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QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

July-September 1999

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Foreword

This is the fifth issue of the *Asia-Pacific Quarterly Aquatic Animal Disease Report*, and covers the second quarter period July to September 1999.

This FAO/NACA Regional Technical Cooperation Programme (TCP) “Assistance for Responsible Movement of live Aquatic Animals” (TCP/RAS/6714) in cooperation with national governments and various regional and international organizations notably the Aquatic Animal Health Research Institute (AAHRI) of Thailand’s Department of Fisheries, the Australian Agency for International Development (AusAID), the Agriculture, Fisheries and Forestry of Australia (AFFA), AusVet Animal Health Services, continue to provide technical and financial assistance in establishing national aquatic animal disease reporting systems in a number of governments. Between July and December 1999, workshops on disease surveillance and reporting have been conducted in China, Thailand and the Philippines. The workshop in the Philippines was participated by Hong Kong SAR, Malaysia and Thailand.

Gradually and with the strong cooperation from national governments and co-operating donor agencies, we hope to see an improve surveillance and reporting capability using a higher level of surveillance for most countries within the Asia-Pacific.

Reports Received by the NACA Secretariat

Country: **Australia**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	-(1996)	-(1996)	-(1996)	1
2. Infectious haematopoietic necrosis*	0000	0000	0000	
3. <i>Oncorhynchus masou</i> virus disease*	0000	0000	0000	
4. Infectious pancreatic necrosis	0000	0000	0000	
5. Viral encephalopathy and retinopathy	-(1999)	-(1999)	+	2
6. Epizootic ulcerative syndrome (EUS)	+	+	+	3
7. Bacterial kidney disease	0000	0000	0000	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	+/0000	-(1999)/0000	-(1999)/0000	4
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	0000/-(1999)	0000/-(1999)	0000/-(1999)	5
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	0000/-(1996)	0000/-(1996)	0000/-(1996)	6
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	0000/-(1997)	0000/-(1997)	0000/-(1997)	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 mortality syndrome('Midcrop mortality syndrome')	***	***	***	9
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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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: Australia

Comment No.	Epidemiological comment
1	Epizootic haematopoietic necrosis (EHN) not reported during this period but known to have occurred in New South Wales (last year 1996), Victoria (last year 1996) and South Australia (1992). Targeted active surveillance and never reported in Tasmania and Western Australia. Passive surveillance in New South Wales, South Australia and Victoria. Passive surveillance and never reported in Northern Territory and Queensland. Annual occurrence of the disease in the Australian Capital Territory, but no laboratory confirmation.
2	Reported in September in Queensland, based on histology. Not reported in Northern Territory during this period (targeted surveillance) but known to have occurred (last year- 1994). Not reported in South Australia since an isolated outbreak in July 1998 despite passive surveillance by histology. Passive surveillance and never reported in New South Wales, Tasmania, Victoria and Western Australia. No information available in the Australian Capital Territory.
3	Reported from Queensland and Northern Territory in July and August and again in September from Northern Territory (histology). Not report but known to have occurred earlier in 1997 in New South Wales and in 1998 in Western Australia (passive surveillance). Passive surveillance and never reported in South Australia, Tasmania and Victoria. No information available in the Australia Capital Territory.
4	<i>Bonamia</i> species: Reported from Tasmania and Western Australia in July. Regarded as enzootic in Western Australia. Not reported during this period but known to have occurred in Victoria (last year 1993). Passive surveillance and never reported in New South Wales, Northern Territory, Queensland and South Australia. No information available in the Australia Capital Territory (no marine water responsibility). <i>Bonamia ostreae</i> : Passive surveillance and never reported in New South Wales, Northern Territory, Queensland, South Australia, Tasmania, Victoria and Western Australia. No information available in the Australia Capital Territory (no marine water responsibility).
5	<i>M. refringens</i> : 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). <i>M. sydneyi</i> : Not reported during this period (passive surveillance) but known to have occurred earlier in 1999 in New South Wales. Considered enzootic in Queensland, but lack of diagnostic submissions. Not reported during this period (passive surveillance) but known to have occurred in Western Australia (last year 1994). Active surveillance and never reported in Tasmania. Passive surveillance and never reported in Northern Territory, South Australia and Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
6	<i>M. mackini</i> : 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). <i>M. roughleyi</i> : 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	<i>P. marinus</i> : 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 for the Australian Capital Territory (no marine water responsibility). <i>P. olseni</i> : Not reported during this period (passive surveillance) but known to have occurred in South Australia (last year 1997); New South Wales and 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) recognised LOV. LOV appears widespread in healthy and wild <i>Penaeus monodon</i> in Queensland. LOV is considered part of the Mid-crop Mortality Syndrome, but its role in MCMS pathogenesis is unclear.
9	‘Midcrop Mortality Syndrome’ MCMS is general term used to describe presumed virus associated mortality in pond reared prawns. Several viral agents have been associated with MCMS outbreaks, including ‘Spawner-isolated Mortality Virus’ SMV (‘Spawner Mortality Syndrome’).

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

Country: **Bangladesh**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*				
2. Infectious haematopoietic necrosis*				
3. <i>Oncorhynchus masou</i> virus disease*				
4. Infectious pancreatic necrosis				
5. Viral encephalopathy and retinopathy				
6. Epizootic ulcerative syndrome (EUS)				
7. Bacterial kidney disease				
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*				
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*				
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*				
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*				
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 mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*				
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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	
2	

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

Country: **Cambodia**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*				
2. Infectious haematopoietic necrosis*				
3. <i>Oncorhynchus masou</i> virus disease*				
4. Infectious pancreatic necrosis				
5. Viral encephalopathy and retinopathy				
6. Epizootic ulcerative syndrome (EUS)				
7. Bacterial kidney disease				
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*				
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*				
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*				
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*				
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 mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*				
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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment

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

Country: **People's Republic of China**

Period:

July to September 1999

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	0000	0000	0000	
2. Infectious haematopoietic necrosis*	-	-	-	
3. <i>Oncorhynchus masou</i> 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)	0000	0000	0000	
7. Bacterial kidney disease	0000	0000	0000	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	0000	0000	0000	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	0000	0000	0000	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	0000	0000	0000	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	0000	0000	0000	
Crustacean disease				
1. Yellowhead disease*	***	***	***	
2. Infectious hypodermal and haematopoietic necrosis	***	***	***	
3. White spot disease*	+	+	+	
4. Baculoviral midgut gland necrosis	0000	0000	0000	
5. Gill associated virus (GAV)	0000	0000	0000	
6. Spawner mortality syndrome('Midcrop mortality syndrome')	***	***	***	
Diseases presumed exotic to the region, but reportable to the OIE				
Finfish diseases				
1. Spring viraemia of carp*	***	***	***	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	
Mollusc diseases				
1. Haplosporidiosis (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	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**Molluscs:** Iridovirus (Oyster velar disease)**Crustaceans:** Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	

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

No new regulations introduced

Country: **Hong Kong SAR**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	***	***	***	
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***	
4. Infectious pancreatic necrosis	***	***	***	
5. Viral encephalopathy and retinopathy	***	***	***	
6. Epizootic ulcerative syndrome (EUS)	***	***	***	
7. Bacterial kidney disease	***	***	***	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	***	***	***	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	***	***	***	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	***	***	***	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	***	***	***	
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 mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	***	***	***	
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**Molluscs:** Iridovirus (Oyster velar disease)**Crustaceans:** Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment

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

No new aquatic animal health regulations have been introduced.

Country: **India**Period: **April to June 1999**

Item	Disease status ^a			Comment numbers
	April	May	June	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	?	?	?	
2. Infectious haematopoietic necrosis*	0000	0000	0000	
3. <i>Oncorhynchus masou</i> virus disease*	0000	0000	0000	
4. Infectious pancreatic necrosis	?	?	?	
5. Viral encephalopathy and retinopathy	0000	0000	0000	
6. Epizootic ulcerative syndrome (EUS)	+()	+()	+()	1
7. Bacterial kidney disease	0000	0000	0000	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	0000	0000	0000	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	0000	0000	0000	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	0000	0000	0000	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	0000	0000	0000	
Crustacean disease				
1. Yellowhead disease*	-	-	-	
2. Infectious hypodermal and haematopoietic necrosis	?	?	?	
3. White spot disease*	+()	+()	+()	2
4. Baculoviral midgut gland necrosis	0000	0000	0000	
5. Gill associated virus (GAV)	0000	0000	0000	
6. Spawner mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	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**Molluscs:** Iridovirus (Oyster velar disease)**Crustaceans:** Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	The Epizootic Ulcerative Syndrome (EUS) is largely prevalent in freshwater fishes. Initially it affects the bottom dwelling species like murels followed by catfishes and weed fishes. The lesions start as small grain to pea sized haemorrhagic spots over the body which ultimately turn into big ulcers.
2	White spot disease has been noticed in some coastal shrimp farms. Two shrimp viruses have been reported to cause the problems, viz. Monodon Baculovirus (MBV) which affects predominantly larvae and juveniles and White Spot Syndrome Virus (WSSV) which affects all age groups

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

Country: **India**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	0000	00000	0000	
2. Infectious haematopoietic necrosis*	0000	0000	0000	
3. <i>Oncorhynchus masou</i> 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)	+()	+()	+()	1
7. Bacterial kidney disease				
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	0000	0000	0000	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	0000	0000	0000	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	0000	0000	0000	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	0000	0000	0000	
Crustacean disease				
1. Yellowhead disease*	0000	0000	0000	
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	
3. White spot disease*	+()	+()	+()	2
4. Baculoviral midgut gland necrosis	0000	0000	0000	
5. Gill associated virus (GAV)	0000	0000	0000	
6. Spawner mortality syndrome ('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	The Epizootic Ulcerative Syndrome (EUS) is largely prevalent in freshwater fishes. Initially it affects the bottom dwelling species like murrels followed by catfishes and weed fishes. The lesions start as small grain to pea sized haemorrhagic spots over the body which ultimately turn into big ulcers.
2	White spot disease has been noticed in some coastal shrimp farms on the east coast of India. The disease is observed to affect all age groups of shrimp in culture systems.

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

No.

Country: **Indonesia**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	***	***	***	
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***	
4. Infectious pancreatic necrosis	-	-	-	
5. Viral encephalopathy and retinopathy	***	-	-	
6. Epizootic ulcerative syndrome (EUS)	-	-	***	
7. Bacterial kidney disease	-	-	+	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*				
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*				
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*				
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*				
Crustacean disease				
1. Yellowhead disease*	-	-	-	1
2. Infectious hypodermal and haematopoietic necrosis	-	-	-	
3. White spot disease*	+	-	+	
4. Baculoviral midgut gland necrosis	-	-	-	
5. Gill associated virus (GAV)	-	-	-	
6. Spawner mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*				
Any other diseases of importance^b				
Parasite	-	+	-	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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	Other disease found in crustaceans during the reporting period include HPV, bacteria, rickettsia and MBV.
2	Parasites among finfishes were found during the reported period and includes <i>Cryptocaryon</i> , <i>Vermes</i> , <i>Vorticella</i> , <i>Zo-othamnium</i> .

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

Country: **Iran**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*				
2. Infectious haematopoietic necrosis*				
3. <i>Oncorhynchus masou</i> virus disease*				
4. Infectious pancreatic necrosis				
5. Viral encephalopathy and retinopathy				
6. Epizootic ulcerative syndrome (EUS)				
7. Bacterial kidney disease				
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*				
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*				
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*				
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*				
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 mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*				
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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment

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

Country: **Japan**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	0000	0000	0000	
2. Infectious haematopoietic necrosis*	+	+	+	
3. <i>Oncorhynchus masou</i> virus disease*	+	+	+	
4. Infectious pancreatic necrosis	+	+	+	
5. Viral encephalopathy and retinopathy	-	-	-	
6. Epizootic ulcerative syndrome (EUS)	-	+	-	
7. Bacterial kidney disease	+	+	+	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	0000	0000	0000	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	0000	0000	0000	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	0000	0000	0000	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	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 mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	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**Molluscs:** Iridovirus (Oyster velar disease)**Crustaceans:** Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment

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

Country: **Korea (DPR)**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*				
2. Infectious haematopoietic necrosis*				
3. <i>Oncorhynchus masou</i> virus disease*				
4. Infectious pancreatic necrosis				
5. Viral encephalopathy and retinopathy				
6. Epizootic ulcerative syndrome (EUS)				
7. Bacterial kidney disease				
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*				
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*				
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*				
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*				
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 mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*				
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**Molluscs:** Iridovirus (Oyster velar disease)**Crustaceans:** Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment

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

Country: **Korea (RO)**Period: **April to June 1999**

Item	Disease status ^a			Comment numbers
	April	May	June	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	-	-	-	
3. <i>Oncorhynchus masou</i> virus disease*	?	?	?	
4. Infectious pancreatic necrosis	?	?	?	
5. Viral encephalopathy and retinopathy	?	?	?	
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	
7. Bacterial kidney disease	0000	0000	0000	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	0000	0000	0000	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	0000	0000	0000	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	0000	0000	0000	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	?	?	?	
Crustacean disease				
1. Yellowhead disease*	0000	0000	0000	
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	
3. White spot disease*	+	+	+	1
4. Baculoviral midgut gland necrosis	?	?	?	
5. Gill associated virus (GAV)	0000	0000	0000	
6. Spawner mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	0000	0000	0000	
Any other diseases of importance^b				
Gyrodactylosis (<i>Gyrodactylus salaris</i>)	0000	0000	0000	
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**Molluscs:** Iridovirus (Oyster velar disease)**Crustaceans:** Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	White spot disease of cultured <i>Penaeus chinensis</i> made mass mortalities on the western coast of Korea

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

Country: **Korea (RO)**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	-	-	-	
3. <i>Oncorhynchus masou</i> virus disease*	?	?	?	
4. Infectious pancreatic necrosis	?	?	?	
5. Viral encephalopathy and retinopathy	?	?	?	
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	
7. Bacterial kidney disease	0000	0000	0000	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	0000	0000	0000	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	0000	0000	0000	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	0000	0000	0000	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	?	?	?	
Crustacean disease				
1. Yellowhead disease*	0000	0000	0000	
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	
3. White spot disease*	+	+	+	1
4. Baculoviral midgut gland necrosis	?	?	?	
5. Gill associated virus (GAV)	0000	0000	0000	
6. Spawner mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	White spot disease of cultured <i>Penaeus chinensis</i> made mass mortalities on the western coast of Korea

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

Country: **Lao PDR**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	***	***	***	
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***	
4. Infectious pancreatic necrosis	***	***	***	
5. Viral encephalopathy and retinopathy	***	***	***	
6. Epizootic ulcerative syndrome (EUS)	***	***	***	
7. Bacterial kidney disease	***	***	***	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	***	***	***	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	***	***	***	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	***	***	***	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	***	***	***	
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 mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	***	***	***	
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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	

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

Country: **Malaysia**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	0000	0000	0000	
2. Infectious haematopoietic necrosis*	0000	0000	0000	
3. <i>Oncorhynchus masou</i> 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	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	***	***	***	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	***	***	***	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	***	***	***	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	***	***	***	
Crustacean disease				
1. Yellowhead disease*	-	-	-	
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	
3. White spot disease*	+	+	+	1
4. Baculoviral midgut gland necrosis	0000	0000	0000	
5. Gill associated virus (GAV)	0000	0000	0000	
6. Spawner mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	***	***	***	
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**Molluscs:** Iridovirus (Oyster velar disease)**Crustaceans:** Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	A total of 305 PCR tests for White Spot Virus (WSV) on tiger shrimp (<i>P.monodon</i>) were conducted. Of these tests, 4 positive cases were reported in July and August and one in September. Of the positive cases in July, one was from a grow-out pond in Johore and 3 involving post-larvae in hatcheries from Sabah. Three cases detected in August were from grow-out ponds, i.e., one each in Jahore, Selangor and Negeri Sembilan. A single case reported in September, was from a grow-out pond in Negeri Sembilan. In the month of July, 2 outbreaks were diagnosed by histopathology, i.e., one in Kuala Muda, Kedah and Kuala Langat, Selangor affecting grow-out ponds with population 150,000 heads each. The affected parties were advised to follow proper disposal methods including chlorination as well as break cycle.

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

- NIL -

Country: **Myanmar**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	1,2
2. Infectious haematopoietic necrosis*	***	***	***	
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***	
4. Infectious pancreatic necrosis	***	***	***	
5. Viral encephalopathy and retinopathy	***	***	***	
6. Epizootic ulcerative syndrome (EUS)	***	***	***	
7. Bacterial kidney disease	***	***	***	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	***	***	***	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	***	***	***	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	***	***	***	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	***	***	***	
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 mortality syndrome ('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	***	***	***	
Any other diseases of importance^b				
Parasitic cysts of black and round were observed in gill region of <i>Pangasius sutchi</i>		***	-	
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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	Diseases are generally assumed by superficial observation. Methodologies are required for detail diagnosis
2	Diagnosis methods and materials are required.
3	Cultivation of mollusc is not yet famous. However, disease management regime is required for future cultivation and conservation of natural oyster beds.
4	Organising and educate the fishfarmers and fishermen to control prevailing of diseases.

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

None

Country: **Nepal**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	***	***	***	
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***	
4. Infectious pancreatic necrosis	***	***	***	
5. Viral encephalopathy and retinopathy	***	***	***	
6. Epizootic ulcerative syndrome (EUS)	+	***	+	1,2
7. Bacterial kidney disease	***	***	***	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	***	***	***	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	***	***	***	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	***	***	***	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	***	***	***	
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 mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	***	***	***	
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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	EUS was reported in the local fish species such as <i>Puntius</i> sp., <i>Murrel</i> sp. In the range of about 10% in the natural water bodies such as swamps in Dhanusha and Mahottary Districts.
2	EUS was reported to occur in the cultured fish species like <i>Cirrhinus mirgala</i> up to 15% range in the districts of Dhanusha, Mahottary, Bara, Jhapa, Siraha, Dang and Bardia.

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

No new aquatic animal health regulation was introduced in this period. A twenty year Fisheries Master Plan under Agricultural Prospective Plan for Nepal is under consideration, in which adequate aquatic animal health management regulations and fish quarantine act is envisaged and expected to be implemented from the end of Ninth Five Year Plan Period (1997 to 2002).

Country: **Pakistan**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*				
2. Infectious haematopoietic necrosis*				
3. <i>Oncorhynchus masou</i> virus disease*				
4. Infectious pancreatic necrosis				
5. Viral encephalopathy and retinopathy				
6. Epizootic ulcerative syndrome (EUS)				
7. Bacterial kidney disease				
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*				
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*				
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*				
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*				
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 mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*				
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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	
2	

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

Country: **Philippines**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	***	***	***	
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***	
4. Infectious pancreatic necrosis	***	***	***	
5. Viral encephalopathy and retinopathy	0000	0000	0000	1
6. Epizootic ulcerative syndrome (EUS)	-	-	-	2
7. Bacterial kidney disease	***	***	***	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	***	***	***	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	***	***	***	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	***	***	***	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	***	***	***	
Crustacean disease				
1. Yellowhead disease*	+	-	-	3
2. Infectious hypodermal and haematopoietic necrosis	-	-	-	
3. White spot disease*	+	-	-	4
4. Baculoviral midgut gland necrosis	0000	0000	0000	
5. Gill associated virus (GAV)	0000	0000	0000	
6. Spawner mortality syndrome('Midcrop mortality syndrome')	***	***	***	5
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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	***	***	***	
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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	Passive surveillance and no reported case (clinical manifestation) of the disease during the reporting period. The disease is suspected but not yet confirmed to be present in the country.
2	Fish samples (snakehead) submitted to the BFAR Fish Health Laboratory on 28 July 1999 from Lake Siloton, Lake Sebu, South Cotabato (Mindanao) showed positive for EUS. H&E and Grocott's stained tissue sections showed fungal granuloma and fungal hyphae. Passive surveillance and no reported case of EUS during the months of August and September 1999.
3	<i>Penaeus monodon</i> post larvae from hatcheries in Tagkawayan and Calauag, Quezon (Luzon) examined using combined SDS Western Blot Enzyme Immunoassays at the University of Philippines at Los Banos (UPLB), Biotechnology showed positive results.
4	<i>P. monodon</i> post larvae from hatcheries in Tagkawayan and Calauag, Quezon (Luzon) examined using PCR technology at the UPLB Biotechnology showed positive results. <i>P. monodon</i> post larvae sample from hatchery in Calatagan, Batangas showed negative results. No reported case (passive) of the disease in <i>P. monodon</i> grow-out ponds.
5	Information available was in 1998, when samples of <i>P. monodon</i> from selected grow-out farms were sent to Australia in October 1998 (Dr. Leigh Owens of James Cook University). Examination of the samples by in-situ hybridisation using Spawner Mortality Virus (SMV) probe produced positive results.

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

Country: **Singapore**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	0000	0000	0000	
2. Infectious haematopoietic necrosis*	0000	0000	0000	
3. <i>Oncorhynchus masou</i> virus disease*	0000	0000	0000	
4. Infectious pancreatic necrosis	0000	0000	0000	
5. Viral encephalopathy and retinopathy	-	-	-	1
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	
7. Bacterial kidney disease	0000	0000	0000	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	0000	0000	0000	2
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	0000	0000	0000	2
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	0000	0000	0000	2
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	0000	0000	0000	2
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	0000	0000	0000	
5. Gill associated virus (GAV)	0000	0000	0000	
6. Spawner mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	0000	0000	0000	2
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**Molluscs:** Iridovirus (Oyster velar disease)**Crustaceans:** Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	Viral Encephalopathy and Retinopathy –last major outbreak reported in Nov/Dec 1997 in seabass fry; 2 isolated cases confirmed by PCR in a batch of seabass fry and a batch of golden trevally fry in April 99.
2	No oyster farming in Singapore

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

None

Country: **Sri Lanka**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
1. Epizootic haematopoietic necrosis*	0000	0000	0000	
2. Infectious haematopoietic necrosis*	0000	0000	0000	
3. <i>Oncorhynchus masou</i> 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)	0000	0000	0000	
7. Bacterial kidney disease	0000	0000	0000	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	0000	0000	0000	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	0000	0000	0000	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	0000	0000	0000	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	0000	0000	0000	
Crustacean disease				
1. Yellowhead disease*	0000	0000	0000	
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	
3. White spot disease*	+	+	+	1
4. Baculoviral midgut gland necrosis	0000	0000	0000	
5. Gill associated virus (GAV)	0000	0000	0000	
6. Spawner mortality syndrome('Midcrop mortality syndrome')	0000	?	+	2
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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	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**Molluscs:** Iridovirus (Oyster velar disease)**Crustaceans:** Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	White spot disease was continuously observed throughout the period under review.
2	With the onset of rains, the syndrome was reported in September 1999.

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

Country: **Thailand**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	***	***	***	
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***	
4. Infectious pancreatic necrosis	***	***	***	
5. Viral encephalopathy and retinopathy	-	-	-	
6. Epizootic ulcerative syndrome (EUS)	-	+	-	1
7. Bacterial kidney disease	***	***	***	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	***	***	***	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	***	***	***	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	***	***	***	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	***	***	***	
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 mortality syndrome('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	***	***	***	
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

Molluscs: Iridovirus (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	The affected fish was giant gouramin (5 cm in length). Mycotic granulomas were found in the body. However, the fungal isolation was failed. The specimens were collected from one farm in Bangkok. Death toll was 2,000 fish from 10,000 fish.
2	PCR diagnosis during this period found 185 positive samples from 3,034 tested tiger prawn samples.

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

Country: **Vietnam**Period: **July to September 1999**

Item	Disease status ^a			Comment numbers
	July	August	September	
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	***	***	***	
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***	
4. Infectious pancreatic necrosis	***	***	***	
5. Viral encephalopathy and retinopathy	***	***	***	
6. Epizootic ulcerative syndrome (EUS)	***	***	***	
7. Bacterial kidney disease	***	***	***	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	0000	0000	0000	
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	0000	0000	0000	
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	0000	0000	0000	
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	0000	0000	0000	
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 mortality syndrome ('Midcrop mortality 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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	0000	0000	0000	
Any other diseases of importance^b				
Red spot disease in grass carp	-	-	-	
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**Molluscs:** Iridovirus (Oyster velar disease)**Crustaceans:** Nuclear polyhedrosis baculovirus (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; 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.	Epidemiological comment
1	
2	
3	
4	
5	
6	
7	
8	

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

No.

Related Events and Publications

NACA-AAHRI Shrimp Health Management Training /Workshop, 18-23 October 1999

Information from:

NACA secretariat, Email: naca@fisheries.go.th

Philippine National Training Workshop I: Import Risk Analysis, Cebu City, Philippines, 15-17 November 1999.

Philippine National Workshop II: Disease Surveillance and Reporting and Contingency Planning for Aquatic Animal Disease Emergencies, Cebu, Philippines, 18-20 November 1999.

Information from:

NACA secretariat

E-mail: naca@fisheries.go.th

Fourth symposium on Disease in Asian Aquaculture “ Aquatic Animal Health for Sustainability”, 22-26 November 1999, Cebu International Convention Centre, Waterfront Cebu City Hotel

Information from:

Symposium secretariat, e-mail: afs-fhs@seafdec.org.ph

WB/NACA/WWF/FAO Programme on Shrimp Farming and the Environment-Thematic Review on Management Strategies for Major Diseases in Shrimp Aquaculture: A Workshop, Cebu City, Philippines, 28-30 November 1999.

Information from:

NACA secretariat

E-mail: naca@fisheries.go.th

R. Subassinghe, FAO, Rome

E-mail: naca@fisheries.go.th

Regional Health Management Training Course for Bivalve Mollusc, 29 November-3 December 1999, Philippines

Information from:

NACA secretariat

E-mail: naca@fisheries.go.th

International conference on Risk Analysis in Aquatic Animal Health: Paris, 8-10 February 2000

Information from:

Dr. K. Sugiura

Office International des Epizootic (OIE)

Email: k.sugiura@oie.int; Web site: <http://www.oie.int>

Conference: Aquaculture in the Third Millenium, Bangkok, Thailand, 20-25 February 2000

Information from:

NACA secretariat, Email: naca@fisheries.go.th

CD-Rom on Diagnosis of Shrimp Diseases (by 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

Email: naca@fisheries.go.th

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.

Information from:

Project Manager, Southeast Asia Aquatic Disease Control Project (SEAADCP)
Aquatic Animal Health Research Institute (AAHRI)
Thailand's Department of Fisheries, Kasetsart University Campus, Jatujak, Bangkok 10900
Email: aaagri@fisheries.go.th

Health Management in Shrimp Ponds. 3rd edition (by Chanratchakool, JF Turnbull, SJ Funge-Smith, IH MacRae and C. Limsuwan).

Information from:

Project Manager
Southeast Asia Aquatic Disease Control Project (SEAADCP)
Aquatic Animal Health Research Institute (AAHRI)
Thailand's Department of Fisheries, Kasetsart University Campus, Jatujak, Bangkok 10900
E-mail: aaagri@fisheries.go.th

ADB/NACA –Report on a Regional Study and Workshop: Aquaculture Sustainability and the Environment

Information from:

NACA secretariat
Email: naca@fisheries.go.th

**Conference on Aquaculture in the Third Millennium, 20-25 February 2000
Bangkok Convention Centre, Bangkok, Thailand**

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**List of Diseases in the
Asia-Pacific Quarterly Aquatic Animal Disease Reports**

Diseases prevalent in some parts of the region

Finfish Diseases:	Epizootic haematopoietic necrosis*
	Infectious haematopoietic necrosis*
	<i>Oncorhynchus masou</i> virus disease*
	Infectious pancreatic necrosis*
	Viral encephalopathy and retinopathy*
	Epizootic ulcerative syndrome (EUS)
	Bacterial kidney disease
Mollusc Diseases:	Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*
	Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*
	Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*
	Perkinsosis (<i>Perkinsus marinum</i> , <i>P. olseni</i>)*
Crustacean Diseases:	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')

Diseases presumed exotic to the region, but reportable to OIE

Finfish Diseases:	Spring viremia of carp*
	Viral Haemorrhagic septicaemia*
Mollusc Diseases:	Haplosporidiosis (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*

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 (<i>Gyrodactylus salaris</i>)
	Enteric septicaemia of catfish
Mollusc Diseases:	Iridovirus (Oyster velar disease)
Crustacean Diseases:	Nuclear polyhedrosis baculovirosis (<i>Baculovirus penaei</i>)
	Crayfish plague (<i>Aphanomyces astaci</i>)
	Taura syndrome
	Necrotising hepatopancreatitis

* OIE notifiable diseases

Instructions on how to fill in the QUARTERLY AQUATIC ANIMAL DISEASE REPORT

(Revised during the second workshop)

Symbols used in the report are similar to those used by FAO, OIE and WHO for the animal Health Yearbook. Please read this instruction carefully before you fill in the forms.

Under the heading “Month” please enter months of a quarter in question, e.g. July, August, September.

In “Comment Numbers” on page1, please enter serial number, and write your corresponding comments on page2, See Section C below.

If an unknown disease of serious nature appears, please fill in the line of the form and add epidemiological comments on page2.

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).
- oooo 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 disease, but no confirmed reported is available. **It is important that the species of animals to which it applies is indicated in the “Comments” on page2 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.

Refers to the Second Training Workshop of the FAO/NACA/OIE Regional Programme for the Development of technical Guidelines on Quarantine and Health Certification and Establishment of Information Systems for the Responsible Movement of live Aquatic Animals in Asia, 1-5 February 1999, Bangkok, Thailand.

C. Subjects to be covered in the Epidemiological Comments

1. Origin of 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 disease (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** of 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 one and a half month (45 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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