2000/3

QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

July-September 2000

Published by the

Network of Aquaculture Centres in Asia-Pacific
Suraswadi Building, Department of Fisheries
Kasetsart University Campus, Ladyao, Jatujak
Bangkok 10900, Thailand

Food and Agriculture Organization of the United Nations
Viale delle Terme di Caracalla
Rome 00100
Italy

December 2000

Network of Aquaculture Centres in Asia-Pacific and Food and Agriculture Organization of the United Nations. 2000. *Quarterly Aquatic Animal Disease Report (Asia and Pacific Region)*, 2000/3, July-September 2000. FAO Project TCP/RAS/6714. Bangkok, Thailand.

Contents

Reports Received by the NACA Secretariat

Country: **Australia** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	-(1996)	-(1996)	-(1996)	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	+	-(2000)	-(2000)	2
6. Epizootic ulcerative syndrome (EUS)	+	-(2000)	+	3
7. Bacterial kidney 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/-(1999)	0000/-(1999)	0000/-(1999)	5
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000/ -(1996)	0000/-(1996)	0000/-(1996)	6
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	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	8
4. Baculoviral midgut gland necrosis	0000	0000	0000	
5. Gill associated virus (GAV)	***	***	***	9
6. Spawner mortality syndrome('Midcrop mortality syndrome')	***	***	***	10
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				
Seprolegniosis- like disease				

[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: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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	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 July in Queensland, based on histology only. 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 active surveillance and 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 in July and from Western Australia in September (laboratory diagnosis). Not reported during this period but reported to have occurred in 2000 in New South Wales and 1999 in Northern Territory (passive surveillance). A laboratory follow-up of last quarter's suspicion of the first report of epizootic ulcerative syndrome in South Australia did not confirm EUS. Passive surveillance and never reported in Tasmania and Victoria. No information available in the Australia Capital Territory (no marine water responsibility).
4	*Bonamia* species: Not reported during this period but known to have occurred earlier this year in Western Australia, Tasmania (last year 1999) and in 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 Australia 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 Australia Capital Territory (no marine water responsibility).
5	*Marteillia. 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). *M. sydneyi*: 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) and New South Wales (last year 1999). 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	*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). *M. 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, South Australia, Victoria and Western Australia. No information available for the Australian Capital Territory (no marine water responsibility). *P. olseni*: 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	WSSV was detected in imported frozen commodity prawns. A survey of Australian farmed prawns for WSSV was carried out in accordance with OIE recommended sampling and testing methods (testing by nested PCR). All samples tested were negative.
9	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 *Penaeus monodon* in Queensland. LOV is considered part of the Mid-crop Mortality Syndrome, but its role in MCMS pathogenesis is unclear.
10	'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)

In August 2000, Australia's AQUAPLAN Zoning Policy Guidelines were formally endorsed by governments after previous endorsement by the private sector. The Zoning Policy Guidelines have been developed in accordance with OIE guidelines; they explain the generic principles of zoning for disease control based on pathogen distribution, movement principles between zones and the international relevance of national zoning. Endorsement means that the Guideline can now be adopted by the States and Territories and used to assist development of zoning policies as a management tool to protect aquaculture industries from the potential spread of diseases. Also in August 2000, governments formally endorsed the AQUVETPLAN Enterprise Manual the first in a series of manuals outlining emergency preparedness and response and control strategies for aquatic animal disease emergencies in Australia. The Enterprise Manual, which was developed in consultation with – and was approved- by the private sector, describes the various aquaculture and fisheries industries in Australia, grouping them according to the possible level of control over water and over aquatic animals. The Manual then describes and assesses various generic options for response to emergency disease incidents in those industries. Both documents are available on Agriculture, Fisheries and Forestry –Australia's website. http://www.affa.gove.au/outputs/animalplanthealth.html under 'Aquatic Animal Health'.

Country: **Bangladesh** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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				
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 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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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: **Cambodia** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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				
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 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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:

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***	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-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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				
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 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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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.	Epidemiological comment
1	

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

Country: **Hong Kong, China** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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)	0000	0000	0000	
7. Bacterial kidney 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*	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)	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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:

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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.	Epidemiological comment

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

Country: **India** Period: **July-September 2000**

Item	Disease status[a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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)	+ ( )	+ ( )	+ ( )	1
7. Bacterial kidney 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	
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*	+	+	+	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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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	Erratic behaviour of fishes. Reddish lesions on body and secondary bacterial infection on lesions.
2	Erratic behaviour of shrimps, coming closer to pond edges, poor intake of food, white spots on the shell.

2. New aquatic animal health regulations introduced within past six months (with effective date):
No.

Country: **Indonesia** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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				
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 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 (*Haplosporidium costale, H. nelsoni*)*				
Any other diseases of importance[b]				
Parasite				
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: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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: **Iran** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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)	0000	0000	0000	
7. Bacterial kidney 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	
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*	0000	0000	0000	
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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:

+	Disease reported or known to be present
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+()	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: **April to June 2000**

Item	Disease status [a] April	May	June	Comment numbers
Diseases prevalent in some parts of the region				
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	+	+	+	
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 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*	+	+	+	1
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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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	VHS of cultured Japanese flounder (*Paralichthys olivaceus*) was recognised in flounder farms in several prefectures located in the southwestern part of Japan for the first time. The emergency report on this matter has already been submitted to OIE. And you can see it on the OIE internet homepage. The Japanese government set up study group organised by administrative personnel, researchers in prefectural fisheries experiment station, universities, national research institute of aquaculture and stakeholders. And Japanese government is also conducting epidemiological study by questionnaire.

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

Country: **Japan** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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	+	+	+	
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 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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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				
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 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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	-	-	-	1
3. *Oncorhynchus masou* virus disease*	0000	0000	0000	
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 (*Bonamia* sp., *B. ostreae*)*	0000	0000	0000	
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	-	-	-	
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000	0000	0000	
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	?	?	?	
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	?	?	?	
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 (*Haplosporidium costale, H. nelsoni*)*	0000	0000	0000	
Any other diseases of importance[b]				
	+	+	+	3
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: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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	IHN has occurred in rainbow trout (500-800g) cultured at Adong culture farms in Gyeong sangbuk-do from September 10^{th} to 22^{nd} . Mortality was 18.9% for fry stage.
2	White spot disease has occurred in *Penaeus chinensis* at many culture farms around western coast of Korea.
3	Iridovirus (similar with RSIV) of cultured *Oplegnathus fasciatus* made mass mortality, more than 5,945,000 aged 0+ and 1+ valued at US$ 9M on the western and southern coast of south Korea.

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

Country: **Lao PDR** Period: **July-September 2000**

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. *Oncorhynchus masou* virus disease*	***	***	***	
4. Infectious pancreatic necrosis	***	***	***	
5. Viral encephalopathy and retinopathy	***	***	***	
6. Epizootic ulcerative syndrome (EUS)	***	***	+ ( )	
7. Bacterial kidney 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 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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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	
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*	+	+	+	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 (*Haplosporidium costale, H. nelsoni*)*	***	***	***	
Any other diseases of importance[b]	+	-	-	2
Iridovirus				
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: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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 30 samples were tested for white spot virus on *Penaeus monodon* and only 8 sample were tested positive from hatcheries in Sematan, Sarawak and Alor Setar, Disinfection and break cycle were implemented in the infected hatcheries. Uninfected hatcheries and farms were advised to screen broodstock and fry and practiced closed system by using treated water.
2	Iridovirus infection was suspected in red drum (*Sciaenops ocellatus*) and seabass (*Lates calcarifer*) in July 2000, causing mass mortalities of about 50% in the 3 sea cage culture sites in Langkawi Island, Kedah in 3-4 inches fish, after 2 to 3 weeks stocking. Moribund fishes of both fish species were swimming inactively on the surface of the sea. Some diseased fish showed dark coloured bodies and ulcers o the skin and fins. Necropsy of fish showed pale gills and spleens. Preliminary diagnosis were based on heteromorphic balloon cells seen in the imprint and histology section of the affected spleens, CPE in BF-2 cells and PCR positive using Red sea bream iridovirus primer (RSIV). Further investigation using EM observation of diseased fish spleen, and study on the pathogenicity, the biological and physio-chemical properties of this virus were to be undertaken by researchers in the Fisheries Research Institute in Batu Mauang, Penang so as to recommend future preventive measures for this virus.

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

- NIL -

Country: **Myanmar** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	1,3
2. Infectious haematopoietic necrosis*	***	***	***	1,3
3. *Oncorhynchus masou* virus disease*	***	***	***	1,3
4. Infectious pancreatic necrosis	***	***	***	1,3
5. Viral encephalopathy and retinopathy	***	***	***	1,3
6. Epizootic ulcerative syndrome (EUS)	***	***	***	1,2
7. Bacterial kidney disease	***	***	***	1,3
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*	***	***	***	1,3
2. Infectious hypodermal and haematopoietic necrosis	***	***	***	1,3
3. White spot disease*	***	***	***	1,3
4. Baculoviral midgut gland necrosis	***	***	***	1,3
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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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	Occurrence information not reported. No significant outcome observed.
2	During 1984-1985, in late monsoon (September –December) EUS prevailed, special care is being taken for prevention of EUS invasion.
3	More technologies and facilities for specific disease diagnosis are required.
4	

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

Country: **Nepal** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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	***	***	***	
Mollusc disease				2
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				3
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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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	No reports of EUS were found in Terai as well as in the Mid-Hill lakes of this country. A report was just received that in the few districts of Terei (e.g. Bara, Rantahat and Mohottary-sample study was conducted) EUS outbreak of less than 2% fish species such as *Puntius, Ophicephalus, C.mrigala* and *Labeo rohita* was observed. No noticeable financial loss reported.
2	Mollusc is not cultured in Nepal, but freshwater snail are harvested and consumed by the people. No disease reported so far.
3	Similarly, crustaceans are not also cultured in the country, except the fresh water river/swamp/lake prawn being caught and marketed. None of the diseases reported.

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

No new aquatic animal health regulation in the reporting quarter.

Country: **Pakistan** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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				
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 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 (*Haplosporidium costale, H. nelsoni*)*				
Any other diseases of importance[b]				
Argulosis				
Lernea infection				
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: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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: **Philippines** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	***	***	***	
3. *Oncorhynchus masou* 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 (*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*	-	-	+	3
4. Baculoviral midgut gland necrosis	***	***	***	
5. Gill associated virus (GAV)	***	***	***	
6. Spawner mortality syndrome('Midcrop mortality syndrome')	***	***	***	4
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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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	No reported case (passive) of the disease (clinical manifestation) during the reporting period. The disease is suspected but not yet confirmed to be present in the country.
2	No reported case (passive) during the reporting period (July to September). EUS was last observed from snakehead taken from the river in La Paz, Carmen, Davao del Norte (Region XI), Mindanao.
3	*P. monodon* post larvae (42 batches) from Iloilo, Cebu and Dumaguete (Visayas) examined using PCR technique produced negative results. Examination conducted by the NPPMCI. *P. monodon* (50 days of culture) from grow-out farm in Calauang, Quezon (Luzon) that had significant mortalities examined using PCR technique (during the month of Sept) produced positive results.
4	Information available was in 1998, when samples of *P.monodon* 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-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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	-(1999)	-(1999)	-(1999)	1
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	
7. Bacterial kidney 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 mortality syndrome('Midcrop mortality 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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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 –one 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	

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

Country: **Sri Lanka** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
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				
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 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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* 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: **Thailand** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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	***	***	***	
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*	+	+	+	1
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 (*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
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepathopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:

+	Disease reported or known to be present
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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.	Epidemiological comment
1	A total of 4,833 tiger prawn samples cultured in 21 provinces had been sent to 11 PCR laboratories of the Department of Fisheries. 138 samples of 2.86% were recorded as PCR positive or carrying SEMBV genome.

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

Country: **Vietnam** Period: **July-September 2000**

Item	Disease status [a] July	August	September	Comment numbers
Diseases prevalent in some parts of the region				
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	***	***	***	
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 (*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*	+	-	***	2
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	
3. White spot disease*	+	+	+	3
4. Baculoviral midgut gland necrosis	***	***	***	
5. Gill associated virus (GAV)	***	***	***	
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 (*Haplosporidium costale, H. nelsoni*)*	0000	0000	0000	
Any other diseases of importance[b]				
Disease of grass carp	+	+	+	4
White spot disease in fish (Ichthyopthiriosis)	+ ( )	- ( )	- ( )	5
Monodon baculovirus diseases (MBV)	+	+	+	6
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
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* 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.	Epidemiological comment
1	Not report during this period but known to have occurred in Bac Ninh province (confirmed by RIA-1) before.
2	Reported on tiger shrimp (*Penaeus monodon*) in Nghe An Province form July 2000 to August 2000 (harvested in the end of August). The disease was confirmed by histology techniques.
3	Reported in central and southern Vietnam: Nghe An, Khanh Hoa, Phu Yen provinces. Affected shrimp were *Penaeus monodon*. The disease was confirmed by clinical signs and histological techniques. Mortality reached 90-100% in the central of Vietnam.
4	Reported on broodstock grass carp in Thai Nguyen province with Red Spot on the body. The disease was reported on grass carp fingerling in Bac Ninh province as well.
5	Not reported during this period but known to have occurred on cage-cultured grass carp in Phu Thjo province (in the North Vietnam). Fish were affected by *Ichthyophthirius multifiliis* on the skin and gills.
6	Reported in the Nghe An province in Northern Vietnam, based on rapid-staining method (malachite green 0.5%) and histological techniques. The disease infected *Peneaus monodon*. Some other associated pathogens such as *Vibrio anguillarum, V. alginolyticus, Fusarium* sp., *Saprolegnia* sp., and some parasitic species (*Zoothamnium* sp., *Epistylis* sp.) were also found.

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

None.

Related Events and Publications

FAO/NACA. 2000 Asia Regional Technical Guideline on Health Management for the Responsible Movement of Live Aquatic Animals and The Beijing Consensus and Implementation Strategy. FAO fisheries Technical Paper No. 402. 2000.53p.

Information from:
NACA Secretariat
E-mail: melbar@fisheries.go.th**;** melbar99@yahoo.com

Dr.Rohana P. Subasinghe
Fishery Resources Division
Fisheries Department
FAO of the United Nations
Viale delle Terme di Caracalla, 00100 Rome
Tel. +39 06 570 56473; Fax +39 06 570 530 20
E-mail: Rohana.Subasinghe@fao.org

APEC FWG 02/2000 "Development of a Regional Research Programme on Grouper Virus Transmission and Vaccine Development", in cooperation with AAHRI of the Department of Fisheries of Thailand, the Fish Health Section of the Asian Fisheries Society and the Network of Aquaculture Centres in Asia-Pacific (NACA), October 18-20, 2000, NACA Headquarters, Bangkok, Thailand.

Information from:
NACA Secretariat
E-mail: melbar@fisheries.go.th

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

Information from:
NACA Secretariat
E-mail: naca@fisheries.go.th; melbar@fisheries.go.th

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

Information from:
Dr.Rohana P. Subasinghe
Fishery Resources Division
Fisheries Department
FAO of the United Nations
Viale delle Terme di Caracalla, 00100 Rome
Tel. +39 06 570 56473; Fax +39 06 570 530 20
E-mail: Rohana.Subasinghe@fao.org

Australian Aquatic Animal Disease- Identification Field Guide by Alistair Herfort and Grant Rawin

Information from:
AFFA Shopfront_Agriculture, Fisheries and Forestry- Australia
GPO Box 858, Canberra, ACT 2601
Telephone (02) 6272 5550 or free call- 1800 020 157
Facsimile (02) 6272 5771 or email shopfront@affa.gov.au

Handrisk ™ Software for Import Risk Analysis

Information from:
EpiCentre, Massey University
Private Bag 11222, Palmerston North, New Zealand
Web: http://www.handirisk.co.nz
E-mail: sales@handirisk.com

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

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: aahri@fisheries.go.th

Fish Health for Fish Farmers by Tina Thorne

Information from:
Fisheries Western Australia
3rd floor, SGIO Atrium
186 St. Georges Terrace, Perth WA 6000
Tel: (08) 9482 7333 Fax: (08) 9482 7389
Web: http://www.gov.au.westfish

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 secretariate
E-mail: naca@fisheries.go.th

Epizootic Ulcerative Syndrome (EUS) Handbooks
Two new EUS handbooks are available free of charge: (1) Pathology and Histopahtology of EUS by S. Chinabut and R.J. Roberts; and (2) EUS Techical 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: aahri@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: aahri@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

List of National Coordinators*

Country	Name and Address
Australia	Dr. Eva –Maria Bernoth Manager, Aquatic Animal Health Unit , Office of the Chief Veterinary Officer Department of Agriculture, Fisheries and Forestry GPO Box 858, Canberra ACT 2601, Australia Fax: 61-2-6272 3150; Tel: 61-2-6272 4328 E-mail: Eva-Maria.Bernoth@affa.gov.au Dr. Alister Herfort (Focal point for disease reporting) Aquatic Animal Health Unit, Office of the Chief Vetrinary Officer Department of Agriculture, Fisheries and Forestry GPO Box 858, Canberra ACT 2601, Australia Fax: +61 2 6272 3150; Tel: +61 2 6272 4009 E-mail: Alister.Herfort@affa.gov.au
Bangladesh	Dr. M. A. Mazid Director General, Bangladesh Fisheries Research Institute (BFRI) Mymensingh 2201, Bangladesh Fax: 880-2-55259, Tel: 880-2-54874 E-mail: frifs@bdmail.net
Cambodia	Mr. Bun Racy Head, Laboratory Section, Department of Fisheries 186 Norodom Blvd.,P.O. Box 835 Phnom Penh, Cambodia Fax: (855) 23 210 565; Tel: (855) 23 210 565 E-mail: smallfish@bigpond.com.kh
China	Mr. Wei Qi Extension Officer, Disease Prevention and Control Division National Fisheries Technology Extension Centre, No. 18 Ministry of Agriculture, Mai Zi dian Street, Chaoyang District Beijing 100026, China Fax: 0086-1-65074250; Tel: 0086-10-65074250 E-mail: weiqi_moa@hotmail.com Prof. Yang Ningsheng (*Focal point for AAPQIS*) Director, Information Center, China Academy of Fisheries Science 150 Qingta Cun, South Yongding Road, Beijing 100039, China Fax: 86-010-68676685; Tel: 86-010-68673942 E-mail: ningsheng.yang@mh.bj.col.com.cn
DPR Korea	Mr. Chong Yong Ho Director of Fish Farming Technical Department Bureau of Freshwater Culture Sochangdong Central District, P.O.Box. 95 , Pyongyong, DPR Korea Fax- 850-2-814416; Tel- 3816001, 3816121
Hong Kong SAR	Ms. Suzanna Everitt National Coordinator and Fisheries Officer (Aquaculture Development) Agriculture and Fisheries Department 12/Floor, Canton Road Government Offices 393 Canton Road, Kowloon, Hong Kong SAR Fax: +852 2482 7064;Tel: + 852 2471 9204 E-mail: autaaufd@khstar.com

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* The matrix provides a list of National Coordinators nominated by Governments and focal points for the *Asia-Pacific Quarterly Aquatic Animal Disease Reports.*

India	Dr. AG Ponniah Director National Bureau of Fish Genetic Resource Canal Ring Road, P.O. Dikusha, Lucknow-226 002, U.O., India Fax: (91-522)-442403; Tel: (91-522) 442403/44241 E-mail: nbfgr@1w1.vsnl.net.in ; nbfgr@400.nicgw.nic.in
Indonesia	Mr. Bambang Edy Priyono National Coordinator (from September 2000) Head, Division of Fish Health Management Directorate General of Fisheries Jl. Harsono RM no. 3, Ragunan Pasar Minggu, Jakarta – 12550 Indonesia Fax: +6221 7803196-7812866; Tel: +6221 780 4116-119 E-mail: dfrmdgf@indosat.net.id
Iran	Dr. Reza Pourgholam National Coordinator (from November 2000) Veterinary Organisation Ministry of Jihad-E-Sazandegi Vali-ASR Ave S.J. Asad Abadi St. PO Box 14155-6349 Tehran-15877, Iran Fax: 88707-8857193; Tel: 8857252
Japan	Mr. Shunichi Shinkawa Fisheries Promotion Division Fishery Agency, 1-2-1, Kasumigaseki Chiyoda-ku, Tokyo 100-8907, Japan Fax: 813-3591-1084; Tel: 813-350-28111(7365) E-mail: shuichi_shinkawa@nm.maff.go.jp
Lao PDR	Mr. Bounma Luang Amath Fisheries and Livestock Department Ministry of Agriculture, Forestry and Fisheries P.O. Box 811, Vientianne, Lao PDR TeleFax: (856-21) 415674; Tel: (856-21) 416932 E-mail: saly@pan.laos.net.la
Malaysia	Mr. Ng Fong Oon Senior Fisheries Officer Fish Health Management and Quarantine Branch Subang 47200, Selangor, Malaysia Fax: 60-3-746-5149; Tel: 60-3-746-5143 E-mail: pkki@tm.net.my Dr Ong Bee Lee (focal point for disease reporting) Head, Diagnosis Laboratory Unit Department of Veterinary Services 8th Floor Bukit Damansara, Off Jin Semantan 50630 Kuala Lumpur, Malaysia Tel: + 3-2530077 ext. 173 Fax: +3-2535804 Email: ong@jph.gov.my
Myanmar	Ms. Daw May Thanda Wint Assistant Staff Officer, Fish Disease Section Department of Fisheries Sinmin Road, Alone Township , Yangon, Myanmar Fax: (95-01) 228-253; Tel: (95-01) 283-304

Nepal	Mr. M.B. Pantha Chief Agriculture Development Officer, Fisheries Development Division Central Fisheries Building, Balaju, Kathmandu, or GPO Box 12878, Kathmandu, Nepal Fax: 977-1-486895; Tel: 977-41-20148 E-mail: M.B.Pantha@bhawani.wlink.com.np
Pakistan	Rana Muhammad Iqbal Assistant Fisheries Development Commissioner II Ministry of Food, Agriculture and Cooperatives R#310, B-Block, Islambad Government of Pakistan, Islamabad, Pakistan Fax: 92-051-9201246; Tel: 92-051-920 8267
Philippines	Dr. Joselito R. Somga (Focal Point for Disease Report) Aquaculturist II, Fish Health Section, BFAR 860 Arcadia Building, Quezon Avenue, Quezon City 1003 Fax: (632)3725055/4109987; Tel:(632) 3723878 loc206 or 4109988 to 89 E-mail: jrsomga@vlink.net.ph
Republic of Korea	Dr. Mi-Seon Park Director, Pathology Division National Fisheries Research and Development Institute Shirang-ri, Kijang-up, Kijan-gun Pusan 619-900, Republic of Korea Fax: +82-51-720-2498; Tel: +82-51-720-2470 E-mail: parkms@haema.nfrda.re.kr
Singapore	Chao Tien Mee Officer-In-Charge Breeding Unit Marine Aquculture Centre Primary Production Department 300 Nicoll Drive, Changi Point, Singapore 498989 Fax: 65-5427696; Tel: 65-542-8455 Email: CHAO_Tien_Mee@PPD.GOV.SG
Sri Lanka	Mr. A. M. Jayasekera Director of Aquaculture Development Ministry of Fisheries and Aquatic Resources Development, Maligawatte, Columbo-10, Sri Lanka Fax: 94-8-330959; Tel: 94-8-330959, 330960 E-mail: aqua1@eureka.lk Dr Geetha Ramani Rajapaksa (Focal point for disease reporting) Veterinary Surgeon Department of animal Production and Health Veterinary Investigation Centre, Welisara, Ragama, Sri Lanka Tel : +01-958213 Email : sser@sri.lanka.net
Thailand	Dr. Somkiat Kanchanakhan Fish Virologist, Aquatic Animal Health Research Institute (AAHRI) Department of Fisheries , Kasetsart University Campus Jatujak, Bangkok 10900, Thailand Fax: 662-561-3993; Tel: 662-579-4122, 6977 E-mail: somkiatkc@fisheries.go.th

Vietnam	Dr. Le Thanh Luu Vice-Director Research Institute for Aquaculture No.1 (RIA No.1) Dinh Bang, Tien Son, Bac Ninh Veitnam Fax: 84-4-827-1368; Tel: 84-4-827-3070 Email: rai1@hn.vnn.vn Ms. Dang Thi Lua (Focal point for disease reporting) Researcher Research Institute for Aquaculture No.1 (RIA No.1) Dinh Bang , Tien Son, Bac Ninh, Vietnam Fax: 84-4-827-1368; Tel : 84-4-827 – 3070 E-mail: ria1@hn.vnn.vn; danglua@hotmail.com

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

Diseases prevalent in some parts of the region

Finfish Diseases:	Epizootic heamatopoietic necrosis*
	Infectious haematopoietic necrosis*
	Oncorhynchus masou virus disease*
	Infectious pancreatic necrosis*
	Viral encephalopathy and retinopathy*
	Epizootic ulcerative syndrome (EUS)
	Bacterial kidney disease
Mollusc Diseases:	Bonamiosis (*Bonamia* sp., *B. ostreae*)*
	Marteiliosis (*Marteilia refringens, M. sydneyi*)*
	Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*
	Perkinsosis (*Perkinsus marinum, P. olseni*)*
Crustacean Diseases:	Yellowhead disease
	Infectious hypodermal and haematopoietic necrosis (IHHN)
	White spot disease
	Baculoviral midgut gland necrosis
	Gill associated virus (GAV)
	Spawner nortality 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 (*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
Mollusc Diseases:	Iridovirus (Oyster velar disease)
Crustacean Diseases:	Nuclear polyhedrosis baculovirosis (*Bacuovirus penaei*)
	Crayfish plague (*Aphanomyces astaci*)
	Taura syndrome
	Necrotising hepathopancreatitis

* 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:

***	his symbol means that no information on a disease in question is available due to reasons such as lack of surveillance systems or expertise.
-	This symbols 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 re ported.
(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 symbols 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 labo ratories); 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:

OIE East 311, Shin Aoyama Building, 1-1-1 Minami Aoyama, Minato-ku,
Tokyo 107-0062, Japan
Tel: +81-3-5411-0520; Fax: +81-3-5411-0526;
E-mail: oietokyo@tky.3web.ne.jp

NACA P.O. Box 1040, Kasetsart Post Office, Bangkok 10903, Thaialnd
Tel: 66-2-561-1728/9; Fax: 66-2-561-1727;
E-mail: naca@mozart.inet.co.th; naca@fisheries.go.th;
melbar@fisheries.go.th

FAO Fishery Resources Division, Fisheries Department
FAO of the United Nations
Viale delle Terme di Caracalla, 00100 Rome
Tel. 00 39 06 570 56473; Fax 00 39 06 570 530 20
E-mail: Rohana.Subasinghe@fao.org

Notes

Published by the Network of Aquaculture Centres in Asia-Pacific and the Food and Agriculture Organization of the United Nations. For inquiries regarding editorial or technical content, please write to NACA, P.O. Box 1040, Kasetsart P.O. , Bangkok 10903, Thailand; Tel. (662) 561-1728 to 9; Fax: (662) 561-1727; e-mail: **naca@enaca.org**
Website: **http://www.enaca.org**