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QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

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Foreword

The first meeting of the Asia Regional Advisory Group on Aquatic Animal Health was held at the NACA Headquarters, Bangkok, Thailand on 6th-8th November 2002. This high level advisory group, comprised of health experts from governments and the private sector, was constituted by NACA to advise Asian governments on aquatic animal health matters in Asia, and more specifically the implementation of the Asia Regional Technical Guidelines on Health Management and the Responsible Movement of Live Aquatic Animals. The first meeting was very productive, and provided a number of important recommendations on aquatic animal disease control in Asia. The full report will be available on the NACA website (www.enaca.org). A quick summary of some of the recommendations is provided below:

1. The recent suspected outbreak of koi herpes virus (KHV) that has spread rapidly through koi and common carp in Indonesia has re-emphasize the need for effective surveillance programmes of serious aquatic animal disease, and also the need for implementation of the 'Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals'.

2. The continued occurrence of VNN in marine groupers and red spot disease in grass carp was also highlighted during discussions and is a serious concern for the region.

3. Within the region, mollusc diseases are under-estimated and too little attention is given to these species and associated diseases. However, cases of mass mortality outbreaks of molluscs are known to occur in the region and underline the importance of addressing mollusc diseases issues.

4. Recent reports record Taura Syndrome Virus (TSV) spreading in the region, related to the continuous introduction of *P. vannamei,* and highlight concern over possible new pathogens that may be passed on to *P. monodon* and other Asian shrimp species. This is a major development of serious concern. The occurrence of TSV, while generally accepted as being increasingly widespread, is not being officially reported. There is therefore clearly a need to strengthen surveillance and reporting. The group urged any new outbreaks to be rapidly reported to OIE and NACA.

5. Given these elements and in the light of recent changes to the OIE list of aquatic animal diseases notifiable and other significant diseases, the current Quarterly Aquatic Animal Disease (QAAD) list will be revised for reporting during 2003.

6. Viral haemorrhagic septicaemia and MSX disease (*Haplosporidium nelsoni*) have both been reported in the region and need to be moved to the QAAD section "Diseases prevalent in some parts of the region".

7. Although there is as yet no definitive aetiological diagnosis, "Koi mass mortality" and "Akoya oyster disease" will be listed to assist in the collation of data. A short summary of the key epidemiological features of the incident, containing background for concern, case definitions, outbreak investigation, and diagnostic test options, will be prepared and circulated.

8. Epitheliocystis, the mollusc pathogen *Marteilioides chungmuensis* and Grouper iridoviral diseases are of concern in the region and proposed for listing to assist in the collection of occurrence data.

9. The new QAAD form for 2003 will be provided with the AG meeting report that will be circulated soon. Information cards will be provided with regards to the newly included diseases.

10. The group agreed that although there have been considerable improvements in the quality of disease reporting in Asia, the quality of the QAAD should be further improved and suggested approaches to assist in achieving this goal.

11. A future get-together of all NCs, to undertake a three-year review of the reporting system is proposed. If this is not feasible as a meeting of NCs of all participating countries, then NCs' participation in sub-regional meetings should be facilitated.

12. The need to build cooperation between veterinary and fisheries authorities was emphasized strongly, by improving communication between NCs and the Chief Veterinary Officers/OIE national delegates, improving NC access to national experts, and generally promoting in-country networking on disease status;

13. The OIE representation in Tokyo informed that it was important to continue and further develop cooperation in collecting of information. When possible, OIE would like to collaborate in other areas.

Reports Received by the NACA Secretariat

Country: **Australia** Period: **July to September 2002**

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	-(2001)	-(2001)	-(2001)		**1**
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	0000	0000	0000		
5. Viral encephalopathy and retinopathy	-(2002)	+	+	III	2
6. Epizootic ulcerative syndrome (EUS)	-(2002)	-(2002)	+	I	3
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	-(2000)/0000	-(2000)/0000	-(2000)/0000		4
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000/-(2002)	0000/-(2002)	0000/-(2002)		5
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000/-(1996)	0000/-(1996)	0000/-(1996)		6
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	0000/ +	0000/ +	0000/ +	II	7
Crustacean disease					
1. Yellowhead disease*	0000	0000	0000		
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
3. White spot disease*	0000	0000	0000		
4. Baculoviral midgut gland necrosis	0000	0000	0000		
5. Gill associated virus (GAV)	***	***	***		8
6. Spawner-isolated mortality virus disease	-(?)	-(?)	-(?)		9
7. Taura syndrome*	0000	0000	0000		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000		
2. Viral haemorrhagic septicaemia*	0000	0000	0000		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	0000/0000	0000/0000	0000/0000		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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

1. Epidemiological comments:

Comment No.	
1	Epizootic haematopoietic necrosis virus was not reported this period despite passive surveillance, but is known to have occurred in Victoria (last year 2001), New South Wales (last year 2000) and South Australia (last year 1992). Targeted active surveillance and never reported in Tasmania. Passive surveillance and never reported in Northern Territory, Queensland or Western Australia. Annual occurrence of the disease in the Australian Capital Territory, but no laboratory confirmation.
2	Viral encephalopathy and retinopathy was reported from the Northern Territory in August and September 2002 (active targeted surveillance). VER not reported this period despite passive surveillance from Queensland (last occurred earlier in 2002). Not reported this period despite active surveillance from Tasmania (last year 2000) and South Australia (last year 1998). Never reported from New South Wales, Victoria or Western Australia despite passive surveillance. No information available in the Australian Capital Territory.
3	Epizootic ulcerative syndrome was reported from New South Wales in one silver perch (*Bidyanus bidyanus*) farm in September 2002 based on field level diagnosis and targeted active surveillance. EUS was not reported during this period but is known to have occurred earlier in 2002 in Victoria (active surveillance) and Queensland (passive surveilance). Not reported during this quarter from the Northern Territory and Western Australia (despite passive surveillance), but known to have occurred earlier in 2001. Passive surveillance and never reported in South Australia and Tasmania. No information available in the Australian Capital Territory.
4	*Bonamia species:* Not reported during this period despite passive surveillance, but known to have occurred in Western Australia (last year 2000), Tasmania (last year 1999) and Victoria (last year 1993). Now regarded as enzootic in Western Australia. Passive surveillance and never reported in New South Wales, Northern Territory, Queensland and South Australia. No information available in the Australian Capital Territory (no marine water responsibility). *Bonamia ostreae:* Passive surveillance and never reported in New South Wales, Northern Territory, Queensland, South Australia, Tasmania, Victoria and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility).
5	*Marteilia refringens:* Active surveillance and never reported in Tasmania. Passive surveillance and never reported in New South Wales, Northern Territory, Queensland, South Australia, Victoria and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility). *Marteilia sydneyi:* Considered enzootic in Queensland, but lack of diagnostic submissions. Not reported this period despite passive surveillance from New South Wales (last occurrence 2nd quarter 2002), or Western Australia (last year 1994). Active surveillance and never reported in Tasmania. Passive surveillance and never reported in the Northern Territory, South Australia and Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
6	*Mikrocytos mackini*: Active surveillance and never reported in Tasmania. Passive surveillance and never reported in New South Wales, Northern Territory, Queensland, South Australia, Victoria and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility). *Mikrocytos roughleyi:* Active surveillance and never reported in Tasmania. Not reported during this period (passive surveillance) but known to have occurred in New South Wales (last year 1996) and Western Australia (last year 1996). Considered enzootic in Queensland but lack of diagnostic submissions. Passive surveillance and never reported in Northern Territory, South Australia and Victoria. No information available in the Australian Capital Territory (no marine water responsibility).

7	*Perkinsus marinus:* Active surveillance and never reported in Tasmania. Passive surveillance and never reported in New South Wales, Northern Territory, Queensland, Victoria and Western Australia. Never reported from South Australia despite active targeted surveillance. No information available for the Australian Capital Territory (no marine water responsibility). *Perkinsus olseni:* Reported from South Australia in July, August and September 2002 in wild, but not in cultured *Haliotis* spp. (targeted active surveillance). Not reported this quarter despite passive surveillance from New South Wales (last occurred 2nd quarter 2002), or Western Australia (last year 1995). Active surveillance and never reported in Tasmania. Passive surveillance and never reported in Northern Territory, Queensland and Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
8	The relationship between 'Gill Associated Virus' GAV and 'Lymphoid Organ Virus' LOV is unclear to the extent that even the existence of GAV – as a separate and distinguishable virus - is questionable. There is no specific detection test for GAV. The research detection test (a RT-PCR test) recognises LOV. LOV appears widespread in healthy farmed and wild *Penaeus monodon* in Queensland. LOV is considered part of the Mid-crop Mortality Syndrome, but its role in MCMS pathogenesis is unclear.
9	A clear diagnosis of Mid-Crop Mortality Syndrome and MCMS-like syndromes remains problematic. Three different viruses have now been associated with farm mortalities including Spawner-isolated Mortality Virus. The lack of a clear case definition, of readily available detection tests and an apparent role for mixed virus infections, make any conclusion about the incidence of SMV-related epizootics impossible.

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

Country: **Bangladesh** Period: July to September 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	***	***	***		
6. Epizootic ulcerative syndrome (EUS)	***	+	+	I	1
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease	***	***	***		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	***	***	***		
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*					
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	***		
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]	+	+	+	I	2
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:

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

1. Epidemiological comments:

Comment No.	
1	Outbreak of EUS in the Indian major carp and Thai sarputi in Mymensingh region (Central part of the country)
2	*Pangasius sutchi* were seriously affected with bacterial diseases in the fish farms of Mymensingh area
3	
4	
5	
6	
7	
8	

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

Not applicable

Country: **Hong Kong, China** Period: July to September 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	0000	0000	0000	II	
2. Infectious haematopoietic necrosis*	0000	0000	0000	III	
3. *Oncorhynchus masou* virus disease*	0000	0000	0000	II	
4. Infectious pancreatic necrosis	0000	0000	0000	III	
5. Viral encephalopathy and retinopathy	+?(2001)			III	1
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	II	
7. Bacterial kidney disease	0000	0000	0000	III	
8. Red sea bream iridoviral disease	0000	0000	0000	II	
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	0000	0000	0000	II	
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000	II	
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000	0000	0000	II	
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	0000	0000	0000	II	
Crustacean disease					
1. Yellowhead disease*	0000	0000	0000	II	
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	II	
3. White spot disease*	0000	0000	0000	III	
4. Baculoviral midgut gland necrosis	0000	0000	0000	II	
5. Gill associated virus (GAV)	0000	0000	0000	II	
6. Spawner-isolated mortality virus disease	0000	0000	0000	II	
7. Taura syndrome*	0000	0000	0000	II	
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000	III	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	III	
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	0000	0000	0000	II	
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	Retrospective viral studies on 325 fish samples sent to AAHRI (Thailand) returned with 2 samples positive for Betanodavirus using RGNNV-1,2 primer set. One sample was from red sea bream (in May 2000) showing popeye with low level mortality (< 1% per day). The other was from green grouper (*Epinephelus tauvina*) in (July 2001) showing 72% mortalities from vibriosis. No evidence of neurological disease or neuronal vacuolation or necrosis was present in these fish.

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

Country: **Indonesia** Period: July to September 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	***	***	***		
6. Epizootic ulcerative syndrome (EUS)	+( )	+( )	+( )		1
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease					
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	-	-	-		
3. White spot disease*	+	+	+		2
4. Baculoviral midgut gland necrosis	***				
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*					
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	***		
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Suspected Koi herpesvirus (KHV)	+	+	+		3
Unknown diseases of serious nature					
Periodic mass mortality in giant gouramy (*Osphronemus gouramy*)	?	?	?		4

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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

1. Epidemiological comments:

Comment No.	
1	Based on typical clinical signs of EUS, the disease was reported to occur in wild fishes such as Snake head (*Ophiocephalus striatus*), Sand goby (*Oxyeleotrix marmoratus*), Barb (*Leptobarbus hoeveri)* in the Mahakam river of Kalimantan island.
2	Diseases outbreak occurred in most of shrimp farms in Indonesia. *Penaeus monodon* sample sent by shrimp farmers was tested using histology and PCR technique.
3	Based on the clinical history, gross signs and histopathological changes, experimental infection and PCR detection of naturally and experimentally diseased fish, it is strongly suspected that Koi herpesvirus (KHV) is involved on the serious outbreak on koi and common carp in Indonesia.
4	Periodic mass mortality in giant gouramy (*Osphronemus gouramy*) was first reported in 2001 in Purbalingga, Banjarnegara and Banyumas, Central Java. The outbreak mainly occurs during dry season (June to September).

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

1) Directorate General Decree No. 2102/2002 regarding National Fish Health Commission (Effective date: 4 June 2002).

2) Ministerial Decree No. 26/2002 regarding preparation, distribution, application and monitoring of drug for fish (Effective date: 18 June 2002).

3) Ministerial Decree No. 28/2002 officially declared that Java Island as an isolated area of the disease and moving carp and koi from Java Island to other islands are strictly prohibited. In addition, importation of common carp and koi into this country was temporarily not permitted. (Effective date: 2 July 2002).

4) Directorate General Decree No. 3750/2002 regarding national task force on control of disease outbreak in freshwater fish (Effective date: 20 August 2002).

5) Ministerial Decree No.40/2002. This second Ministerial decree associated with serious disease outbreak in koi and carp declared that Java and Bali are pronounced as infected area and movement of live-fish from the Islands to another within the country should follow quarantine check for KHV. Importing koi and common carp is permitted only from free KHV country. (Effective date: 3 October 2002).

Country: **Japan** Period: July to September 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	+	+	+		
3. *Oncorhynchus masou* virus disease*	+	+	+		
4. Infectious pancreatic necrosis	+	+	+		
5. Viral encephalopathy and retinopathy	-	-	+		
6. Epizootic ulcerative syndrome (EUS)	+	+	+		
7. Bacterial kidney disease	+	+	+		
8. Red sea bream iridoviral disease	+	+	+		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	0000	0000	0000		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000	0000	0000		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	0000	0000	0000		
Crustacean disease					
1. Yellowhead disease*	0000	0000	0000		
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
3. White spot disease*	+	+	+		
4. Baculoviral midgut gland necrosis	(1992)	(1992)	(1992)		
5. Gill associated virus (GAV)	0000	0000	0000		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Taura syndrome*	0000	0000	0000		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000		
2. Viral haemorrhagic septicaemia*	-	-	-		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*					1
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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

1. Epidemiological comments:

Comment No.	
1	*Haplosporidium nelsoni* was detected at 2% positive in Pacific oyster (*Crassostrea gigas*) spats collected from the North-eastern part of Japan (see OIE Disease Information on the 5 October, 2001 on the OIE internet homepage). However, mortality or disease of Pacific oyster associated with *H. nelsoni* has not been reported at all. Therefore, the symbol is not described at the portion of Haplosporidiosis in this report form.

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

Country: **Lao PDR** Period: July to September 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	***	***	***		
6. Epizootic ulcerative syndrome (EUS)	***	***	***		
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease	***	***	***		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	***	***	***		
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	***		
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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

1. **Epidemiological comments:**

None

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

Country: **Malaysia** Period: July to September 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	0000	0000	0000		
5. Viral encephalopathy and retinopathy	?	?	?	I	1
6. Epizootic ulcerative syndrome (EUS)	-	-	-		
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	-	-	-		
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
3. White spot disease*	+ ( )	+( )	+( )	III	2
4. Baculoviral midgut gland necrosis	0000	0000	0000		
5. Gill associated virus (GAV)	0000	0000	0000		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Taura syndrome*	0000	0000	0000		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000		
2. Viral haemorrhagic septicaemia*	0000	0000	0000		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature	***	***	***		

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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

1. Epidemiological comments:

Comment No.	
1	These cases were suspected based on clinical observations on *Epinephelus* spp at Pulau Langkawi and Bukit Tambun cage culture systems. Size of affected fishes ranges from 35-100 g. Mortality was about 80% in most of the farms in these areas. Further work was been carried out by using fish cell-lines to confirm the disease.
2	The white spot disease was detected by PCR in Sanglang and Kerpan areas of Kedah, Peninsular Malaysia in pond grown Tiger shrimp (*Penaeus monodon*) juveniles stages (>2g). Out of 13 ponds stocked, 6 were affected with 100% mass mortality. Infected ponds were disinfected with chlorine (30 ppm). Crustaceans like mud crabs and swimming crabs collected from these two areas were confirmed to be carriers for the white spot virus

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

Country: Myanmar Period: July to September 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	0000	0000	0000		
5. Viral encephalopathy and retinopathy	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)					
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*					
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*					
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*					
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*					
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
3. White spot disease*	***	***	***		
4. Baculoviral midgut gland necrosis	0000	0000	0000		
5. Gill associated virus (GAV)					
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Taura syndrome*	0000	0000	0000		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	***		
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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

1. **Epidemiological comments:**

No comment

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

None

Country: **Nepal** Period: July to September 2002

	Disease status [a/]			Level of Diagnosis	Epidemiological Comment Numbers
Diseases prevalent in some parts of the region	Month				
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	***	***	***		
6. Epizootic ulcerative syndrome (EUS)	-	-	-		
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease	***	***	***		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	***	***	***		
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	***		
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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

1. **Epidemiological comments:**

None

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

None

Country: **Philippines** Period: July to September 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	+	+	+	III	1
6. Epizootic ulcerative syndrome (EUS)	-	-	-		2
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease	***	***	***		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	+	-	-	III	3
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	***		
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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

1. Epidemiological comments:

Comment No.	
1	Grouper (*Epinephelus* sp.) of different stages (eggs, 15, 16, 25, 27 and 47 days of culture) from Tigbauan and Guimaras, Iloilo, exmined during the months of July to September 2002 produced positive results for VER by RT-PCR. Examination conducted by SEAFDEC-AQD Fish Health Laboratory
2	No reported case (passive) during the reporting period (July-September 2002)
3	There were 96 batches of *Penaeus monodon* post larvae from hatcheries in Iloilo, Cebu (Visayas), Batangas (Luzon), Misamis oriental (Mindanao) examined during the months of July – September 2002 that produced negative results for WSSV using PCR technique. Examination conducted by the NPPMCI Lab and BFAR-Regional Fish Health Laboratories. *Penaeus monodon* samples from grow-out pond in Bulacan (Luzon) examined during the month of July 2002 produced positive results for WSSV using PCR technique; Examination conducted by SEAFDEC-AQD Fish Health Laboratory.

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

Country: **Singapore** Period: April to June 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	April	May	June		
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	0000	0000	0000		
5. Viral encephalopathy and retinopathy	- (2000)	- (2000)	- (2000)		
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	-	-	-		
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000		
2. Viral haemorrhagic septicaemia*	0000	0000	0000		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]	Nil	Nil	Nil		
Unknown diseases of serious nature	Nil	Nil	Nil		

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:

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

1. **Epidemiological comments:**

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

Country: **Singapore** Period: July to September 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	0000	0000	0000		
5. Viral encephalopathy and retinopathy	- (2000)	- (2000)	- (2000)		
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	-	-	-		
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000		
2. Viral haemorrhagic septicaemia*	0000	0000	0000		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]	Nil	Nil	Nil		
Unknown diseases of serious nature	Nil	Nil	Nil		

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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

1. **Epidemiological comments:**

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

Country: **Sri Lanka** Period: July to September 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	0000	0000	0000		
5. Viral encephalopathy and retinopathy	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	?	?	?	I	1
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	0000	0000	0000		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000	0000	0000	0000	
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	0000	0000	0000		
Crustacean disease					
1. Yellowhead disease*	?	?	?	I	2
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
3. White spot disease*	+	+	+	III	3
4. Baculoviral midgut gland necrosis	0000	0000	0000		
5. Gill associated virus (GAV)	0000	0000	0000		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Taura syndrome*	0000	0000	0000		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000		
2. Viral haemorrhagic septicaemia*	0000	0000	0000		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	0000	0000	0000		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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

1. Epidemiological comments:

Comment No.	
1	Clear visual signs were not reported
2	No symptoms were observed
3	Samples of P/monodon taken from farms and hatcheries showed positive results when tested with PCR amplification for WSSV disease. Intensity of occurrence was low and limited to few locations
4	
5	
6	
7	
8	

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

Aquauculture (monitoring of residues-substances having a pharmacological action, of their metabolites and or other substances transmitted to fish products and likely to be harmful to human health) regulations 2002, published by government gazette no 1.237/19 on 22nd May 2002.

Country: **Thailand** Period: July to September 2002

Diseases prevalent in some parts of the region	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
Finfish diseases	July	August	September		
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	-	-	-	III	
6. Epizootic ulcerative syndrome (EUS)	-	-	-	II	
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease	-	-	-	III	
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	?	?	?	I	
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	+	+	+	III	1
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	-	-	-	III	2
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	-	-	-	III	
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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

1. Epidemiological comments:

Comment No.	
1	A total of 3,866 tiger prawn samples cultured in 29 provinces had been sent to 11 PCR Laboratories of the Department of Fisheries. Most of the prawn samples were post-larvae stage, which were PCR-tested before stocking in culture ponds. 131 samples or 3.4% were recorded as PCR positive or carrying SEMBV gene.
2	65 Pacific white shrimp, *Penaeus vannamei,* brooders were sampled and RT-PCR tested for Taura syndrome virus (TSV) using a commercial kit. The RT-PCR results were negative. All brooders have been stocked in the registered hatcheries for further quarantine. Theirs seeds will be tested again for TSV-free before transfer in to grow-out ponds.

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

List of countries from where reports have not been received

1. **Cambodia**
2. **China**
3. **DPR Korea**
4. **India**
5. **Iran**
6. **Pakistan**
7. **Republic of Korea**
8. **Vietnam**

Related Publications

Asia Diagnostic Guide to Aquatic Animal Diseases. 2001. Bondad-Reantaso, M.G., McGladdery, S.E., East, I. and Subasinghe, R.P. (eds). FAO Fisheries Technical Paper No. 402, Suppl. 2. Rome, FAO. 2001. 236 pp.

Manual of Procedures for the Implementation of the Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals. 2001. FAO/NACA. Fisheries Technical Paper, No. 402, Suppl. 1. FAO, Rome. 103 p.

DNA-based Molecular Diagnostic Techniques: Research Needs for Standardisation and Validation of the Detection of Aquatic Animal Pathogens and Diseases. 2000. (eds. P. Walker and R.P. Subasinghe). FAO Fisheries Technical Paper 395. Report and Proceedings of the Expert Workshop on DNA-based Molecular Diagnostic Techniques: Research Needs for Standardisation and Validation of the Detection of Aquatic Animal Pathogens and Diseases, Bangkok, Thailand, 7-9 February 1999.

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APEC/AAHRI/FHS-AFS/NACA. 2001. Report and proceeding of APEC FWG 02/2000 "Development of a Regional Research Programme on Grouper Virus Transmission and Vaccine Development". M.G. Bondad-Reantaso, J. Humphrey, S. Kanchanakhan and S. Chinabut (eds).

Diagnostic Procedures for Finfish Diseases (by Kamonporn Tonguthai, Supranee Chinabut, Temdoung Somsiri, Pornlerd Chanratchakool, Somkiat Kanchanakhan)

Epizootic Ulcerative Syndrome (EUS) Handbooks. Two new EUS handbooks are available free of charge: (1*) Pathology and Histopathology of EUS* by S. Chinabut and R.J. Roberts; and **(2) *EUS Technical Handbook*** by J.H. Lilley, R.B. Callinan, S. Chinabut, S. Kanchanakhan, I.H. MacRae and M.J. Phillips.

Health Management in Shrimp Ponds. Third Edition (by P. Chanratchakool, JF Turnbull, S.J. Funge-Smith, I.H. MacRae and C Limsuwan).

Information from:
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APEC/FAO/NACA/SEMARNAP. 2001. Trans-Boundary aquatic animal pathogen transfer and the development of harmonised standards on aquaculture health management. Report of the Joint APEC/FAO/NACA/SEMARNAP Workshop, Puerto Vallarta, Jalisco, Mexico, 24-28 July 2000. Network of Aquaculture Centres in Asia-Pacific, Bangkok, Thailand. 197 pp.

Primary Aquatic Animal Health Care in Rural, Small-Scale, Aquaculture Development: Reporty of an Asia Regional Scoping Workshop held in Dhaka, Bangladesh, 27th-30th September 1999. Department for International Development, Food and Agriculture Organization of the United Nations and the Network of Aquaculture Centres in Asia-Pacific. 36 pp.

CD-ROM on Diagnosis of Shrimp Diseases (by V. Alday de Graindorge and T.W. Flegel) This CD-Rom provides detailed information on the diagnosis of shrimp disease, with emphasis on *Peneaus monodon***.**

Information from:
NACA Secretariat
E-mail: naca@enaca.org

OIE International Aquatic Animal Health Code. Fourth edition, 2001.

OIE Diagnostic Manual for Aquatic Animal Diseases. Foruth Edition. 2001

Risk Analysis in Aquatic Animal Health. 2001. Proceedings of an International Conference held in Paris, France, 8-10 February 2000 (C.J. Rogers, ed.).
Information from:
Office International des Epizooties
12, rue de Prony, 75017 Paris, France
Tel: 33-(0)1 44 15 18 88
Fax: 33-(0) 1 42 67 09 87
E-mail: oie@oie.int
Web: http://www.oie.int

Diseases in Penaeid Shrimps in the Philippines. Second Edition (2000). By C.R. Lavilla-Pitogo, G.D. Lio-Po, E.R. Cruz-Lacierda, E.V. Alapide-Tendencia and L.D. de la Pena

Use of Chemicals in Aquaculture in Asia. 2000. J.R. Arthur, C.R. Lavilla-Pitogo and R.P. Subasinghe (eds). Proceedings of the Meeting on the Use of Chemicals in Aquaculture in Asia, 20-22 May 1996, Tigbauan, Iloilo, Philippines.

Diseases of Penaeid Shrimps in the Philippines. 2000. by C.R. Lavilla-Pitogo, G.D. Lio-Po, E.R. Cruz-Lacierda, E.V. Alapide-Tendencia and L.D. de la Pena. Aquaculture Extension Manual No. 16.

Health Management in Aquaculture. 2001. G.D. Lio-Po, C.R. Lavilla, E.R. Cruz-Lacierda (eds).

Husbandry and Health Management of Grouper. 2001. APEC/SEAFDEC. APEC, Singapore and SEAFDEC, Iloilo, Philippines. 94 p.

Information from:
Training and Information Division
SEAFDEC Aquaculture Department
5021 Tigbauan, Iloilo, Philippines
Fax: (63-33) 335 1008 336 2891
E-mail: aqdchief@aqd.seafdec.org.ph

Reference PCR Protocols for Detection of White Spot Syndrome Virus (WSSV) in Shrimp. Shrimp Biotechnology Service Laboratory. Vol. 1, No. 1, March 2001
Information from:
Shrimp Biotechnology Service Laboratory
73/1 Rama 6 Rd., Rajdhewee, Bangkok 10400
Tel: (662) 644-8150
Fax: (662) 644-8107

Manual for Fish Disease Diagnosis - II: Marine Fish and Crustacean Diseases in Indonesia (2001) by Isti Koesharyani, Des Roza, Ketut Mahardika, Fris Johnny, Zafran and Kei Yuasa, edited by K. Sugama, K. Hatai, and T Nakai
Information frrom:
Gondol Research Station for Coastal Fisheries
P.O. Box 140 Singaraja, Bali, Indonesia
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Fax: (62) 362 92272

AQUAPLAN Zoning Policy Guidelines
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List of Diseases in the Asia-Pacific Quarterly Aquatic Animal Disease Reports (beginning 2002)

Diseases prevalent in some parts of the region

Finfish Diseases:	Epizootic haematopoietic necrosis*
	Infectious haematopoietic necrosis*
	Oncorhynchus masou virus disease*
	Infectious pancreatic necrosis*
	Viral encephalopathy and retinopathy*
	Epizootic ulcerative syndrome (EUS)
	Bacterial kidney disease
	Red sea bream iridoviral disease
Mollusc Diseases:	Bonamiosis (*Bonamia* sp., *B. ostreae*)*
	Marteiliosis (*Marteilia refringens*, *M. sydneyi*)*
	Microcytosis (*Mikrocytos mackini*, *M. roughleyi*)*
	Perkinsosis (*Perkinsus marinus*, *P. olseni*)*
Crustacean Disease:	Yellowhead disease*
	Infectious hypodermal and haematopoietic necrosis (IHHN)
	White spot disease*
	Baculoviral midgut gland necrosis
	Gill associated virus (GAV)
	Spawner mortality syndrome ('Midcrop mortality syndrome')
	Taura syndrome*

Diseases presumed exotic to the region, but reportable to OIE

Finfish Diseases:	Spring viremia of carp*
	Viral haemorrhagic septicaemia*
Mollusc Diseases:	Haplosporidiosis (*Haplosporidium costale*, *H.nelsoni*)*

Any other diseases of importance: In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:

Finfish Diseases:	Channel catfish virus disease
	Infectious salmon anaemia
	Piscirickettsiosis
	Gyrodactylosis (*Gyrodactylus salaris*)
	Enteric septicaemia of catfish
	White sturgeon iridoviral disease
Mollusc Diseases:	Iridovirus (Oyster velar disease)
Crustacean Diseases:	Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*)
	Crayfish plague (*Aphanomyces astaci*)
	Taura syndrome
	Necrotising hepatopancreatitis

*OIE notifiable diseases

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 occurrence of a disease in question is sporadic but it is known to be present. However the occurrence is relatively rare.
+?	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

Notes

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