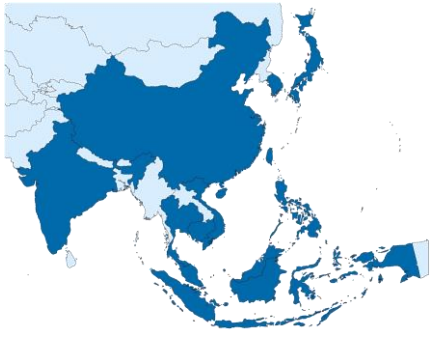
2020/3

QUARTERLY
AQUATIC ANIMAL DISEASE REPORT
(Asia and Pacific Region)

July – September 2020



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Contents

Foreword

19th Meeting of the Asia Regional Advisory Group on Aquatic Animal Health (virtual meeting)

The Network of Aquaculture Centres in Asia-Pacific (NACA) organized the 19th Meeting of the Asia Regional Advisory Group on Aquatic Animal Health (AGM-19) on 26-27 November 2020. Due to the current COVID-19 pandemic, this year's AGM was held virtually. The AGM is usually attended by limited number (10-15) of participants representing aquatic animal health experts in the region, representative of partner regional and national organisations (FAO, OIE, SEAFDEC), and the private sector. This year, however, NACA invited member country representatives as observers. Countries/territory represented include Bangladesh, Cambodia, P.R. China, Hong Kong, India, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, and Sri Lanka. Additional observers from R.O. Korea (2), OIE-RRAP (2) and FAO HQ (3) also attended.

The following were presented and discussed during the virtual meeting:

- Progress since AGM 18 (Dr. Eduardo Leaño, NACA)
- Updates from OIE Aquatic Animal Health Standards Commission (Dr. Ingo Ernst, AAHSC, OIE)
- Updates on Progressive Management Pathway for Aquaculture Biosecurity (PMP/AB) (Dr. Melba Reantaso, FAO)

- Updates on OIE Regional Collaboration Framework on Aquatic Animal Health management in Asia and the Pacific (Dr. Jing Wang, OIE-RRAP)
- Emerging aquatic animal diseases and pathogens in the recent decade in Asia-Pacific (Dr. Jie Huang, NACA)
- Updates on QAAD Reporting:
    - QAAD Report in the Future: Updates on the new function of the new WAHIS system (Dr. Jing Wang;OIE-RRAP)
    - Updates on reporting and disease list (Dr. Eduardo Leaño, NACA)

Meeting report is under prepration and will be published at NACA website within the first quarter of 2021.

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: July - September 2020**

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. Infection with epizootic haematopoietic necrosis virus	-(2012)	-(2012)	-(2012)		1
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000		
3. Infection with spring viremia of carp virus	0000	0000	0000		
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	-(2017)	-(2017)	-(2017)		2
6. Infection with red sea bream iridovirus	0000	0000	0000		
7. Infection with koi herpesvirus	0000	0000	0000		
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	-(2020)	-(2020)	+(2020)		3
10.Enteric septicaemia of catfish	-(2014)	-(2014)	-(2014)		4
11. Carp edema virus disease	***	***	***		
12. Tilapia lake virus (TiLV)	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	-(2019)	-(2019)	-(2019)		5
2. Infection with *Perkinsus olseni*	-(2020)	-(2020)	+(2020)		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	-(2020)	-(2020)	-(2020)		8
3. Infection with yellow head virus genotype 1	0000	0000	0000		
4. Infection with infectious hypodermal and haematopoietic necrosis virus	-(2020)	-(2020)	-(2020)		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. Decapod iridescent virus 1 (DIV1)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	-(2008)	-(2008)	-(2008)		11
2. Infection with *Batrachochytrium dendrobatidis*	-(2019)	-(2019)	-(2019)		12
3. Infection with *Batrachochytrium salamandrivorans*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1. Hepatopancreatitis in prawns	-(2017)	-(2017)	-(2017)		13

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 2017), the Northern Territory (last reported 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** the Northern Territory in September 2020, passive surveillance; 2.**Species affected** – 35-day-old barramundi (*Lates calcarifer*); 3. **Clinical signs** – affected fish displayed neurological signs of betanodavirus; 4. **Pathogen** –Betanodavirus; 5. **Mortality rate** – less than 10%; 6. **Economic loss** – no economic loss; 7. **Geographic extent** – Nursery area of a barramundi hatchery, partial recirculation culture system consisted of several 3000L fibreglass tanks; 8. **Containment measures** – Quarantine of affected cohort; 9. **Laboratory confirmation** –Betonodavirus PCR test; 10. **Publications** – nil. Viral encephalopathy and retinopathy is known to occur in Queensland (last reported 2019), New South Wales (last reported 2018), Western Australia (last reported 2013), South Australia (last reported 2010) and Tasmania (last reported 2000). Passive surveillance and never reported in 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 occurrence of E. ictaluri in wild fish populations in Australia. Active surveillance throughout Northern Australia has found no evidence of E. ictaluri in any other wild fish populations. E. ictaluri has been detected previously in association with imported ornamental fish including; the Northern Territory in a closed aquarium (last reported 2011), and in PC2 containment facilities in Tasmania (last reported 2001) and Queensland (last reported 2008).
5	**Infection with *Bonamia exitiosa*** was not reported this period despite passive surveillance in South Australia (last reported 2019), Western Australia (last reported 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*** 1. **Reported in** Western Australia in September 2020, passive surveillance; 2.**Species affected** – Adult green lip abalone (*Haliotis laevigata*); 3. **Clinical signs** – nil; 4. **Pathogen** – *Perkinsus olseni*; 5. **Mortality rate** – nil ; 6. **Economic loss** – no economic loss; 7. **Geographic extent** – Isolated to one farm; 8. **Containment measures** – Not applicable; 9. **Laboratory confirmation** – *Perkinsus olseni*, conventional PCR test. No *Perkinsus* organisms observed on histology; 10. **Publications** – nil. Infection with Perkinsus olseni is previously known to occur in South Australia (last reported 2019), Victoria (last reported 2015), and New South Wales last reported (2005). Passive surveillance and not reported for this period for Queensland (last reported 2014). 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 active and 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, 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. Never reported despite active surveillance in New South Wales. Never reported in Northern Territory, South Australia, Tasmania, Victoria and Western Australia despite passive surveillance. No information available for the Australian Capital Territory (no marine water responsibility).
9	**Infection with infectious hypodermal and haematopoietic necrosis virus** was not reported this period in Queensland despite passive surveillance. Last detected in Queensland (April 2020) and the Northern Territory (last reported 2003). Passive surveillance and never reported in New South Wales, South Australia, Victoria and Western Australia. No information available this period in the Australian Capital Territory (no marine 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 in the Australian Capital Territory, New South Wales, the Northern Territory, South Australia, Victoria and Western Australia. No information available this period from 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*** 1. **Reported in** South Australia in September 2020, targeted surveillance; 2.**Species affected** – Adult *Crinia signifera*; 3. **Clinical signs** – nil; 4. **Pathogen** – *Batrachochytrium dendrobatidis*; 5. **Mortality rate** – Not measured ; 6. **Economic loss** – nil; 7. **Geographic extent** – Wild population from Mawson Lakes and Dry Creek; 8. **Containment measures** – No state response or containment required as it is endemic. Sanitary measures applied during sampling to prevent cross infection among sampled animals; 9. **Laboratory confirmation** – *PCR. Dry swabs tested using method of Boyle et al. 2004*; 10. **Publications** – nil. Infection with *Batrachochytrium dendrobatidis* was not reported this period despite passive surveillance in New South Wales (last reported 2019), Queensland (last reported 2018), Victoria (last reported 2016), Tasmania (last reported 2013) and Western Australia (last reported 2008). Passive surveillance and never reported in the Northern Territory. No information available this period in the Australian Capital Territory.
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, Northern Territory, South Australia, Western Australia and Tasmania.

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

Nil

Country: BANGLADESH* **Period: July - September 2020**

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. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000		
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000		
3. Infection with spring viremia of carp virus	0000	0000	0000		
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	-	-	-	I	
6. Infection with red sea bream iridovirus	0000	0000	0000		
7. Infection with koi herpesvirus	0000	0000	0000		
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	0000	0000	0000		
10.Enteric septicaemia of catfish	0000	0000	0000		
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*	0000	0000	0000		
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with *Bonamia ostreae*	0000	0000	0000		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Infection with Taura syndrome virus	0000	0000	0000		
2. Infection with white spot syndrome virus	-(2008)	-(2008)	-(2008)		1
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)	0000	0000	0000		
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		

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11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000		
12. *Spiroplasma eriocheiris* infection	0000	0000	0000		
13. Decapod iridescent virus 1 (DIV1)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
3. Infection with *Batrachochytrium salamandrivorans*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1. Infection with *Streptococcus* (*Oreochromis niloticus* and *Anabas testudineus*)	-	+( )	+( )	III	2
2. Infection with *Aeromonas* (*Anabas testudineus*, *Heteropneustes fossilis* and *Ompok pabda*)	-	+( )	+( )	III	3
3. Infection with *Staphylococcus* (*Oreochromis niloticus*)	-	+( )	+( )	II	4

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 White spot syndrome virus (White spot disease) was not reported this period despite passive surveillance in Khulna and Chattagram regions (last reported 2008).

2	**Infection with *Streptococcus*** 1. **Reported in** Mymensingh, Chandpur and Gazipur; 2.**Species affected** – Climbing perch (*Anabas testudinius*) and tilapia (*Oreochromis niloticus*) 3. **Clinical signs** – loss of balance, unusual movement, opaque eye, enlargement and discoloration of liver, kdney, spleen and bile; 4. **Pathogen** – *Streptococcus agalactiae*; 5. **Mortality rate** – 30-40%; 6. **Economic loss** –; 7. **Geographic extent** – Mymensingh, Chandpur and Gazipur; 8. **Containment measures** – use of disinfectants and antibiotics (tetracycline); 9. **Laboratory confirmation** –; 10. **Publications** – nil
3	**Infection with *Aeromonas*** 1. **Reported in** Gazipur, Mymensingh and Bogura; 2.**Species affected** – Climbing perch (*Anabas testudinius*), Shing catfish (*Heteropnuestes fossilis*) and Pabda (*Ompok pabda*) 3. **Clinical signs** – loss of balance, unusual movement, opaque eye, red lesion on body; 4. **Pathogen** – *Aeromonas* spp.; 5. **Mortality rate** – 5%; 6. **Economic loss** –; 7. **Geographic extent** – Gazipur, Mymensingh and Bogura; 8. **Containment measures** – use of disinfectants and antibiotics (tetracycline); 9. **Laboratory confirmation** –; 10. **Publications** – nil
4	**Infection with *Staphylococcus*** 1. **Reported in** Gazipur; 2.**Species affected** – Tilapia (*Oreochromis niloticus*) ; 3. **Clinical signs** – loss of balance, unusual movement; 4. **Pathogen** – *Staphylococcus* sp.; 5. **Mortality rate** – 5%; 6. **Economic loss** –; 7. **Geographic extent** – Mymensingh; 8. **Containment measures** – use of disinfectants and antibiotics (tetracycline); 9. **Laboratory confirmation** –; 10. **Publications** – nil

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

Country: CHINESE TAIPEI **Period: July - September 2020**

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. Infection with epizootic haematopoietic necrosis virus	***	***	***		
2. Infection with infectious haematopoietic necrosis virus	***	***	***		
3. Infection with spring viremia of carp virus	***	***	***		
4. Infection with viral haemorrhagic septicaemia virus	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	-	-	-		
6. Infection with red sea bream iridovirus	-	+	+	AHRI	1
7. Infection with koi herpesvirus	-	-	-		
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-		
9. Viral encephalopathy and retinopathy	-	+	+	AHRI	2
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	3
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	4
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	***	***	***		
12. *Spiroplasma eriocheiris* infection	***	***	***		
13. Decapod iridescent virus 1 (DIV1)	***	+	+	AHRI	5
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	-	-	-		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
3. Infection with *Batrachochytrium salamandrivorans*	***	***	***		
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 Red seabream iridovirus** 1. Pingtung County. 3 outbreak reports from 3 farms. 2. Date: (1) Aug 2, (2) Aug 3, (3) Sep 3. 3. Species: (1) *Epinephelus malabaricus*, (2) *Sparus sarba*, (3) *Lates calcarifer*. 4. Mortality rate: low. 5. Total number of death: (1) 3500/45000, (2) 6000/50000, (3) 900/80000.

2	**Viral encephalopathy and retinopathy** 1. Pingtung county. 2 outbreak reports from 2 farms. 2. Date: (1) Aug 29, (2) Sep 25. 3. Species: (1) *Eleutheronema rhadinum*, (2) *Epinephelus lanceolatus*. 4. Mortality rate: high. 5. Total number of death: (1) 10000/50000, (2) 7000/30000.
3	**Infection with White spot syndrome virus** 1. Hsinchu County. 1 outbreak report from 1 farm. 2. Date: (1) Aug 13. 3. Species: (1) *Litopenaeus vannamei*. 4. Mortality rate: low. 5. Total number of death: (1) 255/200000.
4	**Acute hepatopancreatic necrosis disease** 1. Yilan County. 1 outbreak report from 1 farm. 2. Date: (1) Sep 9. 3. Species: (1) *Penaeus monodon*. 4. Mortality rate: high. 5. Total number of death: (1) 249942/250000.
4	**Decapod iridescent virus 1 (DIV1)** 1. Miaoli County, Pingtung County. 3 outbreak reports from 3 farms. 2. Date: (1) Aug 12, (2) Aug 16, (3) Sep 23. 3. Species: (1), (2), (3) *Cherax quadricarinatus*. 4. Mortality rate: low. 5. Total number of death: (1) 0/10000, (2) 0/1600000, (3) 0/10200.

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

Country: HONG KONG SAR, CHINA* Period: July - September 2020

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. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000	II	
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000	III	
3. Infection with spring viremia of carp virus	0000	0000	0000	III	
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000	III	
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000	III	
6. Infection with red sea bream iridovirus	-	-	-	III	
7. Infection with koi herpesvirus	-	-	-	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. Decapod iridescent virus 1 (DIV1)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	(1 Apr 2017)	(1 Apr 2017)	(1 Apr 2017)	III	
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***	III	
3. Infection with *Batrachochytrium salamandrivorans*	***	***	***	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	

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

Country: INDIA* **Period: July - September 2020**

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. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000		
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000		
3. Infection with spring viremia of carp virus	0000	0000	0000		
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	-	-	-		
6. Infection with red sea bream iridovirus	(2018)	(2018)	(2018)		
7. Infection with koi herpesvirus	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	1
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	+( )	-	+( )	III	2
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	3
3. Infection with yellow head virus genotype 1	0000	0000	0000		
4. Infection with infectious hypodermal and haematopoietic necrosis virus	+?( )	-	+( )	III	4
5. Infection with infectious myonecrosis virus	-	+( )	+( )		5
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. Decapod iridescent virus 1 (DIV1)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	****	****	****		
3. Infection with *Batrachochytrium salamandrivorans*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

+	Disease reported or known to be present	?( )	Presence of the disease suspected but not confirmed in a zone
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	**Tilapia lake virus (TiLV)** was reported in *Oreochromis niloticus* from very limited areas of Alapuzha district of Kerala. *Preventive/Control measures taken:* The farmers were suggested fallowing and disinfection of the affected ponds after harvest. They were also advised to stock TiLV-free seed in next crop.
2	**Infection with *Perkinsus olsenii*** was detected in wild samples of *Paphia malabarica* and *Mytella strigata* collected from west coast along Kollam and Kannur districts of Kerala. *Preventive/Control measures taken:* No control measures could be undertaken as the samples were from wild.

3	**Infection with White spotsyndrome virus (WSSV)** was reported on basis of clinical signs in *Litopenaeus vannamei* from very limited areas of East Godavari, West Godavari and Srikakulam districts of Andhra Pradesh; and Palghar district of Maharashtra. Infection with WSSV was also detected in *Litopenaeus vannamei* from very limited areas of Thiruvallur and Nagapattinam districts of Tamil Nadu; Nellore district of Andhra Pradesh and Surat district of Gujarat. Infection with WSSV was also detected in wild samples of *Penaeus monodon* and *Scylla serrata* from landing centre in South Andaman district of Andaman and Nicobar Islands. *Preventive/Control measures taken:* The farmers were advised to disinfect the pond with chlorination and stock with PCR-negative seed in the next crop. Proper ploughing of the pond, drying in sun after harvesting and implementing strict biosecurity measures in the pond were suggested. No control measures could be suggested in South Andaman district of Andaman and Nicobar islands, as the samples were from wild.
4	**Infection with infectious hypodermal and haematopoietic necrosis virus** was detected in wild samples of *Scylla serrata* and *P. monodon* from landing centre in South Andaman district of Andaman and Nicobar Islands in the month of July; and very limited areas of Guntur district in Andhra Pradesh in the month of September. *Preventive/Control measures taken:* The farmers were advised to disinfect the pond with chlorination and stock the pond with IHHNV-free seed in the next crop. Proper ploughing of the pond and drying in sun after harvesting, follow strict biosecurity measures in the farm. No control measures could be suggested in South Andaman district of Andaman and Nicobar islands, as the samples were from wild.
5	**Infection with infectious myonecrosis virus** was observed in *Litopenaeus vannamei* from very limited areas of Surat, Ahmedabad, Anand and Navsari districts of Guajarat; and Hisar district of Haryana. *Preventive/Control measures taken:* The farmers were advised to disinfect the pond with chlorination and to stock IMNV-free seed in the next crop. Proper ploughing of the pond, drying in sun after harvesting and following strict biosecurity measures were suggested. Application of probiotics was recommended to enhance the immunity of the shrimps.
6	**Hepatopancreatic microsporidiosis causedby Enterocytozoon hepatopenaei** was detected in *Litopenaeus vannamei* from very limited areas of Ramanathapuram, Pudukkottai, Nagapattinam, Cuddalore, Thanjavur and Thiruvallur districts of Tamil Nadu; Guntur and Nellore districts of Andhra Pradesh; Uttar Kannada, Dakshina Kannada and Udipi districts of Karnataka. *Preventive/Control measures taken:* The farmers were advised to stock with EHP-free seed and follow strict biosecurity measures in the farm. Drying of the ponds and disinfection after each harvest was also suggested. Treatment of pond sediment by the application of quick lime @ 6 ton per hectare was also recommended.

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

Country: IR IRAN* **Period: July - September 2020**

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. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000		
2. Infection with infectious haematopoietic necrosis virus	+()	+()	+()	III	1
3. Infection with spring viremia of carp virus	-	-	-		
4. Infection with viral haemorrhagic septicaemia virus	+()	0000	0000	III	2
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Infection with red sea bream iridovirus	0000	0000	0000		
7. Infection with koi herpesvirus	(2015)	(2015)	(2015)		
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	0000	0000	0000		
10.Enteric septicaemia of catfish	0000	0000	0000		
11. Carp edema virus disease	***	***	***		
12. Tilapia lake virus (TiLV)	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with *Bonamia ostreae*	0000	0000	0000		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Infection with Taura syndrome virus	0000	0000	0000		
2. Infection with white spot syndrome virus	-	+	+	III	3
3. Infection with yellow head virus genotype 1	0000	0000	0000		
4. Infection with infectious hypodermal and haematopoietic	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	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. Decapod iridescent virus 1 (DIV1)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
3. Infection with *Batrachochytrium salamandrivorans*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

+	Disease reported or known to be present	?( )	Presence of the disease suspected but not confirmed in a zone
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	**Infectious haematopoietic necrosis (IHN)** 1) **Reported** from 6 farms between July and September by implementation of active and passive surveillance; 2) **Species affected:** rainbow trout (*Oncorhynchus mykiss*); 3) **Clinical Signs:** ethargy, abnormal swimming, exophthalmia , pale gills and hemorrhage at the base of the fins; 4) **Pathogen:** Infectious haematopoietic necrosis virus (related to genogroup E and near to Italian isolates); 5) **Mortality rate:** - 6) **Economic loss:** – 7) **Names of infected areas:** ; 8) **Preventive/control measures taken:** Zoning and quarantine (restriction of fish movment) are major actions that were taken; Killing of sick fish, disinfection and fallowing of affected farms were essential measures for disease control; 9) **Laboratories for confirmation:** Realtime-PCR and cell culture in CVL; 10) **Publications:** None

2	**Viral Haemorrhagic Septicaemia (VHS)** 1) **Reported** from 1 farm in July by implementation of both active and passive surveillance; 2) **Species affected:** Rainbow trout (*Oncorhynchus mykiss*); 3) **Disease signs:** Mortality, lethargy, abnormal swimming, pinpoint hemorrhages in visceral organs, and pale gills; clinical signs were dominanat in fry and young fish; 4) **Pathogen:** Viral haemorrhagic septicaemia virus (isolates were related to genotype IIa); 5) **Mortality rate:** lower percentage in grow-out; 6) **Economic loss:** － 7) **Names of infected areas:** Central part of the country; 8) **Preventive/control measures taken:** zoning and quarantine (restriction of fish movment) are major actions that were taken; Killing of sick fish, disinfection, and fallowing of affected farms were essential measures for disease control; 9) **Laboratory confirmation:** Real time PCR and cell culture in CVL; 10) **Publications:** None
3	**Infection with White spot syndrome virus (WSD)** 1) **Reported** from 3 provinces in August to September by implementation of both active surveillance; 2) **Species affected:** *Penaeus vannamei*; 3) **Disease signs:** sudden decrease in feeding, swimming near the edge of pond, reddish body and white spot on the cephalothorax, and sudden death; 4) **Pathogen:** White spot syndrome virus; 5) **Mortality rate:** Morbidity rate was >80%, mortality rate was 5% on the average; 6) **Economic loss:** － 7) **Names of infected areas:** Central part of the country; 8) **Preventive/control measures taken:** emergency harvest from un-infected ponds, dead shrimps were destroyed; 9) **Laboratory confirmation:** nested PCR by CVL; 10) **Publications:** None

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

Country: MALAYSIA* **Period: July - September 2020**

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. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000		
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000		
3. Infection with spring viremia of carp virus	0000	0000	0000	I,II,III	1
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	(1986)	(1986)	(1986)	I	2
6. Infection with red sea bream iridovirus	-	-	-	I,III	3
7. Infection with koi herpesvirus	(2019)	(2019)	(2019)	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	(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	0000	0000	0000		
8. Acute hepatopancreatic necrosis disease (AHPND)	+	(2020)	(2020)	III	13
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000		
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	(2020)	(2020)	(2020)	III	14
11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000		

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12. *Spiroplasma eriocheiris* infection	0000	0000	0000		
13. Decapod iridescent virus 1 (DIV1)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
3. Infection with *Batrachochytrium salamandrivorans*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1. Megalocytivirus (Australia requirement)	(2016)	(2016)	(2016)	III	15
2. Enteric red mouth disease (Japan requirement)	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)** Known to occur previously in the state of Selangor (2017). Last occurrence was in state of Perak (April and June 2019).

5	**Viral encephalopathy and retinopathy (VER)/ (VNN)** No positive case was detected (PCR) during DoF active surveillance programme. The disease is known to occur previously 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.
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)** 1) **Reported** from Sungai Besar, Selangor in 22 July, active surveillance; 2) **Species affected:** *Penaeus vannamei*; 3) **Disease signs:** Clinically healthy; 4) **Pathogen:** *Vibrio parahaemolyticus* with PirA&B toxin gene; 5) **Mortality rate:** Unreported; 6) **Economic loss:** Unreported; 7) **Names of infected areas:** Sungai Besar, Selangor; 8) **Preventive/control measures taken:** Early harvest, drying of ponds, cleaning and disinfection of infected ponds and famring tools, farmer was advised to implement biosecurity measures and stocking with AHPND-negative seeds in the next cropping; 9) **Laboratory confirmation:** Kedah Fisheries Biosecurity Center; 10) **Publications:** None AHPND was known to occur previously in several states (last reported 2014).

14	**Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)** 1) **Reported** from Sungai Besar and Sabak Bernam, Selangor in 22 July, active surveillance; 2) **Species affected:** *Penaeus vannamei*; 3) **Disease signs:** Clinically healthy; 4) **Pathogen:** *Enterocytozoon hepatopenaei*; 5) **Mortality rate:** Unreported; 6) **Economic loss:** Unreported; 7) **Names of infected areas:** Sungai Besar, Selangor; 8) **Preventive/control measures taken:** Early harvest, drying of ponds, cleaning and disinfection of infected ponds and famring tools, farmer was advised to implement biosecurity measures and stocking with EHP-negative seeds in the next cropping; 9) **Laboratory confirmation:** Kedah Fisheries Biosecurity Center; 10) **Publications:** None HPM-EHP is known to occur previously in the states of Malacca and Pahang (last reported 2019).
15	**Megalocytivirus (Requirement for exporting to Australia)** No positive case was detected (PCR) during DoF active surveillance programme. The disease is known to have occurred previously in 2013, 2014 and 2016 in Johore state in Malaysia.
16	**Enteric red mouth disease (Requirement for exporting to Japan)** 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: July - September 2020**

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. Infection with epizootic haematopoietic necrosis virus	***	***	***		
2. Infection with infectious haematopoietic necrosis virus	***	***	***		
3. Infection with spring viremia of carp virus	***	***	***		
4. Infection with viral haemorrhagic septicaemia virus	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	***	***	***		
6. Infection with red sea bream iridovirus	***	***	***		
7. Infection with koi herpesvirus					
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	1
3. Infection with yellow head virus genotype 1	-	-	-	III	1
4. Infection with infectious hypodermal and haematopoietic necrosis virus	***	***	***	III	
5. Infection with infectious myonecrosis virus	-	-	-	III	1
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	-	-	-	III	1
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	***	***	***		
8. Acute hepatopancreatic necrosis disease (AHPND)	-	-	-	III	1
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. Decapod iridescent virus 1 (DIV1)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with Ranavirus					
2. Infection with *Batrachochytrium dendrobatidis*					
3. Infection with *Batrachochytrium salamandrivorans*					
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	During this period, we have received 53 samples of crustaceans (28 frozen shrimp and 14 soft shell crab for export), live PLs of *P. vannamei* (2 samples) and *M. rosenbergii* (9 samples) for import and local testing, and found that all samples were negative for WSSV, YHV, MrNV, IMNV, AHPND and TSV.
2	

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

Country: NEW CALEDONIA **Period: July - September 2020**

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. Infection with epizootic haematopoietic necrosis virus	***	***	***		
2. Infection with infectious haematopoietic necrosis virus	***	***	***		
3. Infection with spring viremia of carp virus	***	***	***		
4. Infection with viral haemorrhagic septicaemia virus	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	***	***	***		
6. Infection with red sea bream iridovirus	***	***	***		
7. Infection with koi herpesvirus	***	0000	0000		2
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	+	+	+		
10.Enteric septicaemia of catfish	***	***	***		
11. Carp edema virus disease	***	+	+		1
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	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	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	***	***	***		

12. *Spiroplasma eriocheiris* infection	***	***	***		
13. Decapod iridescent virus 1 (DIV1)	0000	0000	0000	III	
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	+?	+?	+?		
3. Infection with *Batrachochytrium salamandrivorans*	***	***	***		
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	**Carp edema virus disease** In August 2020, a mortality outbreak on ornemental carps was investigated. The clinical signs were lethargy, swollen gills, and hemorrhagic skin. Samples were analysed by Histology at LNC in New Caledonia, and by PCR at the National Reference Laboratory in France (Anses, Ploufragan-Plouzané). The samples were detected PCR positive for CEV and negative for KHV (results received in September)
2	**Infection with Koi herpesvirus** Samples from the carp mortality outbreak tested negative to KHV by PCR.

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

A new decree (N° 2020-1225/GNC) was voted by the government of New Caledonia on 11th August 2020. It establishes the list of notifiable diseases for terrestrial and aquatic animals. All the OIE listed diseases are notifiable diseases in New Caledonia, and also other diseases considered as important in NC (such as EHP, DIV1, VCMD for crustacean)

Country: NEW ZEALAND **Period: July - September 2020**

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. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000	III	
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000	III	
3. Infection with spring viremia of carp virus	0000	0000	0000	III	
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000	III	
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000	III	
6. Infection with red sea bream iridovirus	0000	0000	0000	III	
7. Infection with koi herpesvirus	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*	-(2019)	-(2019)	-(2019)	III	1
2. Infection with *Perkinsus olseni*	-(2020)	-(2020)	-(2020)	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*	-(2019)	-(2019)	-(2019)	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. Decapod iridescent virus 1 (DIV1)	0000	0000	0000	III	
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	0000	0000	0000	III	
2. Infection with *Batrachochytrium dendrobatidis*	-(2019)	-(2019)	-(2019)	III	4
3. Infection with *Batrachochytrium salamandrivorans*	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	***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 the North Island. Previous reports of detection in *Ostrea chilensis* have been 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*), an abalone species 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. In August 2018, there was another incidental finding of *P. olseni* in farmed green lipped mussels (*Perna canaliculus*) in the Coromandel region (North Island), that was not associated with mortalities. In October 2019, *P. olseni* was detected in *P. canaliculus* in a land based aquaculture facility in Nelson that was experiencing low level mortalities. It remains unknown if *P. olseni* was related to the mortalities in *P. canaliculus* in this case. In June 2020, *P. olseni* has been detected in green lipped mussels (*Perna canaliculus*) during routine surveillance in a land based aquaculture facility in Nelson, and it was not associated with unusual mortalities.
3	**Infection with *Bonamia ostreae*** was detected for the first time in New Zealand flat oysters (*Ostrea chilensis*) in January 2015. It was found in two regions in the northern part of the South Island: on one land-based aquaculture facility in the Nelson region, and on two marine farms in the Marlborough region. 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. In September 2019, surveillance detected B. ostreae in one wild flat oyster in Big Glory Bay, Stewart Island. No clinical signs were observed in association with this wild flat oyster.
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.

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

Country: PHILIPPINES* **Period: July - September 2020**

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. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000		
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000		
3. Infection with spring viremia of carp virus	0000	0000	0000		
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	-	-	-	I	1
6. Infection with red sea bream iridovirus	0000	?	0000	I, III	2
7. Infection with koi herpesvirus	0000	0000	0000		
Non OIE-listed diseases					
8. Grouper iridoviral disease	(2008)	(2008)	(2008)		
9. Viral encephalopathy and retinopathy	-	-	-	I, III	3
10.Enteric septicaemia of catfish	***	***	***		
11. Carp edema virus disease	0000	0000	0000		
12. Tilapia lake virus (TiLV)	+	-	+	I, III	4
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	5
2. Infection with white spot syndrome virus	+	+	+	I, III	6
3. Infection with yellow head virus genotype 1	0000	0000	0000	I, III	7
4. Infection with infectious hypodermal and haematopoietic	+	+	-	I, III	8
5. Infection with infectious myonecrosis virus	0000	0000	0000	I, III	9
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	10
8. Acute hepatopancreatic necrosis disease (AHPND)	+	+	+	I, III	11
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	12
11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000		

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12. *Spiroplasma eriocheiris* infection	0000	0000	0000		
13. Decapod iridescent virus 1 (DIV1)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
3. Infection with *Batrachochytrium salamandrivorans*	***	***	***		
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 examination in *Anguilla bicolor* (elver) from Batangas, Bulacan and Zambales. Examination was conducted by BFAR Central Fish Health Laboratory.
2	**Red Seabream Iridoviral Disease (RSID)** RSIV was suspected after samples of pompano from a farm in Iloilo showed positive results using nested PCR. No clinical signs and mortalities were observed. Examination was conducted by the SEAFDEC Fish Health Laboratory.

3	**Viral Encephalopathy and Retinopathy (VER)** Catfish (adult), grouper (fingerlings), pompano, seabass and tilapia (fry and fingerlings) analyzed using PCR test showed negative results for Viral Encephalopathy and Retinopathy. Samples were collected from Agusan del Norte, Iloilo, Nueva Ecija and Zambales. Examinations were conducted by BFAR Central and SEAFDEC Fish Health Laboratories.
4	**Tilapia Lake Virus (TiLV)** **Origin of the disease or pathogen (history of the disease) -** detected in 2 farms **Species affected:** Tilapia (juvenile and fry) **Pathogen:** Tilapia Lake Virus **Size of infected areas or names of infected areas:** Laguna and Surigao del Norte **Samples sent to national or international laboratories for confirmation (indicate the name of laboratories):** Polymerase Chain Reaction Test (PCR) / BFAR Central and BFAR Regional Fish Health Laboratories.
5	**Taura Syndrome (TS)** *P. monodon* (post-larvae, juvenile, adult and grow-out) and *P. vannamei* (post-larvae, fry, juvenile, adult, grow-out and broodstock) analyzed using PCR test showed negative for Taura Syndrome. Samples were collected from Agusan del Norte, Bataan, Bulacan, Bohol, Cebu, Iloilo, Negros Occidental, Pangasinan, Pampanga, Quezon, Surigao del Norte and Zambales. Other samples examined were imported from Hawaii. Examinations were conducted by BFAR Central and BFAR Regional Fish Health Laboratories.
6	**White Spot Disease (WSD)** **Origin of the disease or pathogen (history of the disease) -** detected in 11 farms **Species affected:** *P. monodon* (post-larvae, grow-out and spawner), *P. vannamei* (juvenile, adult and grow-out) and crab (juvenile) **Pathogen:** White Spot Syndrome Virus **Size of infected areas or names of infected areas:** Agusan del Norte, Bulacan, Cagayan, Capiz, Iloilo, Oriental Mindoro and Surigao del Norte **Samples sent to national or international laboratories for confirmation (indicate the name of laboratories):** Polymerase Chain Reaction Test (PCR) / BFAR Central, BFAR Regional and SEAFDEC Fish Health Laboratories.
7	**Yellow Head Virus (YHV)** *P. monodon* (post-larvae and grow-out) and *P. vannamei* (post-larvae, grow-out and broodstock) analyzed using PCR test showed negative result for Yellow Head Virus. Samples were collected from Agusan del Norte, Bulacan, Iloilo, Negros Occidental, Pampanga and Surigao del Norte. Other samples examined were imported from Hawaii. Examinations were conducted by BFAR Central and BFAR Regional Fish Health Laboratories.
8	**Infectious Hypodermal and Heamatopoietic Necrosis (IHHNV)** **Origin of the disease or pathogen (history of the disease) –** detected in 3 farms **Species affected:** *P. monodon* (post-larvae) and *P. vannamei* (fry) **Pathogen:** Infectious Hypodermal and Heamatopoietic Virus **Size of infected areas or names of infected areas:** Agusan del Norte and Zambales **Samples sent to national or international laboratories for confirmation (indicate the name of laboratories):** Polymerase Chain Reaction Test (PCR) / BFAR Central and BFAR Regional Fish Health Laboratories.

9	**Infectious Myonecrosis (IMN)** *P. monodon* (post-larvae, juvenile and grow-out), *P. vannamei* (post-larvae, juvenile, adult, grow-out and broodstock) and hermit crab analyzed using PCR test showed negative for Infectious Myonecrosis. Samples were collected from Agusan del Norte, Bulacan, Bohol, Cebu, Iloilo, Negros Occidental, Pampanga, Quezon and Surigao del Norte. Other samples examined were imported from Hawaii. Examinations were conducted by BFAR Central and BFAR Regional Fish Health Laboratories.
10	**Necrotising Hepatopancreatitis (NHP)** *P. monodon* (post-larvae and grow-out) and *P. vannamei* (post-larvae, juvenile, adult, grow-out and broodstock) analyzed using PCR test showed negative for Necrotising Hepatopancreatitis. Samples were collected from Agusan del Norte, Bulacan, Bohol, Cebu, Negros Occidental, Pampanga and Surigao del Norte. Other samples examined were imported from Hawaii. Examinations were conducted by BFAR Central and BFAR Regional Fish Health Laboratories.
11	**Acute Hepatopancreatic Necrosis Disease (AHPND)** **Origin of the disease or pathogen (history of the disease) –** detected in 6 farms **Species affected:** *P. monodon* (post-larvae) and *P. vannamei* (post-larvae and grow-out) **Pathogen:** AHPND *Vibrio parahaemolyticus* **Size of infected areas or names of infected areas:** Batangas, Cebu, Iloilo, Leyte and Surigao del Norte **Samples sent to national or international laboratories for confirmation (indicate the name of laboratories):** Polymerase Chain Reaction Test (PCR) / BFAR Central, BFAR Regional and SEAFDEC Fish Health Laboratories.
12	**Hepatopancreatic Microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)** **Origin of the disease or pathogen (history of the disease) –** detected in 5 farms **Species affected:** *P. monodon* (spawner) and *P. vannamei* (fry, adult and grow-out) **Pathogen:** *Enterocytozoon hepatopenaei* **Size of infected areas or names of infected areas:** Bulacan, Capiz, Davao del Sur, Oriental Mindoro and Zambales **Samples sent to national or international laboratories for confirmation (indicate the name of laboratories):** Polymerase Chain Reaction Test (PCR) / BFAR Regional and SEAFDEC Fish Health Laboratories.

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

Country: SINGAPORE* **Period: July - September 2020**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	Augsut	September		
OIE-listed diseases					
1. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000		
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000		
3. Infection with spring viremia of carp virus	0000	0000	0000		
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Infection with red sea bream iridovirus	(2019)	(2019)	(2019)		
7. Infection with koi herpesvirus	(2019)	(2019)	(2019)		
Non OIE-listed diseases					
8. Grouper iridoviral disease	(2014)	(2014)	(2014)		
9. Viral encephalopathy and retinopathy	(2020)	(2020)	(2020)		
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. Decapod iridescent virus 1 (DIV1)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	(2020)	(2020)	(2020)		
3. Infection with *Batrachochytrium salamandrivorans*	(2018)	(2018)	(2018)		
ANY OTHER DISEASES OF IMPORTANCE					
1. Streptococcus sp.	(2019)	+	(2020)	III	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	Bacteria with morphology and staining characteristics compatible with **Streptococcus sp.** were detected from a batch of diseased Jade Perch fish submitted by a land-based aquaculture unit. The farmer was informed of the finding and advised on disease management.
2	

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

Country: SINGAPORE* **Period: April - June 2020 (Amended)**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
OIE-listed diseases					
1. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000		
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000		
3. Infection with spring viremia of carp virus	0000	0000	0000		
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Infection with red sea bream iridovirus	(2019)	(2019)	(2019)		
7. Infection with koi herpesvirus	(2019)	(2019)	(2019)		
Non OIE-listed diseases					
8. Grouper iridoviral disease	(2014)	(2014)	(2014)		
9. Viral encephalopathy and retinopathy	(2020)	(2020)	(2020)		
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. Decapod iridescent virus 1 (DIV1)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	(2020)	(2020)	(2020)		
3. Infection with *Batrachochytrium salamandrivorans*	(2018)	(2018)	(2018)		
ANY OTHER DISEASES OF IMPORTANCE					
1. Big Belly bacteria	(2019)	+	(2020)	III	1
2. Scale Drop Disease Virus	(2019)	(2019)	+	III	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	**Big Belly (BB) bacterial infection** was diagnosed through a combination of PCR and histopathology from a batch of moribund Asian seabass (*Lates calcarifer*) submitted from a commercial aquaculture facility. Lesions observed represent the characteristic BB infection, comprising of necrotising enteritis with clusters of intra-lesional, coccobacillary entities; concurrently, PCR detected the bacterium in ethanol-fixed samples of intestine and liver. The farm's attending veterinarian was promptly informed.
2	**Scale Drop Disease Virus (SDDV)** was detected by PCR and histopathology from a batch of diseased asian seabass submitted by a commercial aquaculture facility. The fish health manager was informed.

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

Country: SINGAPORE* Period: January - March 2020 (Amended)

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000		
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000		
3. Infection with spring viremia of carp virus	0000	0000	0000		
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	0000	0000	0000		
6. Infection with red sea bream iridovirus	(2019)	(2019)	(2019)		
7. Infection with koi herpesvirus	(2019)	(2019)	(2019)		
Non OIE-listed diseases					
8. Grouper iridoviral disease	(2014)	(2014)	(2014)		
9. Viral encephalopathy and retinopathy	+	(2020)	(2020)	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. Decapod iridescent virus 1 (DIV1)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	+	(2020)	(2020)		2
3. Infection with *Batrachochytrium salamandrivorans*	(2018)	(2018)	(2018)		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

+	Disease reported or known to be present	?( )	Presence of the disease suspected but not confirmed in a zone
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	**Viral Nervous Necrosis Virus (VNNV)** was detected by PCR in a batch of diseased ~300-g pompano fish submitted by a commercial aquaculture facility. The fish health manager was promptly informed of the viral detection.
2	***Batrachochytrium dendrobatidis*** was detected by PCR in the skin swab samples of a batch of frogs owned by a local commercial zoological collection. The facility was informed and the decision was made to cull the affected batch of amphibians.

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

Country: SRI LANKA* **Period: July - Seotember 2020**

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. Infection with epizootic haematopoietic necrosis virus	***	***	***		
2. Infection with infectious haematopoietic necrosis virus	***	***	***		
3. Infection with spring viremia of carp virus	000	000	000	III	1
4. Infection with viral haemorrhagic septicaemia virus	***	***	***		
5. Infection with *Aphanomyces invadans* (EUS)	000	000	000	II	
6. Infection with red sea bream iridovirus	000	000	000	III	1
7. Infection with koi herpesvirus	000	000	000	III	1
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	000	000	000	III	1
10.Enteric septicaemia of catfish	***	***	***		
11. Carp edema virus disease	***	***	***		
12. Tilapia lake virus (TiLV)	000	000	000	III	1
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	000	000	000	III	1
2. Infection with white spot syndrome virus	+	+	+	III	2
3. Infection with yellow head virus genotype 1	000	000	000	III	1
4. Infection with infectious hypodermal and haematopoietic necrosis virus	000	000	000	III	1
5. Infection with infectious myonecrosis virus	000	000	000	III	1
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	***	***	***		
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	000	000	000	III	1
8. Acute hepatopancreatic necrosis disease (AHPND)	000	000	000	III	1
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. Decapod iridescent virus 1 (DIV1)	***	***	***		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	***	***	***		
2. Infection with *Batrachochytrium dendrobatidis*	***	***	***		
3. Infection with *Batrachochytrium salamandrivorans*	***	***	***		
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	There are four labs operated in Sri Lanka for aquatic animal diseases diagnosis. Central Veterinary Investigation Center (CVIC) of Veterinary Research Institute (VRI) is under Department of Animal Production and Health. National Aquatic Resources Research and Development Agency (NARA), National Aquaculture Development Authority (NAQDA) and Center for Aquatic Animal Disease Diagnosis and Research (CADDAR) are the other major laboratories. The PCR test for Spring viraemia of carp (SVC), Koi herpesvirus disease (KHV), Red seabream iridoviral disease (RSID), Viral encephalopathy and retinopathy (VNN), Megalocytivirus and Tilapia lake virus (TiLV) are conducted by CVIC according to OIE manual or reputed scientific literature for import and export susceptible fish species on countries requirements. CVIC/VRI conducted PCR test for Taura syndrome virus, white spot syndrome virus, yellow head virus genotype 1, infectious hypodermal and haematopoietic necrosis virus, and infectious myonecrosis virus according to OIE manual. PCR test for *Hepatobacter penaei* (Necrotising hepatopancreatitis) and Acute hepatopancreatic necrosis disease were conducted using IQ2000 kits. The PCR test for above shrimp diseases were conducted by CVIC for imported broodstock with NAQDA laboratory. Other laboratories (NARA, NAQDA and CADDAR) routinely conduct PCR test mainly for WSSV in farmed shrimps. CVIC is involved in proficiency testing (PT) for WSSV, IHHNV, Vp-AHPND, YHV-1, TSV, IMNV, RSIV, KHV (CyHV-3), VNN and SVCV with CSIRO Australia. NAQDA and NARA conducted PT testing for WSSV. The CADDAR conducted PT for RSIV and KHV (CyHV-3).
2	The first occurrence of WSSV was in 1996. The main species was *Penaeus monodon*. *Penaeus vannamei* was recently introduced in 2018-2019. At present WSSV incidence is low due to best management practices and crop calendar implemented by NAQDA. The affected shrimp farms are mainly located in North Western and Eastern provinces. PCR test for WSSV was conducted by PCR Laboratory of Central Veterinary Investigation Center (CVIC) of Veterinary Research Institute (VRI), National Aquatic Resource Research Development Agency (NARA), National Aquaculture Development Authority of Sri Lanka (NAQDA), PCR Laboratory of Center for Aquatic Animal Diseases Diagnosis and Research (CADDAR) and few private labs.

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

Country: THAILAND* **Period: July - September 2020**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	Sepetember		
OIE-listed diseases					
1. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000	III	
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000	III	
3. Infection with spring viremia of carp virus	0000	0000	0000	III	
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000	III	
5. Infection with *Aphanomyces invadans* (EUS)	(2009)	(2009)	(2009)	II	
6. Infection with red sea bream iridovirus	0000	0000	0000	III	
7. Infection with koi herpesvirus	(2011)	(2011)	(2011)	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-		
9. Viral encephalopathy and retinopathy	(2019)	(2019)	(2019)	III	
10.Enteric septicaemia of catfish	0000	0000	0000	II	
11. Carp edema virus disease	0000	0000	0000		
12. Tilapia lake virus (TiLV)	-	-	-	III	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000	III	
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with *Bonamia ostreae*	0000	0000	0000		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Infection with Taura syndrome virus	(2019)	(2019)	(2019)	III	
2. Infection with white spot syndrome virus	-	+?( )	+?( )	III	1
3. Infection with yellow head virus genotype 1	-	-	-	III	
4. Infection with infectious hypodermal and haematopoietic necrosis virus	+?( )	-	+?( )	III	2
5. Infection with infectious myonecrosis virus	0000	0000	0000	III	
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	-	+?( )	+?( )	III	3
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	(2005)	(2005)	(2005)	III	
8. Acute hepatopancreatic necrosis disease (AHPND)	+?( )	+?( )	+?( )	III	4
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000	III	
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	+?( )	+?( )	+?( )	III	5

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11. Viral covert mortality disease (VCMD) of shrimps	(2014)	(2014)	(2014)	III	
12. *Spiroplasma eriocheiris* infection	0000	0000	0000		
13. Decapod iridescent virus 1 (DIV1)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	(2018)	(2018)	(2018)	III	
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
3. Infection with *Batrachochytrium salamandrivorans*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

+	Disease reported or known to be present	?( )	Presence of the disease suspected but not confirmed in a zone
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	A total of 1,906 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 80 specimens or 4.2% recorded as PCR positive or carrying **WSSV** genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm disinfection.
2	A total of 1,147 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 7 specimens or 0.61% recorded as PCR positive for **IHHNV** genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm disinfection.

3	A total of 537 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 215 specimens or 40.04% recorded as PCR positive for **MrNV** genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm disinfection.
4	A total of 2,038 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 4 specimens or 0.2% recorded as PCR positive for **AHPND**. Shrimp farms with positive testing results have been subjected to shrimp health management control and pond improvement.
5	A total of 1,693 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 61 specimens or 3.6% recorded as PCR positive for **EHP**. Shrimp farms with positive testing results have been subjected to shrimp health management control and pond improvement.

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

Country: THAILAND* **Period: January - March 2020 (Missed Report)**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000	III	
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000	III	
3. Infection with spring viremia of carp virus	0000	0000	0000	III	
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000	III	
5. Infection with *Aphanomyces invadans* (EUS)	(2009)	(2009)	(2009)	II	
6. Infection with red sea bream iridovirus	0000	0000	0000	III	
7. Infection with koi herpesvirus	(2011)	(2011)	(2011)	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-		
9. Viral encephalopathy and retinopathy	(2019)	(2019)	(2019)	III	
10.Enteric septicaemia of catfish	0000	0000	0000	II	
11. Carp edema virus disease	0000	0000	0000		
12. Tilapia lake virus (TiLV)	-	-	+?( )	III	1
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000	III	
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with *Bonamia ostreae*	0000	0000	0000		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Infection with Taura syndrome virus	(2019)	(2019)	(2019)	III	
2. Infection with white spot syndrome virus	-	+?( )	+?( )	III	2
3. Infection with yellow head virus genotype 1	-	-	+?( )	III	3
4. Infection with infectious hypodermal and haematopoietic necrosis virus	+?( )	+?( )	+?( )	III	4
5. Infection with infectious myonecrosis virus	0000	0000	0000	III	
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	+?( )	-	+?( )	III	5
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	(2005)	(2005)	(2005)	III	
8. Acute hepatopancreatic necrosis disease (AHPND)	-	+?( )	+?( )	III	6
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000	III	
Non OIE-listed diseases					
10. Hepatopancreatic microsporidiosis caused by *Enterocytozoon hepatopenaei* (HPM-EHP)	+?( )	+?( )	+?( )	III	7

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11. Viral covert mortality disease (VCMD) of shrimps	(2014)	(2014)	(2014)	III	
12. *Spiroplasma eriocheiris* infection	0000	0000	0000		
13. Decapod iridescent virus 1 (DIV1)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	(2018)	(2018)	(2018)		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
3. Infection with *Batrachochytrium salamandrivorans*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

+	Disease reported or known to be present	?( )	Presence of the disease suspected but not confirmed in a zone
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	A total of 159 fish samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 1 specimen or 0.63% recorded as PCR positive for **TiLV**. Fish farm with positive testing results is subjected to health improvement, movement control, eradication and/or farm disinfection.
2	A total of 3,384 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 11 specimens or 0.33% recorded as PCR positive or carrying the **WSSV** genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm disinfection.

3	A total of 3,321 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 1 specimen or 0.03% recorded as PCR positive for **YHV** genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm disinfection.
4	A total of 3,414 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 22 specimens or 0.64% recorded as PCR positive for **IHHNV** genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm disinfection.
5	A total of 251 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 14 specimens or 5.58% recorded as PCR positive for **MrNV** genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm disinfection.
6	A total of 4,384 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 12 specimens or 0.27% recorded as PCR positive for **AHPND**. Shrimp farms with positive testing results are subjected to shrimp health management control and pond improvement.
7	A total of 3,820 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 156 specimens or 4.08% recorded as PCR positive for **EHP**. Shrimp farms with positive testing results are subjected to shrimp health management control and pond improvement.

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

Country: THAILAND* **Period: October - December 2019 (Missed report)**

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. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000	III	
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000	III	
3. Infection with spring viremia of carp virus	0000	0000	0000	III	
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000	III	
5. Infection with *Aphanomyces invadans* (EUS)	(2009)	(2009)	(2009)	II	
6. Infection with red sea bream iridovirus	0000	0000	0000	III	
7. Infection with koi herpesvirus	(2011)	(2011)	(2011)	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-		
9. Viral encephalopathy and retinopathy	-	-	-	III	
10.Enteric septicaemia of catfish	0000	0000	0000	II	
11. Carp edema virus disease	0000	0000	0000		
12. Tilapia lake virus (TiLV)	+?( )	-	-	III	1
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000	III	
3. Infection with abalone herpesvirus	0000	0000	0000		
4. Infection with *Xenohaliotis californiensis*	0000	0000	0000		
5. Infection with *Bonamia ostreae*	0000	0000	0000		
Non OIE-listed diseases					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
7. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Infection with Taura syndrome virus	-	-	-	III	
2. Infection with white spot syndrome virus	-	+?( )	+?( )	III	2
3. Infection with yellow head virus genotype 1	-	-	-	III	
4. Infection with infectious hypodermal and haematopoietic necrosis virus	-	-	+?( )	III	3
5. Infection with infectious myonecrosis virus	0000	0000	0000	III	
6. Infection with *Macrobrachium rosenbergii* nodavirus (White Tail disease)	+?( )	+?( )	-	III	4
7. Infection with *Hepatobacter penaei* (Necrotising hepatopancreatitis)	(2005)	(2005)	(2005)	III	
8. Acute hepatopancreatic necrosis disease (AHPND)	+?( )	+?( )	+?( )	III	5
9. Infection with *Aphanomyces astaci* (Crayfish plague)	0000	0000	0000	III	
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	(2014)	(2014)	(2014)	III	
12. *Spiroplasma eriocheiris* infection	0000	0000	0000		
13. Shrimp haemocyte iridescent virus (SHIV)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	(2018)	(2018)	(2018)		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
3. Infection with *Batrachochytrium salamandrivorans*	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infection with HPR-deleted of HPR0 salmon anemia virus, Infection with salmon pancreas disease virus; Infection with *Gyrodactylus salaris*.
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

+	Disease reported or known to be present	?( )	Presence of the disease suspected but not confirmed in a zone
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
?	Suspected by reporting officer but presence not confirmed	0000	Never reported
+( )	Occurrence limited to certain zones	-	Not reported (but disease is known to occur)
+?( )	Confirmed infection/infestation limited to one or more zones of the country, but no clinical disease	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	A total of 136 fish samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 1 specimen or 0.74% recorded as PCR positive for **TiLV**. Fish farm with positive testing results is subjected to health improvement, movement control, eradication and/or farm disinfection.
2	A total of 3,329 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 20 specimens or 0.60% recorded as PCR positive or carrying the **WSSV** genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm disinfection.

3	A total of 2,281 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 1 specimen or 0.03% recorded as PCR positive for **IHHNV** genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm disinfection.
4	A total of 152 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 7 specimens or 4.61% recorded as PCR positive for **MrNV** genes. Shrimp farms with positive testing results are subjected to health improvement, movement control, eradication and/or farm disinfection.
5	A total of 3,192 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 11 specimens or 0.34% recorded as PCR positive for **AHPND**. Shrimp farms with positive testing results have been subjected to shrimp health management control and pond improvement.
6	A total of 2,630 shrimp samples from shrimp farms had been tested at PCR Laboratories of the DOF under active surveillance. 56 specimens or 2.13% recorded as PCR positive for **EHP**. Shrimp farms with positive testing results have been subjected to shrimp health management control and pond improvement.

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

Country: VIETNAM* **Period: July - September 2020**

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. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000		
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000		
3. Infection with spring viremia of carp virus	0000	0000	0000		
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000		
5. Infection with *Aphanomyces invadans* (EUS)	-	-	-		
6. Infection with red sea bream iridovirus	0000	0000	0000		
7. Infection with koi herpesvirus	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*	(2013)	(2013)	(2013)		
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	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)	+()	+()	+()	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		

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11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000		
12. *Spiroplasma eriocheiris* infection	0000	0000	0000		
13. Decapod iridescent virus 1 (DIV1)	0000	0000	0000		
AMPHIBIAN DISEASES					
OIE-listed diseases					
1. Infection with *Ranavirus* species	0000	0000	0000		
2. Infection with *Batrachochytrium dendrobatidis*	0000	0000	0000		
3. Infection with *Batrachochytrium salamandrivorans*	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:** ; **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 2020)

1. DISEASES PREVALENT IN THE REGION	
1.1 FINFISH DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infection with epizootic haematopoietic necrosis virus	1.Grouper iridoviral disease
2. Infection with infectious haematopoietic necrosis virus	2.Viral encephalopathy and retinopathy
3. Infection with spring viremia of carp virus	3.Enteric septicaemia of catfish
4. Infection with viral haemorrhagic septicaemia virus	4. Carp edema virus disease
5. Infection with *Aphanomyces invadans* (EUS)	5. Tilapia lake virus (TiLV)
6. Infection with red sea bream iridovirus	
7. Infection with koi herpesvirus	
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. Decapod iridescent virus 1 (DIV1)
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* species	
2. Infection with *Bachtracochytrium dendrobatidis*	
3. Infection with *Batrachocytrium salamandrivorans*	
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, 22nd Edition, 2019. 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 22nd edition incorporates modifications to the Aquatic Code agreed at the 87th General Session in May 2019. This edition includes the following updates: Glossary: revised definition for 'basic biosecurity conditions'; Chapter 1.5. 'Criteria for listing species as susceptible to infection with a specific pathogen'; Chapter 8.3. 'Infection with Ranavirus'; Chapter 9.1. 'Acute hepatopancreatic necrosis disease'; Articles 10.2.1. and 10.2.2. of Chapter 10.2. 'Infection with *Aphanomyces invadans'*; Article 10.5.2. of Chapter 10.5.' Infection with salmonid alphavirus'; Articles 10.6.1., 10.6.2. and 10.6.8. of Chapter 10.6. 'Infection with infectious haematopoietic necrosis virus'; Article 10.7.2. of Chapter 10.7. 'Infection with koi herpesvirus'; Article 10.9.2. of Chapter 10.9. 'Infection with spring viraemia of carp virus'; Article X.X.8. of all disease-specific chapters (except for Article 10.3.8. of Chapter 10.3. 'Infection with *Gyrodactylus salaris*' due to the nature of the pathogenic agent) and Article 10.4.12. of Chapter 10.4. 'Infection with infectious salmon anaemia virus'. 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, 2019. 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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Notes

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