent to national or international laboratories for confirmation (indicate the name of laboratories):** Polymerase Chain Reaction Test (PCR) / BFAR Central, Regional andSEAFDEC Fish Health Laboratories

13	**Hepatopancreatic Microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)** **Origin of the disease or pathogen (history of the disease) –** detected in 10 farms **Species affected:** *P. vannamei*, and *P.monodon* **Pathogen:** *Enterocytozoon hepatopenaei* **Size of infected areas or names of infected areas:** Agusan del Norte, Batangas, Camarines Norte, General Santos City, Iloilo, and Saranggani **Samples sent to national or international laboratories for confirmation (indicate the name of laboratories):** Polymerase Chain Reaction Test (PCR) / BFAR Central, Regional and SEAFDEC Fish Health Laboratories

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

Country: SINGAPORE* **Period: October - December 2018**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease (RSID)	(2018)	(2018)	(2018)		
7. Koi herpesvirus disease (KHV)	(2018)	(2018)	(2018)		
Non OIE-listed diseases					
8. Grouper iridoviral disease	(2014)	(2014)	(2014)		
9. Viral encephalopathy and retinopathy	+	+	(2018)	III	1
10.Enteric septicaemia of catfish	***	***	***		
11. Carp edema virus disease	***	***	***		
12. Tilapia lake virus (TiLV)	0000	0000	0000		
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. Infection with Taura syndrome virus	0000	0000	0000		
2. Infection with white spot syndrome virus	(2018)	(2018)	(2018)		
3. Infection with yellow head virus genotype 1	0000	0000	0000		
4. Infection with infectious hypodermal and haematopoietic necrosis virus	0000	0000	0000		
5. Infection with infectious myonecrosis virus	0000	0000	0000		
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	***	***	***		
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	0000	0000	0000		
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000		
9. Infection with *Aphanomyces astaci* (Crayfish plague)	***	***	***		
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	***	***	***		
11. Viral covert mortality disease (VCMD) of shrimps	***	***	***		

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12. *Spiroplasma eriocheiris* infection	***	***	***		
13. Iridovirus in crayfish	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	(2018)	(2018)	(2018)		
ANY OTHER DISEASES OF IMPORTANCE					
1 Infection with Scale Drop Disease Virus	(2018)	+	(2018)	III	2
2 Infection with Lates Calcarifer Herpes Virus	(2018)	+	(2018)	III	2
3 Mycobacteriosis	+	(2018)	(2018)	II	3
4.Streptococcosis	(2018)	+	(2018)	II	1

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 clinically healthy seabass from a land-based recirculating aquaculture system, sent for laboratory pathogen screening in October 2018. The farm was promptly notified of the detection. VNNV was detected by Real-time RT-PCR in a separate batch of diseased pompano from a commercial floating netcage farm, in November 2018. Moreover, post-mortem examination of the pompano detected histopathological lesions of **Streptococcosis**, with *Streptococcus agalactiae* being isolated from tissue. The farm was advised to remove moribund and dead fish, and recommended to administer suitable antibiotic treatment based on a prior antibiotic sensitivity test of the isolated bacteria.

2	Both **Scale Drop Disease Virus (SDDV)** and **Lates Calcarifer Herpesvirus (LCHV)** were detected either singly or in combination within several batches of diseased Asian seabass from a commercial land- and netcage-based aquaculture facility. The fish had presented with low-grade mortality. The farm's attending veterinarian was promptly informed of the detections.
3	A bacterial infection compatible with **Mycobacteriosis** was detected by histopathology and special-staining in a batch of diseased hybrid grouper submitted by a commercial land-based aquaculture facility. The farm was informed of the detection and advised to remove both moribund and in-contact fish, and rectify possible transmission routes of Mycobacteriosis.

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

Country: VIETNAM* **Period: October - December 2018**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	October	November	December		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp (SVC)	0000	0000	0000		
4. Viral haemorrhagic septicaemia (VHS)	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	-	-	-		
6. Red seabream iridoviral disease (RSID)	0000	0000	0000		
7. 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, III	1
11. Carp edema virus disease	0000	0000	0000		
12. Tilapia lake virus (TiLV)	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	-	-	-		
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with *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. Infection with Taura syndrome virus	0000	0000	0000		
2. Infection with white spot syndrome virus	+()	+()	+()	I, III	2
3. Infection with yellow head virus genotype 1	-	-	-		
4. Infection with infectious hypodermal and haematopoietic necrosis virus	0000	0000	0000		
5. Infection with infectious myonecrosis virus	0000	0000	0000		
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	-	-	-		
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	0000	0000	0000		
8. Acute hepatopancreatic necrosis disease (AHPND)	+()	+()	+()	I, III	3
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000		
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	0000	0000	0000		
11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000		

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12. *Spiroplasma eriocheiris* infection	0000	0000	0000		
13. Iridovirus in crayfish	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					

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 some small scale catfish (*Pangasius micronema*, *P. hypophthalmus*) farms.

2	**Infection with white spot syndrome virus (White Spot Disease; WSD)** **Pathogen**: White spot syndrome virus (WSSV) **Species affected:** *Penaeus monodon* and *Litopenaeus vannamei;* **Name of affected area:** reported and limited in some small scale farms with low biosecurity control. Shrimps were affected at 10-100 days after stocking; **Mortality rate:** average to high; **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, cleaning and disinfection of infected ponds and farming tools 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 and limited to some small-scale farms with low biosecurity control. **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:** early harvest, strict isolation of infected ponds from movement and transport controls, cleaning and disinfection of infected ponds and farming tools using Calcium hypochlorite (chlorine).

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

List of Diseases in the Asia-Pacific
Quarterly Aquatic Animal Disease Report (Beginning 2018)

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)	4. Carp edema virus disease
5. Infection with *Aphanomyces invadans* (EUS)	5. Tilapia lake virus disease
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. Infection with Taura syndrome virus	1. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)
2. Infection with white spot syndrome virus	
3. Infection with yellow head virus genotype 1	2. Viral covert mortality disease (VCMD) of shrimps
4. Infection with infectious hypodermal and haematopoietic necrosis	3. *Spiroplasma eriocheiris* infection
5. Infection with infectious myonecrosis virus	4. Iridovirus in crayfish
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	
8. Acute hepatopancreatic necrosis disease (AHPND)	
9. Infection with *Aphanomyces astaci* (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, 21st Edition, 2018. The OIE Aquatic Animal Health Code (the Aquatic Code) provides standards for the improvement of aquatic animal health worldwide. It also includes standards for the welfare of farmed fish and use of antimicrobial agents in aquatic animals. The sanitary measures in the Aquatic Code should be used by the Competent Authorities of importing and exporting countries for early detection, reporting and control of pathogenic agents in aquatic animals (amphibians, crustaceans, fish and molluscs) and to prevent their spread 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 21st edition incorporates modifications to the Aquatic Code agreed at the 86th General Session in May 2018. This edition includes the following updates: Chapter 1.3. 'Diseases listed by the OIE'; Chapter 5.3. 'OIE procedures relevant to the Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization'; Chapter 5.4. 'Criteria to assess the safety of aquatic animal commodities';Article X.X.2. of Chapters 10.1. 'Epizootic haematopoietic necrosis', 10.3. 'Infection with Gyrodactylus salaris' and 10.4. 'Infection with infectious salmon anaemia virus'; Articles X.X.8., X.X.9., X.X.10. and X.X.11. of all disease-specific chapters in Sections 8, 9 and 10. This edition also includes the following new chapter: Chapter 8.2. 'Infection with *Batrachochytrium salamandrivorans*'.The Aquatic Animal Health Code is available for free download http://www.oie.int/en/standard-setting/aquatic-code/access-online/

OIE Manual of Diagnostic Tests for Aquatic Animals, 2017. The purpose of the Manual of Diagnostic Tests for Aquatic Animals (the Aquatic Manual) is to provide a standardised approach to the diagnosis of the diseases listed in the Aquatic Code, to facilitate health certification for trade in aquatic animals and aquatic animal products. Although there are many publications on the diagnosis and control of aquatic animal diseases, the Aquatic Manual is a key reference document describing the methods relevant to the OIE-listed diseases and other important diseases for use by aquatic animal health laboratories around the world. Adoption of the specified methods will help to increase efficiency of laboratories and to promote improvements in aquatic animal health world-wide.The manual is available for free download at http://www.oie.int/en/standard-setting/aquatic-manual/access-online/

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

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

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

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

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

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

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

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

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

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

Please use the following symbols to fill in the forms.

A. Symbols used for negative occurrence are as follows:

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

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

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

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

B. Symbols used for positive occurrence are shown below.

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

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

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

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

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

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

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

C. Levels of Diagnosis

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

D. Subjects to be covered in the Epidemiological Comments

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

IMPORTANT

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

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

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