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(Asia and Pacific Region)

January-March 2008

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Foreword

7th Symposium on Diseases in Asian Aquacultre

The 7th Symposium on Diseases in Asian Aquaculture (DAAVII) organized by the Fish Health Section (FHS) of the Asian Fisheries Socieity (AFS) was held from 22nd to 26th June 2008 in Howard International House, Taipei, Taiwan. The theme of the symposium was "Communication, cooperation and coordination: key issues in aquatic animal health management". The DAA symposia are a series of triennial meetings of the world's leading scientists and students working in aquatic animal health. There have been six previous Symposia, the first one in Bali, Indonesia, 1990; second in Phuket, Thailand, 1993; third in Bangkok, Thailand, 1996; fourth in Cebu, Philippines, 1999; fifth in Gold Coast, Australia, 2002; and the sixth in Colombo, Sri Lanka, 2005. Each of these Symposia brought together over 250 aquatic animal health scientists, students, government researchers and industry personnel from over 30 countries. DAAVII was attended by over 350 participants from over 35 countries. Student participation was highest in this symposium.

In a series of 12 scientific sessions spread across 4 days, 16 keynote, 11 invited and 52 contributed papers were presented and discussed. In addition, there were 186 poster paper presentations. From the number of papers presented and participation, DAAVII is by far the biggest event of the FHS. The quality of papers presented both under oral and poster sessions were of high quality and reflected the enormous progress made in Asia in aquatic animal health research and development. As there are no parallel sessions, participants get an opportunity to listen and interact with all the speakers.

Aquaculture is the fastest growing food producing sector globally. As the aquaculture industry has expanded, diversified and intensified, numerous aquatic animal diseases have emerged and become widespread as a result of global trade and modern transporation systems. The impact of these trans-boundary aquatic diseases on the industry will need to be mitigated by improving compliance to WTO-SPS measures, enhancing current levels of health management, biosecurity, risk assessment diagnosis and epidemiology. In the spirit of the DAAVII theme "Communication, cooperation and Coordination", this symposium provided a very good platform for aquatic animal health scientists, researchers, students, developers, industry and policy makers coming from research institutions, national and international development agencies, and private sector to interact and exchange the latest information in the area of aquatic animal health management.

Papers presented at the symposium will be peer reviewed and published as "Diseases in Asian Aquaculture VII" Proceedings of the previous six symposia are availale with the FHS Secretariat and some are also available on FHS website for free download. The "Diseases in Asian Aquaculture" series from I to VI, contain valuable information on aquatic animal health issues pertinent to Asia Pacific region.

The next symposium-DAAVIII will be held in Mangalore, India in the year 2011.

Reports Received by the NACA Secretariat

Country: AUSTRALIA **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	-(2004)	-(2004)	-(2004)		1
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	+	+	+	III	2
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	-(2007)	+	+	III	3
10. Enteric septicaemia of catfish	+	-(2008)	-(2008)	III	4
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	?	?	?		5
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	0000	0000	0000		
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-(2007)	-(2007)	-(2007)		6
5. Infectious hypodermal and haematopoietic necrosis	-(2004)	-(2004)	-(2004)		7
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
7. Infectious myonecrosis	0000	0000	0000		
8. White tail disease (MrNV)	+	(-2008)	(-2008)	III	8
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	***	***	***		
10. Milky lobster disease	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.Abalone viral ganglioneuritis	+	+	+	III	9
2.Oyster oedema disease	+	+	+	II	10

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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, but is known to have occurred previously in Victoria (last year reported 2004), New South Wales (last year reported 2003) and South Australia (last year reported 1992). Targeted surveillance and never reported in Tasmania. Passive surveillance and never reported in the Northern Territory, Queensland or Western Australia. Annual occurrence of the disease in the Australian Capital Territory, but no laboratory confirmation.

2	**Epizootic Ulcerative Syndrome** 1. **Reported in New South Wales** in January, February and March 2008. Targeted surveillance; 2. **In** – multiple wild species including a) mullet (*Myxus petardi*), banded scat (*Selenotoca multifasciata*) and yellowfin bream (*Acanthopagrus australis*), (b) multiple species including yellowfin bream (*Acanthopagrus australis*) and Australian bass (*Macquaria novemaculeata*), (c) poss. freshwater mullet (*Myxus sp.*), narrow-banded sole (*Aseraggodes macleayanus*) and yellowfin bream (*Acanthopagrus australis*); 3. **Clinical signs-** consistent with EUS; 4. **Pathogen-** *Aphanomyces invadans*; 5. **Mortality rate-** not reported; 6. **Economic loss-** not applicable; 7. **Geographic extent-** a) Manning River, (b) Clarence, Richmond, Macleay, Hastings and Wallamba Rivers, (c) Hawkesbury River; 8. **Containment measures-** not applicable; 9. **Laboratory confirmation-** diagnosed by a) histopathology and PCR, (b) clinical signs, (c) histopathology and PCR; 10. **Publications-** unpublished. 1. **Reported in Queensland** in March 2008. Passive surveillance; 2. **In** – adult rainbow fish (*Melanotenia* sp.); 3. **Clinical signs-** deformed heads; 4. **Pathogen-** *Aphanomyces invadans*; 5. **Mortality rate-** between 20% - 100%; 6. **Economic loss-** minimal; 7. **Geographic extent-** 20 individuals within a single tank on a single ornamental fish farm; 8. **Containment measures-** not applicable; 9. **Laboratory confirmation-** diagnosed by histopathology; 10. **Publications-** unpublished. Epizootic ulcerative syndrome was not reported during this period despite active surveillance but is considered endemic to certain streams and rivers of the Northern Territory (last year reported 2006). Not reported despite passive surveillance, but is known to have occurred previously in Victoria (last year reported 2002). Passive surveillance and never reported in South Australia, although an EUS – like suspicion in *Mogurnda adspersa* in captivity is under investigation, and Tasmania. Not reported this quarter but considered to be endemic in Western Australia. No information available in the Australian Capital Territory.

3	**Viral encephalopathy and retinopathy** 1. **Reported in the Northern Territory** in March 2008. Active surveillance; 2. **In** - juvenile *Lates calcarifer*; 3. **Clinical signs-** high mortality; 4. **Pathogen-** nodavirus; 5. **Mortality rate-** 100%; 6. **Economic loss-** minimal; 7. **Geographic extent-** two nursery tanks; 8. **Containment measures-** quarantine of stock; 9. **Laboratory confirmation-** diagnosed by histopathology and PCR; 10. **Publications-** unpublished. 1. **Reported in Queensland** in February (a-c) and March (d-f) 2008. Passive surveillance; 2. **In** a) *Epinephalus fuscoguttatus,* 45-day old, (b) *Epinephalus fuscoguttatus,* 49-day old, (c) *Lates calcarifer,* six-week old, (d) *Epinephalus coioides,* 60-day old, (e) *Epinephalus fuscoguttatus,* 120-day old, (f) *Epinephalus coioides,* 84-day old; 3. **Clinical signs-** a) low mortality, lethargy, sitting on bottom of tank, b) lethergy, hanging vertically or floating at surface on their sides, (c) spiral swimming on water surface, low mortality, (d) petechial haemorrhages on ventral abdomen, ulcers on caudal peduncle, low mortality, (e) weak and abnormal; swimming, (f) dark body colour, reduced feeding and swimming on bottom of tank; 4. **Pathogen-** betanodavirus; 5. **Mortality rate-** (a-c and e-f) minimal (d) low level mortality (10+ per day over a one week period); 6. **Economic loss-** (a-b and d-f) minimal, (c) not reported; 7. **Geographic extent-** a) single tank in a single hatchery, (b) 1 of 3 net cages in seawater pond, (c) single nursery tank, (d) four net cages in seawater pond, (e) four fish in single nursery tank, (f) single nursery tank; 8. **Containment measures-** none, endemic to area; 9. **Laboratory confirmation-** diagnosed by histopathology and (a) immunohistochemistry (IHCT); 10. **Publications-** unpublished. Not reported this period despite targeted surveillance from South Australia (last year reported 2004). Not reported this quarter despite passive surveillance from New South Wales (last year reported 2006), Western Australia (last year reported 2005) and Tasmania (last year reported 2000). Never reported from Victoria despite passive surveillance. No information available in the Australian Capital Territory.
4	**Enteric septicaemia of catfish** 1. **Reported in Queensland** in January 2008. Passive surveillance; 2. **In** - zebrafish (*Brachydanio rerio*); 3. **Clinical signs-** low mortality, small skin ulcers and hyperaemia of ventral abdomen; 4. **Pathogen-** *Edwardsiella ictaluri*; 5. **Mortality rate-** low (5/32); 6. **Economic loss-** minimal; 7. **Geographic extent-** single aquarium laboratory in medical research facility; 8. **Containment measures-** destocked and disinfected; 9. **Laboratory confirmation-** diagnosed by biochemistry and 16sRNA sequence analysis; 10. **Publications-** unpublished. Not reported this quarter but is known to have occurred in zebrafish (*Brachydanio rerio*) in PC2 containment in Tasmania (last year reported 2001). Never reported in New South Wales, Northern Territory, South Australia and Victoria despite passive surveillance. No information available in the Australian Capital Territory and Western Australia (susceptible species not present).
5	Infection with *Perkinsus olseni* was not reported this quarter from Western Australia despite targeted surveillance (last year reported 2003). While *Perkinsus* has been isolated previously by culture off the gills of a clinically normal abalone in 2003, clinical infection from *Perkinsus* has never been reported from Western Australia. Not reported this quarter from South Australia despite passive surveillance but is considered enzootic in wild abalone (*Haliotis spp*.) in Spencer Gulf (last year reported 2007). Not reported this period despite passive surveillance from New South Wales (last year reported 2005). Passive surveillance and never reported in the Northern Territory, Queensland, Tasmania and Victoria. No information available in the Australian Capital Territory (no marine water responsibility).

6	Spherical baculovirosis was not reported this period despite targeted surveillance but is known to have occurred previously in Queensland (last year reported 2007). Not reported this period despite passive surveillance but is known to have occurred previously in New South Wales and Western Australia (last year reported 2002). Never reported despite passive surveillance in the Northern Territory, South Australia and Victoria. No information available in the Australian Capital Territory (no marine water responsibility) and Tasmania (susceptible species not present).
7	Infectious hypodermal and haematopoietic necrosis virus was not reported this period despite passive surveillance. This virus is known to have previously occurred in Queensland (last year reported 2004) and in the Northern Territory (last year reported 2003). No disease has been associated with the virus. The Australian virus is considered to be closest to the avirulent Madagascar strain. Passive surveillance and never reported in New South Wales, South Australia, Victoria and Western Australia. No information available in Australian Capital Territory (no marine responsibility) and Tasmania (susceptible species not present).
8	**White tail disease** 1. **Reported in Queensland** in January 2008. Passive surveillance; 2. **In** *Macrobrachium rosenbergii* -adult broodstock and progeny; 3. **Clinical signs-** opaque muscle revealing extensive myonecrosis with infiltration of haemocytes on histopathology; 4. **Pathogen-** *M. rosenbergii* nodavirus (MrNV); 5. **Mortality rate-** not reported; 6. **Economic loss-** not applicable; 7. **Geographic extent-** aquaria in research facilities, broodstock sourced from wild in northern Queensland; 8. **Containment measures-** unreported, targeted surveillance of source and adjacent rivers is pending; 9. **Laboratory confirmation-** diagnosed by histology and PCR; 10. **Publications-** unpublished. Never reported from New South Wales despite passive surveillance. No information available in the Australian Capital Territory (no marine water responsibility), Northern Territory, South Australia, Tasmania (susceptible species not present), Western Australia and Victoria.
9	Abalone viral ganglioneuritis continues to be reported in wild abalone (*Haliotis spp*.) on reefs in western Victoria. The unconfirmed mortality rate in the wild is reported to be between 40 - 95%. The range of spread in the wild is from the east end of the 12 Apostles National Park to near Portland at White's Beach to the west. Containment measures include the promotion of biosecurity in all sectors of the industry, abalone farm audits and translocation policies in place. Targeted surveillance and never reported in Tasmania. Passive surveillance and never reported in New South Wales, South Australia and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility), Northern Territory and Queensland.
10	*Pinctada maxima* mortalities have continued on pearl oyster leases in Western Australia. Investigations into the aetiology of the disease are on-going. Affected leases remain under quarantine.

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

The AQUAVETPLAN - Decontamination Manual has been published and is available at the link shown below.

In April 2008, the Operational Procedures- Decontamination Manual was released as an integral part of the Australian Aquatic Veterinary Emergency Plan (AQUAVETPLAN). It provides specific information about the control of disease agents during an aquatic animal disease emergency response in Australia . It is primarily concerned with decontamination of the production environment following disease incursion, rather than routine hygiene procedures necessary for the production of healthy stock and has been endorsed by the industry and State, Territory and Australian Governments.

For further information or to download the manual go to:
http://www.daff.gov.au/animal-plant-health/aquatic/aquavetplan/operational_procedures_manual_-_decontamination

Country: BANGLADESH **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp	***	***	***		
4. Viral haemorrhagic septicaemia	***	***	***		
5. Epizootic ulcerative syndrome (EUS)	+	+	+	II	1
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	***	***	***		
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10. Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Abalone viral mortality	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	-	-	+	II	2
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
7. Infectious myonecrosis	***	***	***		
8. White tail disease (MrNV)	***	***	***		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	***	***	***		
10. Milky lobster disease	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. Mass mortality of tilapia (*O. niloticus*)	-	-	+	II	3

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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 ulcerative syndrome (EUS) outbreak was reported from central region, Mymensingh during January, February and March, 2008. Indian major carps, *Anabas testudineus* and *Heteropneustes fosiliis* were the affected species. Clinical signs were recorded as hemorrhage, superficial lesions, infection at fin base, tail erosion, less appetite, erratic movement and chronic mortality. Disease diagnosis was confirmed by histology (MG). Mortality rate varied from 5 – 20% in different farms. Lime, salt, potassium permanganate and imported commercial drugs and antibiotics of tetracycline group were applied by farmers to control the disease. Fish farmers immediately exchange 20-30% water after outbreak of disease. Economical loss was not available.
2	Outbreak of White spot disease in *Penaeus monodon* was reported from extensive shrimp farms at Tala, Paikgacha, Koira, Asashuni and Shyamnagar upazilla of southern regions of the country during March 2008. White spots were observed and recorded from the farms. PCR test also confirmed the presence of white spot virus. Mortality rate was varied from 20-60% in those affected farms. Economical loss was not available.
3	Unusual mass mortality was observed in monosex tilapia (*Orechromis niloticus*) during the reported period throughout the country. **C**linical signs were observed in tilapia was excessive slime secretion, lesions, discoloration, both the eyes blood clotted, less appetite sometimes withdrawal of feed and slow movement. In some outbreaks there were no clinical or visible signs found in the affected fish. Mortality range was observed from 20-50% or more. Farmers use lime, salt, alum and potassium permanganate to treat affected tilapia. Besides farmer exchange 50% water from the farm. Economical loss was not available.

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

Country: CAMBODIA **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis					
2. Infectious haematopoietic necrosis					
3. Spring viraemia of carp	0000	0000	0000	III	1
4. Viral haemorrhagic septicaemia					
5. Epizootic ulcerative syndrome (EUS)	-	-	-	I & II	
6. Red seabream iridoviral disease					
7. Koi herpesvirus disease	0000	0000	0000	III	2
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10. Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*					
2. Infection with *Perkinsus olseni*					
3. Abalone viral mortality					
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*					
5. Acute viral necrosis (in scallops)					
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	***	***	***		
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis					
6. Tetrahedral baculovirosis (*Baculovirus penaei*)					
7. Infectious myonecrosis					
8. White tail disease (MrNV)	***	***	***		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	***	***	***		
10. Milky lobster disease					
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease					
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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	15 samples of each carp species (i.e. common carp, grass carp, bighead carp, and silver carp) weighing from 10 to 420 grams/individual from five fish hatcheries/farms (Chrang Cham Res public hatchery, Tang farm, NGO farm, public school, and Hathuy hatchery) were collected in Cambodia and screened using PCR (nested-step), cell culture in FHM cells (passage 1, 2, & 3) and bioassay tests by Dr. Gilda D. Lio-Po and her colleagues at SEAFDEC AQD Fish Disease Laboratory in the Philippines. All carp species are negative for SVCV with all tests.
2	23 samples of common carp, weighing from 10 to 420 grams/individual, from four fish hatcheries/farms (Chrang Cham Res public hatchery, Tang farm, NGO farm, and Hathuy hatchery) were collected in Cambodia and screened using PCR (nested-step), cell culture in KF-1 cells (passage 1, 2, & 3) and bioassay tests by Dr. Gilda D. Lio-Po and her colleagues at SEAFDEC AQD Fish Disease Laboratory in the Philippines. This species is negative for KHV with all tests.

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

Country: HONG KONG SAR **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	II	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia	0000	0000	0000	III	
5. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	II	
6. Red seabream iridoviral disease	0000	0000	0000	III	
7. Koi herpesvirus disease	-	+	+	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-	III	
9. Viral encephalopathy and retinopathy	0000	0000	0000	III	
10. Enteric septicaemia of catfish	0000	0000	0000	II	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	II	
2. Infection with *Perkinsus olseni*	0000	0000	0000	II	
3. Abalone viral mortality	0000	0000	0000	II	
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	
5. Acute viral necrosis (in scallops)	0000	0000	0000	II	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	III	
2. White spot disease	0000	0000	0000	III	
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000	III	
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000	II	
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	II	
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000	II	
7. Infectious myonecrosis	0000	0000	0000	II	
8. White tail disease (MrNV)	0000	0000	0000	II	
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	0000	0000	0000	II	
10. Milky lobster disease	0000	0000	0000	II	
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000	II	
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent	0000	Never reported
	But no clinical diseases	-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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): Nil

Country: INDIA **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	-	-	-		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	0000	0000	0000		
10. Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+()	+()	+()	I	1
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
7. Infectious myonecrosis	0000	0000	0000		
8. White tail disease (MrNV)	-	-	-		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	0000	0000	0000		
10. Milky lobster disease	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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	Reported from very limited area of Guntur District of Andhra Pradesh and South Goa

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

Country: INDONESIA **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	+	+	+	III	1
Non OIE-listed diseases					
8. Grouper iridoviral disease	+	+	+	III	2
9. Viral encephalopathy and retinopathy	-	+	+	III	3
10. Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	+	+	+	III	4
2. White spot disease	+	+	+	II, III	5
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	-	+	+	III	6
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
7. Infectious myonecrosis	-	+	+	III	7
8. White tail disease (MrNV)	0000	0000	0000		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	0000	0000	0000		
10. Milky lobster disease	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1. Infection with *Aeromonas hydrophilla*	+	+	+	II	8
2. Infection with *Streptococcus sp*	+	-	-	II	9
3. Infection with *Pseudomonas sp.*	-	+	-	II	10
4. Infection with *Flavobacterium sp*	-	+	-	II	11

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	1. Reported in West Java province in January until March 2008, South Kalimantan province in January 2008. 2. Species affected: *Cyprinus carpio;* 3. Clinical sign: low to high damage on gill, ulcer, hemorrhage and irritation on part of body, no clinical sign on some samples; 4. All samples have been detected by PCR analyze 5. Pathogen: Koi Herpesvirus 6. Mortality rate: low to high (30 to >70%) 7. Economic loss: low to high 8. Names of infected areas: Sukabumi and Cirata-Cianjur district (West Java province); Serang district in Banten Province; Tabalong district in South Kalimantan province 9. Preventive/control measures: – 10. Laboratory confirmation diagnosed by PCR in Main Center for Freshwater Aquaculture Development Sukabumi Laboratory (MCFAD); Freshwater Aquaculture Development Centre Mandiangin Laboratory in South Kalimantan; 11. Publications: Unpublished
2.	1. Reported in Lampung province in January until March 2008; 2. Species affected: grouper 3. Clinical sign: - 4. All samples have been detected by PCR analyze 5. Pathogen: Grouper iridoviral 6. Mortality rate: medium 7. Economic loss: – 8. Names of infected areas: some hatcheries in Teluk Harun, Pulau Puhawang, Tarahan, Tanjung putus and Ringgung subdistrict in Lampung province; 9. Preventive/control measures: – 10. Laboratory confirmation diagnosed by PCR in Mariculture Development Center Lampung Laboratory in Lampung province; 11. Publications: Unpublished.

3.	1. Reported in East Java province in February and March 2008; 2. Species affected to tiger grouper (*Ephinephelus fuscoguttatus*) seed reared in hatchery at Situbondo, East Java 3. All samples have been detected by PCR analyze 4. Pathogen: Betanodavirus 5. Mortality rate: low 6. Economic loss: – 7. Names of infected areas: some hatchery in Situbondo, East Java; 8. Preventive/control measures: – 9. Laboratory confirmation diagnosed in Brackiswater Development Center Laboratory in Situbondo, East Java; 10. Publications: Unpublished.
4.	1. Reported in East Java province in January until March 2008; 2. Species affected to *Penaeus vanamei* 3. All samples have been detected by PCR analyze 4. Pathogen: Taura Syndrome Virus 5. Mortality rate: low 6. Economic loss: - 7. Names of infected areas: shrimp culture in East Java province; 8. Preventive/control measures: – 9. Laboratory confirmation diagnosed by PCR in Brackiswater Development Center Laboratory in Situbondo, East Java; 10. Publications: Unpublished
5.	1. Reported in South Kalimantan province in February 2008; Maluku province in February 2008, South Sulawesi province in February 2008, Central Java province in January until March 2008, East Java province in February 2008 2. Species affected to *P. vanamei* and *P. monodon.* 3. Clinical sign: there are white spot in skin surface of shrimp had infected, before that affected shrimp are weak and swimming on the surface of water 4. All samples have been detected by PCR analyze 5. Pathogen: White Spot Syndrome Virus 6. Mortality rate: low to high (> 70%) 7. Economic loss: low to high 8. Names of infected areas: several ponds in Tanah Bumbu district (South Kalimantan province); East Lampung district (Lampung province), Takalar district in South Sulawesi province, in pond and hatchery of Main Center of Brackishwater Aquaculture Development Jepara (MCBAD) and in Kendal district in Central Java province, in shrimp culture in East Java province 9. Preventive/control measures: – 10. Laboratory confirmation diagnose by PCR in Freshwater Aquaculture Development Centre Mandiangin Laboratory in South Kalimantan province; Mariculture Development Center Ambon Laboratory in Maluku province, Brackishwater Development Center Takalar Laboratory in South Sulawesi province, Brackiswater Development Center Laboratory in Situbondo, East Java; 11. Publications: Unpublished
6.	1. Reported in East Java in February and March 2008; 2. Species affected to *P. vannamei*; post larvae, juvenile and broodstock of *L. vannamei*; 3. All samples have been detected by PCR analyze 4. Pathogen: family *Parvoviridae* 5. Mortality rate: low 6. Economic loss: - 7. Names of infected are: shrimp culture in East Java province; 8. Preventive/control measures: – 9. Laboratory confirmation diagnose by PCR in Brackishwater Development Center Situbondo Laboratory in East Java; 10. Publications: Unpublished.

7.	1. Reported in East Java in February and March 2008; 2. Species affected to juvenile and broodstock of *L. vannamei* ; 3. The clinical sign: red color on the abdominal segment end tail fan, myo-necrosis with the white color aspect; 4. Pathogen: IMNV in Totiviridae family 5. Sample have been detected by PCR analyze 6. Mortality rate: low 7. Economic loss: – 8. Names of infected area: several ponds of shrimp culture in East Java province; 9. Preventive/control measures: – 10. Laboratory confirmation diagnosed by PCR analyze in Brackishwater Aquaculture Development Center Situbondo Laboratory in East Java. 11. Publications: Unpublished.
8	1. Reported in DKI, Banten and West Java in January until March 2008, in South Kalimantan province in January until March 2008; Maluku province in January 2008. 2. Species affected to *Cyprinus carpio (*koi*), Clarias gariepinus,* Tilapia, Gouramy, *Ophiochepalus micropeltes, Anabas testudineus and Mystus nemurus.* 3. Clinical sign: • *C carpio* : hemorrhage and irritation on part of body; low to high damage on gill, no clinical sign on some samples; • C. *gariepinus:* irritation and low damage on fin and body surface, no clinical sign on some samples • Gouramy : hemorrhage and ulcer on part of body; • Tilapia: irritation and low damage on fin and body surface, no clinical sign on some samples • *Ophiochepalus micropeltes, Anabas testudineus and Mystus nemurus* : weak, necrosis of skin tissue, haemorhage in stomach and fin and lesions on the skin surface. 4. Sample have been detected by bacteriology method 5. Mortality rate: • *C carpio* : low to medium • C. *gariepinus:* low to medium • Gouramy and *Ophiochepalus micropeltes, Anabas testudineus and Mystus nemurus*: low to high (30 – 70%) • Tilapia: low 6. Economic loss: – 7. Names of infected areas: • *C carpio* : Bogor in West Java province and Serang in Banten province ; • C. *gariepinus* : Sukabumi in West Java province; • Gouramy : Sukabumi in West Java province and Jakarta in DKI ; • Tilapia: Serang in Banten province: • Gouramy and *Ophiochepalus micropeltes, Anabas testudineus and Mystus nemurus* from Banjar district. 8. Preventive/control measures: – 9. Laboratory confirmation diagnosed by Main Center for Freshwater Aquaculture Development Sukabumi Laboratory (MCFAD); Freshwater Aquaculture Development Centre Mandiangin Laboratory in South Kalimantan, Mariculture Development Center Ambon Laboratory ; 10. Publications: Unpublished.

9.	1. Reported in South Kalimantan province in January 2008; 2. Species affected to *Oreochromis sp.* 3. Clinical sign: affected fish was disoriented whirling motion, colour of skin surface changes to be more dark, and exophtalmia, 4. Sample have been detected by bacteriology method 5. Mortality rate: 45 – 60% 6. Economic loss: – 7. Names of infected areas in Tanah Bumbu and Banjar district in South Kalimantan province.: 8. Preventive/control measures: – 9. Laboratory confirmation diagnosed by Freshwater Aquaculture Development Centre Mandiangin Laboratory in South Kalimantan 10. Publications: Unpublished.
10.	1. Reported in South Kalimantan province in February 2008; 2. Species affected to fingerling of *Mystus nemurus* 3. Clinical sign: - 4. Sample have been detected by bacteriology method 5. Mortality rate: less than 30% 6. Economic loss: – 7. Names of infected areas in Banjar district in South Kalimantan province.: 8. Preventive/control measures: – 9. Laboratory confirmation diagnosed by Freshwater Aquaculture Development Centre Mandiangin Laboratory in South Kalimantan 10. Publications: Unpublished.
11.	1. Reported in South Kalimantan province in February 2008; 2. Species affected to fingerling of *Mystus nemurus* 3. Clinical sign: - 4. Sample have been detected by bacteriology method 5. Mortality rate: less than 30% 6. Economic loss: – 7. Names of infected areas in Banjar district in South Kalimantan province.: 8. Preventive/control measures: – 9. Laboratory confirmation diagnosed by Freshwater Aquaculture Development Centre Mandiangin Laboratory in South Kalimantan 10. Publications: Unpublished.

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

Country: IRAN **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	-	-		
3. Spring viraemia of carp	-	-	-		
4. Viral haemorrhagic septicaemia	-	-	-		
5. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10. Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Abalone viral mortality	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	-	-	-		
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
7. Infectious myonecrosis	***	***	***		
8. White tail disease (MrNV)	***	***	***		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	***	***	***		
10. Milky lobster disease	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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: JAPAN **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	I	
2. Infectious haematopoietic necrosis	+	+	+	III	
3. Spring viraemia of carp	0000	0000	0000	I	
4. Viral haemorrhagic septicaemia	-	+	+	III	
5. Epizootic ulcerative syndrome (EUS)	-	-	-	I	
6. Red seabream iridoviral disease	-	-	-	I	
7. Koi herpesvirus disease	+	-	-	III	
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000	I	
9. Viral encephalopathy and retinopathy	-	-	-	I	
10. Enteric septicaemia of catfish	0000	0000	0000	I	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	I	
2. Infection with *Perkinsus olseni*	0000	0000	0000	I	
3. Abalone viral mortality	0000	0000	0000	I	
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	+	+	+	II	
5. Acute viral necrosis (in scallops)	0000	0000	0000	I	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	I	
2. White spot disease	-	-	-	I	
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000	I	
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000	I	
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	I	
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000	I	
7. Infectious myonecrosis	0000	0000	0000	I	
8. White tail disease (MrNV)	0000	0000	0000	I	
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	0000	0000	0000	I	
10. Milky lobster disease	0000	0000	0000	I	
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	-	-	-	I	
ANY OTHER DISEASES OF IMPORTANCE					
1. Infection with Edwardsiella ictaluri	-	-	-	I	

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

+	Disease reported or known to be present	+( )	Occurrence limited to certain zones
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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: MALAYSIA **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	-	-	-(1986)		
6. Red seabream iridoviral disease	-	+()	+()	II,III	1
7. Koi herpesvirus disease	-	-	-	I.II.III	2
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-		
9. Viral encephalopathy and retinopathy	-	+	+		3
10. Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	-	-	-		
2. White spot disease	-	+()	+()	II, III	4
3. Yellowhead disease (YH virus, gill-associated virus)	-	-	-		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	-	+	-	II, III	5
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
7. Infectious myonecrosis	0000	0000	0000		
8. White tail disease (MrNV)	0000	0000	0000		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	0000	0000	0000		
10. Milky lobster disease	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1. Streptococcus infection	+	+	+	II	6

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent But no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(year)	Year of last occurrence

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

1. Epidemiological comments:

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

Comment No.	
1	**Red Sea Bream Iridoviral Disease** Passive surveillance: 1. **Reported in** Kedah 2. **In**; i) sea bass (size 4-5"); ii) 2 different batches of sea bass fry and juvenile in Hatchery (size between 2 – 4") 3. **Clinical signs-** i) medium to severe tail/fin rot, eye opacity,ii) dark body colouration, erratic, circling swimming pattern, 4. **Pathogen-** RSIV; 5. **Mortality rate-** i) daily mortality of 5-10 fish/day for the last 3 weeks upon stocking ii) > 50% mortality 6. **Economic loss-** n/a; 7. **Geographic extent-** i) deep sea cages; ii) one hatchery but involved 2 batches of fish 8. **Containment measures-** n/a 9. **Laboratory confirmation-** both were diagnosed by PCR and Histopathology 10. **Publications-** Unpublished. 11. **Others** - concurrent infection of VNN, *Trichodina*, *Streptococcus* and *Vibrio* might enhanced the disease development especially mortality in (ii).
2	**Koi herpesvirus disease** No reported cases during this period despite active surveillance in 10 koi farms and 4 collection centres in Perak State in January 2008.

3	**Viral Encephalopathy And Retinopathy** Passive surveillance: 1. **Reported in** Kedah 2. **In**; i) sea bass (*Lates calcarifer*) Broodstocks kept in cages; ii) *Lutjanus sp.* (size 4-6"), iii) sea bass fry and juvenile in Hatchery 3. **Clinical signs-** i) development of chronic ulceration on the middle part of the body, histopathology showed progressive changes of the skin and granuloma formation, ii) 'bold head', tail/fin rot and scale drop, iii) dark body colouration, erratic, circling swimming pattern 4. **Pathogen-** betanodavirus; 5. **Mortality rate-** high mortality in (ii) and (iii) 6. **Economic loss-** n/a; 7. **Geographic extent-** i) deep sea cages (2 cages involved where the fish is palnned to be used as a broodstocks) ii) few cages from the same batch of fish located in the same area as i) , iii) one hatchery but involved 2 batches of fish 8. **Containment measures-** n/a 9. **Laboratory confirmation-** a) diagnosed by PCR and Histopathology 10. **Publications-** Unpublished. 11. **Others** – concurrent infection with *iridovirus* in (ii) and (iii). No bacterial were detected in all the 3 cases.
4	**White spot disease (WSSV)** WSSV infections to cultured *Penaeus monodon* in eight ponds in BARC, Gelang Patah were confirmed with PCR diagnoses from 18 February to 26 March 2008. Shrimp were all being harvested and ponds were treated with chlorine before sun dried.
5	**Infectious Hypodermal And Haematopoietic Necrosis** 1. **Reported in** Perak 2. **In**; giant freshwater prawn *Macrobrachium rosenbergii* larvae (Government hatchery) 3. **Clinical signs-** i) mortality and heavy infestation of *Vorticella sp.* Histopathology revealed eosinophilic cowdry's type A & B intranuclear inclusion bodies in the tubular epithelium of the hepatopancreas of giant freshwater prawn larvae. 4. **Pathogen-** IHHNV 5. **Mortality rate-** high mortality 6. **Economic loss-** n/a 7. **Geographic extent-** i) hatchery 8. **Containment measures-** n/a 9. **Laboratory confirmation-** a) diagnosed by Histopathology 10. **Publications-** Unpublished. 11. **Others** – concurrent infection with ectoparasite *Vorticella sp*.
6	**Streptococcal Infection in tilapia** Active surveillance 1. **Reported in** a) Kedah b) Terengganu 2. **Clinical Signs** – erratic, exophthalmia or other abnormal clinical signs of the eye, inflamed at ventral region 3. **Pathogen** – *Streptococcus agalactiae* 4. **Mortality rate** - ± 40% 5. **Economic loss** – n/a 6. **Geographic extent** – in most floating cages, lakes and rivers 7. **Laboratory confirmation** – API 20E STREP 8. **Publications** : unpublished1.Reported in Kedah and Terengganu

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

Country: Myanmar **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp	***	***	***		
4. Viral haemorrhagic septicaemia	***	***	***		
5. Epizootic ulcerative syndrome (EUS)	***	***	***		
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	***	***	***		
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10. Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Abalone viral mortality	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	+()	-	-	III	1
2. White spot disease	+()	+()	-	III	2
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	+()	+()	-	III	3
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
7. Infectious myonecrosis	***	***	***		
8. White tail disease (MrNV)	***	***	***		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	***	***	***		
10. Milky lobster disease	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent But no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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 114 samples of *P. monodon* have been tested at PCR Lab of Department of Fisheries (DOF), of which 14 sample (12.28%) were recorded as TSV positive.
2	A total of 114 samples of *P. monodon* have been tested at PCR Lab of Department of Fisheries (DOF), of which 14 sample (12.28%) were recorded as WSSV positive.
3	A total of 114 samples of *P. monodon* have been tested at PCR Lab of Department of Fisheries (DOF), of which 28 sample (24.56%) were recorded as IHHNV positive.

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

Country: PAKISTAN **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	-	?		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	-	-	-		I
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000		
Non OIE-listed diseases					
8. Grouper iridoviral disease	*	*	*		
9. Viral encephalopathy and retinopathy	0000	0000	0000		
10. Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	0000	0000	0000		
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
7. Infectious myonecrosis	0000	0000	0000		
8. White tail disease (MrNV)	0000	0000	0000		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	0000	0000	0000		
10. Milky lobster disease	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1. Lernaeosis	+	+	+	I & II	I & II
2. Argulosis	-	+	-	II	I & II

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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	32 cases of Lernacasis were reported from private fish farmer (Total infected area 25 hectors) Dipterex @ 0.1 ppm and thunder @ 0.25 ppm were suggested to be used in the infected ponds in two repeated applications with one week gap.
2	Thirteen cases of Agrulus were reported from fish farms. Liming was recommended to made water quality better.

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

Country: PHILIPPINES **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000	III	1
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	-	-	-		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	0000	0000	0000	III	2
Non OIE-listed diseases					
8. Grouper iridoviral disease	0000	0000	0000		
9. Viral encephalopathy and retinopathy	-	-	-		
10. Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
5. Acute viral necrosis (in scallops)	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	III	3
2. White spot disease	+	+	+	III	4
3. Yellowhead disease (YH virus, gill-associated virus)	-	-	-		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	-	+	+	III	5
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
7. Infectious myonecrosis	0000	0000	0000	III	6
8. White tail disease (MrNV)	0000	0000	0000		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	0000	0000	0000		
10. Milky lobster disease	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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 300 pieces of koi carp (*Cyprinus carpio*) collected on November 2007 from two private koi farms (Pampanga, 144 pieces with a weight range of 10-25 grams) and (Laguna, 156 pieces with a weight range of 2-20 grams) showed negative results for Spring Viremia of Carp Virus by PCR, cell culture isolation and pathogenicity assay. Examinations/tests conducted by SEAFDEC, Fish Health laboratory.
2	A total of 300 pieces of koi carp (*Cyprinus carpio*) collected on November 2007 from two private koi farms, (Pampanga, 144 pieces with a weight range of 10-25 grams) and (Laguna, 156 pieces with a weight range of 2-20 grams) showed negative results for KHV by PCR, cell culture isolation and pathogenicity assay. Examinations/tests conducted by SEAFDEC, Fish Health laboratory.
3	*P. vannanmei* (3 samples) from grow-out farms in Batangas, examined by PCR test showed negative results for TSV. Examinations conducted by BFAR Fish Health laboratory
4	Out of 354 samples (222 *P. monodon*, 94 *P. vannamei*, of different stages; 34 crabs and 4 *Macrobrachium rosenbergii*) examined, 26 samples (10 *P. monodon*, 14 *P. vannamei*, 2 crabs) showed positive results for WSV by PCR test. Examinations conducted by BFAR-Central and Regional Fish Health and NPPMCI laboratories.
5	*P. vannamei* (post-larvae and grow-out) showed positive results by PCR for IHHNV. Examination conducted by SEAFDEC, Fish Health laboratory.
6	*P. vannanmei* (3 samples) from grow-out farms in Batangas, examined by PCR test showed negative results for IMNV. Examinations conducted by BFAR Fish Health laboratory.

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

Country: SINGAPORE **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
6. Red seabream iridoviral disease	0000	0000	0000		
7. Koi herpesvirus disease	(2007)	(2007)	+	III	1
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-		
9. Viral encephalopathy and retinopathy	-	-	-		
10. Enteric septicaemia of catfish	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Abalone viral mortality	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	-	-	-		
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
7. Infectious myonecrosis	***	***	***		
8. White tail disease (MrNV)	***	***	***		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	***	***	***		
10. Milky lobster disease	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. Mullet systemic iridoviral disease					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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	Live samples of imported koi under quarantine, collected from an importer's premises, were tested positive for Koi herpesvirus (KHV) by nested PCR using the IQ2000^{TM} KHV test kit and the CEFAS protocol (TK primer). The samples taken were part of import surveillance. The premises were immediately placed under strict movement control. All koi and in-contact fish were culled and all associated tanks and equipment were disinfected. 9 other importers that imported kois in March 2008 were identified and a total of 12 batches of koi collected from these premises tested negative for KHV by nested PCR. There were no further KHV cases throughout March from subsequent active surveillance and voluntary submissions.

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

Country: SRI LANKA **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. Spring viraemia of carp	?	?	?		
4. Viral haemorrhagic septicaemia	***	***	***		
5. Epizootic ulcerative syndrome (EUS)	+	+	+	II	1
6. Red seabream iridoviral disease	***	***	***		
7. Koi herpesvirus disease	?	?	?		
Non OIE-listed diseases					
8. Grouper iridoviral disease	***	***	***		
9. Viral encephalopathy and retinopathy	***	***	***		
10. Enteric septicaemia of catfish	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
3. Abalone viral mortality	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	***	***	***		
5. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	+	+	+	III	2
3. Yellowhead disease (YH virus, gill-associated virus)	?	?	?		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	+	+	+	II	3
5. Infectious hypodermal and haematopoietic necrosis	?	?	?		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
7. Infectious myonecrosis	***	***	***		
8. White tail disease (MrNV)	***	***	***		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	***	***	***		
10. Milky lobster disease	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

+	Disease reported or known to be present	+( )	Occurrence limited to certain zones
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	***	No information available
		0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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	EUS-Mass mortality was reported from Rathgama Lagoon in Galle in Jan 2008. The affected species showed typical signs related to EUS. The total loss was about 3000 kg. The species affected mainly belonged to Channidae, Leiognathidae, Mastacembalidae and Monodactylidae
2	WSSV-Occurrence was reported from P.monodon wild brooders and post larvae from shrimp hatcheries tested using PCR. However, the prevalence of the disease was very low.
3	BMV-Occurrence was reported from P.monodon post larvae from hatcheries and the prevalence was moderate to high during this period.

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

Country: THAILAND **Period: January-March 2008**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	III	
2. Infectious haematopoietic necrosis	0000	0000	0000	III	
3. Spring viraemia of carp	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia	0000	0000	0000	III	
5. Epizootic ulcerative syndrome (EUS)	-	-	-	II	
6. Red seabream iridoviral disease	0000	0000	0000	III	
7. Koi herpesvirus disease	+	-	-	III	1
Non OIE-listed diseases					
8. Grouper iridoviral disease	-	-	-	III	
9. Viral encephalopathy and retinopathy	-	-	-	III	
10. Enteric septicaemia of catfish	0000	0000	0000	II	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	II	
2. Infection with *Perkinsus olseni*	0000	0000	0000	II	
3. Abalone viral mortality	***	***	***		
Non OIE-listed diseases					
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	
5. Acute viral necrosis (in scallops)	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	-	+	-	III	2
2. White spot disease	+	+	-	III	3
3. Yellowhead disease (YH virus, gill-associated virus)	-	+	-	III	4
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	5
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
7. Infectious myonecrosis	0000	0000	0000		
8. White tail disease (MrNV)	-	-	-		
Non OIE-listed diseases					
9. *Monodon* slow growth syndrome	***	***	***		
10. Milky lobster disease	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. Ranavirus	-	-	-	III	

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Perkinsus marinus*; *Xenohaliotis californiensis*.
Crustaceans: Crayfish plague (*Aphanomyces astaci*).
NOT LISTED BY THE OIE
Finfish: Channel catfish virus disease

a/ Please use the following symbols:

		+( )	Occurrence limited to certain zones
+	Disease reported or known to be present	***	No information available
+?	Serological evidence and/or isolation of causative agent but no clinical diseases	0000	Never reported
		-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(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	One positive KHV record obtained from an imported kois shipment from Japan in January. 279 kois had been quarantined in the approved quarantine house. These imported kois exhibited disease clinical signs with high mortality. All 279 kois (dead and moribund) were finally destroyed and the quarantine house was dis-infected.
2	A total of 405 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 5 specimens or 1.23% recorded as RT-PCR positive or carrying TSV genes that advised to be destroyed.
3	A total of 845 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 15 specimens or 1.78% recorded PCR positive or carrying SEMBV genes that advised to be destroyed.
4	A total of 196 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 1 specimen or 0.51% recorded PCR positive or carrying YHV genes that advised to be destroyed.
5	A total of 672 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 123 specimens or 18.30% recorded as PCR positive or carrying IHHNV genes that advised to be destroyed. The tested specimens did not show disease clinical signs and there was no outbreak due to IHHNV infection in the hatcheries.

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

List of Diseases in the Asia-Pacific
Quarterly Aquatic Animal Disease Report (Beginning 2008)

1. DISEASES PREVALENT IN THE REGION	
1.1 FINFISH DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Epizootic haematopoietic necrosis	1.Grouper iridoviral disease
2. Infectious haematopoietic necrosis	2.Viral encephalopathy and retinopathy
3. Spring viraemia of carp	3.Enteric septicaemia of catfish
4. Viral haemorrhagic septicaemia	
5. Epizootic ulcerative syndrome	
6. Red seabream iridoviral disease	
7. Koi herpes virus disease	
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. Abalone viral mortality	
1.3 CRUSTACEAN DISEASES	
OIE-listed diseases	**Non OIE-listed diseases**
1. Taura syndrome	1. Monodon slow growth syndrome
2. White spot disease	2. Milky lobster syndrome
3. Yellowhead disease (YH virus,gill-associated virus)	
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	
5. Infectious hypodermal and haematopoietic necrosis	
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	
7. Infectious myonecrosis	
8. White tail disease (MrNV)	
1.4 UNKNOWN DISEASES OF A SERIOUS NATURE	
OIE-listed diseases	**Non OIE-listed diseases**
	1. Akoya oyster disease
2. DISEASES PRESUMED EXOTIC TO THE REGION	
2.1 Finfish	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infectious salmon anaemia	1. Channel catfish virus disease
2. Gyrodactylosis (*Gyrodactylus salaris*)	
2.2 Molluscs	
OIE-listed diseases	**Non OIE-listed diseases**
1. Infection with *Bonamia ostreae*	
2. Infection with *Marteilia refringens*	
3. Infection with *Perkinsus marinus*	
4. Infection with *Xenohaliotis californiensis*	
2.3 Crustaceans	
OIE-listed diseases	**Non OIE-listed diseases**
1. Crayfish plague (*Aphanomyces astaci*)	

Recent Aquatic Animal Health Related Publications

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

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

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

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

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

Dodet, B., the OIE Scientific and Technical Department (eds.). **The OIE Global Conference on Aquatic Animal Health.** Dev Biol (Basel), Basel, Karger, Volume 29. 193p.

Aquatic Animal Diseases Significant to Asia-Pacific: Identification Field Guide: NACA and the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF) have recently produced this field guide to support aquatic animal health surveillance, early response and reporting in the region. The field guide drew extensively from the experiences and previous and ongoing research activities in health management in Australia and other countries in Asia and thus joins the growing body of practical knowledge published for Asia-Pacific aquaculture and fisheries. The regional field guide covers all diseases listed in the Quarterly Aquatic Animal Disease (QAAD) reporting system, which includes all OIE listed diseases plus diseases of regional concern. The field guide is available for free download at http://www.enaca.org/modules/news/article.php?storyid=1003

FAO. 2007. Aquaculture development 2. **Health management for the responsible movement of live aquatic animals**. FAO Technical Guidelines for Responsible Fisheries. No. 5, Suppl. 2. Rome, FAO. 2007. 31p. Further information: Rohana.Subasinghe@fao.org

Color Atlas of Fish Histopathology, Volume 2 (2007) by Teruo Miyazaki. The only book on fish histopathology. Highly recommended for private library, institutional libraries, laboratories for studies and education on fish disease. The volume contains 13 RNA viruses, 16 DNA viruses, 7 fungal diseases and 50 parasitic diseases. Downloadable at URL http://briefcase.yahoo.co.jp/yappon1978. Further details from miyazaki@bio.mie-u.ac.jp

Arthur, J.R. & Te, B.Q. 2006. **Checklist of the parasites of fishes of Viet Nam**. FAO Fisheries Technical Paper No. 369/2. Rome, FAO. 133 pp.

OIE Aquatic Animal Health Code, 9th Edition, 2006 and OIE Manual of Diagnostic Tests for Aquatic Animals, 5th Edition, 2006 http://www.oie.int/eng/publicat/en_aqua.htm. The aim of the aquatic animal health code is to assure the sanitary safety of international trade in aquatic animals and their products. This is achieved through the detailing of health measures to be used by the competent authorities of importing and exporting countries to avoid the transfer of agents pathogenic for animals or humans, while avoiding unjustified sanitary barriers. The health measures in the aquatic animal health code (in the form of standards, guidelines and recommendations) have been formally adopted by the OIE international committee, the general assembly of all delegates of OIE Member Countries. The Aquatic Animal Health Code is available on http://www.oie.int/eng/normes/fcode/A_00003.htm. The book may be ordered from pub.sales@oie.int

Way Forward: Building capacity to combat impacts of aquatic invasive alien species and associated trans-boundary pathogens in ASEAN countries: NACA 2005. The Final report of the regional workshop, hosted by the Department of Fisheries, Government of Malaysia, on 12th-16th July 2004. Network of Aquaculture Centres in Asia-Pacific, Bangkok, Thailand. 358pp. www.enaca.org (free download)

Diseases in Asian Aquaculture V. 2005. Walker, P.J., R.G. Lester and M.G. Bondad-Reantaso (editors). Proceedings of the 5th Symposium on Diseases in Asian Aquaculture. Fish Health Section, Asian Fisheries Society, Manila. 635 pp. Contact: suppalak68@yahoo.com.

Aquaculture Biosecurity: Prevention, Control and Eradication of Aquatic Animal Disease. 2006. A. David Scarfe, Cheng-Sheng Lee and Patricia O'Bryen (editors). Blackwell Publishing. 182 pp.

Regional Workshop on Preparedness and Response to Aquatic Animal Health Emergencies in Asia, Jakarta, Indonesia, 21-23 September 2004. Subasinghe, RP. and JR Arthur (editors). FAO Fisheries Proceedings No. 4, Rome, FAO. 2005. 178p.

Responsible use of antibiotics in aquaculture. Hernandez Serrano, P. 2005. FAO Fisheries Technical Paper. No. 469. Rome, FAO. 2005. 97p.

Pathogen and ecological risk analysis for the introduction of blue shrimp, *Litopenaeus stylirostris*, from Brunei Darussalam to Fiji. Bondad-Reantaso, M.G., Lovell, E.R., Arthur, J.R., Hurwood, D. & Mather, P.B. 2005. Secretariat of the Pacific Community, New Caledonia. 80 pp.
http://www.spc.org.nc/aquaculture/site/publications/documents/Stylirostris_BruneiFiji.pdf

Pathogen and ecological risk analysis for the introduction of giant river prawn, *Macrobrachium rosenbergii* from Fiji to the Cooks Islands. Arthur, J.R., Hurwood, D., Lovell, E.R., Bondad-Reantaso, M.G., & Mather, P.B. 2005. Secretariat of the Pacific Community, New Caledonia.
http://www.biosecurity.govt.nz/files/pests-diseases/plants/risk/prawns-ra.pdf

A Colour Atlas of Diseases of Yellowtail (Seriola) Fish: Written by Dr. Mark Sheppard, Canadian veterinarian, a new publication (in Japanese and originally in English) "A Colour Atlas of Diseases of Yellowtail (Seriola) Fish" is now available. A useful diagnostic field guide for fish farmers, fish health professionals, laboratory technicians and students, this book contains 30 pages of high resolution, detailed pathology photomicrographs of most commonly found diseases of yellowtail. More details can be found at http://oberon.ark.com/~svs/index_files/svsindexfile5.html

Histological Techniques for Marine Bivalve Molluscs and Crustaceans: A new publication by DW Howard, EJ Lewis, BJ Keller and CS Smith of the Cooperative Oxford Laboratory, Center for Coastal Environmental Health and Biomolecular Research, National Centers for Coastal Ocean Science, National Ocean Service, NOAA. This is an invaluable guide to histological techniques of shellfish, principally molluscs and crustaceans which every aquatic animal health researcher should have. Those interested to receive copies, please write to the Librarian, Ms Susie Hines at Susie.Hines@noaa.gov

Surveillance and Zoning for Aquatic Animal Diseases.
Subasinghe, R.P., McGladdery, S.E. and Hill, B.J. (eds.). FAO Fisheries Technical Paper. No. 451. Rome, FAO. 2004. 73p. This document contains the recommendations and conclusions of an Expert Consultation on Surveillance and Zoning for Aquatic Animal Diseases' jointly organized by FAO, the Federal Department of Fisheries and Oceans Canada (DFO-Canada) and OIE held in October 2002 at the FAO Headquarters in Rome, Italy. The objective of the consultation was to determine what surveillance options can best support scientifically valid zonation frameworks. Contact: Rohana.Subasinghe@fao.org

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New 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.

[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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Website: **http://www.enaca.org**

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