

1999/2



QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

April-June 1999

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

October 1999

Network of Aquaculture Centres in Asia-Pacific and Food and Agriculture Organization of the United Nations. 1999. *Quarterly Aquatic Animal Disease Report (Asia and Pacific Region)*, 99/2, April-June 1999. FAO Project TCP/RAS/6714. Bangkok, Thailand.

Contents

	Page
Contents	iii
Foreword	
Reports received by the NACA Secretariat	
Australia	4
Bangladesh	8
Cambodia	10
China	12
Hong Kong SAR	14
India (no report)	16
Indonesia	18
Iran (no report)	20
Japan	22
Korea (DPR) (no report)	24
Korea RO (April to June)	26
Lao PDR	28
Malaysia	30
Myanmar	32
Nepal	34
Pakistan (no report)	36
Philippines	38
Singapore	40
Sri Lanka	42
Thailand	44
Vietnam	46
Related events and publications	48
Conference on Aquaculture in the Third Millennium	50
List of National Coordinators	51
List of Diseases covered under the Asia-Pacific Quarterly Aquatic animal Diseases Report	54
Instruction on how to fill in the <i>Quarterly Aquatic Animal Disease Report</i>	55

Foreword

This is the fourth issue of the *Asia-Pacific Quarterly Aquatic Animal Disease Report*, and covers the second quarter period April-June 1999.

As stated in the previous issue, several participating countries are now in the process of further developing their national reporting and surveillance system for aquatic animal diseases, a clear indication of the support being generated by the Regional Programme on Aquatic Animal Health. The national reporting and surveillance system, through its 'feedback loop mechanism', will provide the vital link to farmers who should ultimately be the beneficiaries of this programme. This systematic process of collecting information on the presence of important diseases and pathogens can produce meaningful reports on the disease status of a farm, a zone, country and region. It is from the national reporting system of participating countries that the regional reporting system will be derived.

Countries participating in this reporting system will continuously benefit in terms of attracting international support to enhance national capabilities in disease diagnosis and disease reporting and to establish control measures for important production limiting and trade restricting diseases.

This international collaborative approach to disease diagnosis, reporting and control is one of the keys, if not the only strategy, to reduce the impacts of transboundary spread of aquatic animal pathogens. The National Coordinators and focal persons must be commended for their continuing efforts and cooperation in putting this regional reporting system in place.

Reports Received by the NACA Secretariat

Country: **Australia**Period: **April-June 1999**

Item	Disease status ^a			Comment numbers
	April	May	June	
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	2
5. Viral encephalopathy and retinopathy	+	+	-(1999)	3
6. Epizootic ulcerative syndrome (EUS)	+	+	+	4
7. Bacterial kidney disease	0000	0000	0000	
Mollusc disease				
1. Bonamiosis (<i>Bonamia</i> sp., <i>B. ostreae</i>)*	+/0000	-(1999)/0000	-(1999)/0000	5
2. Marteiliosis (<i>Marteilia refringens</i> , <i>M. sydneyi</i>)*	0000/-(1998)	0000/-(1998)	0000/-(1998)	6
3. Mikrocytosis (<i>Mikrocytos mackini</i> , <i>M. roughleyi</i>)*	0000/-(1996)	0000/-(1996)	0000/-(1996)	7
4. Perkinsosis (<i>Perkinsus marinus</i> , <i>P. olseni</i>)*	0000/-(1997)	0000/-(1997)	0000/-(1997)	8
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)	***	***	***	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 (<i>Haplosporidium costale</i> , <i>H. nelsoni</i>)*	0000/0000	0000/0000	0000/0000	
Any other diseases of importance^b				
Pilchard Herpes Virus	+	+	-(1999)	11
Crayfish plaque	0000	0000	0000	
Unknown diseases of serious nature				
	+	+	+	12

^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. No information available in the Australian Capital Territory.
2	The aquabirnavirus previously reported from Tasmania (1998) remains restricted to the same limited geographic area, and has not been associated with clinical disease.
3	Reported in April and May 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 active 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. <i>ERRATUM:</i> In the national Report of the 1 st quarter 1999, viral encephalopathy and retinopathy was erroneously reported to have occurred in the Northern Territory in 1997. The Northern Territory comment for the 1 st quarter 1999 should have been identical to the entry made for the quarter.
4	Reported from Queensland and Northern Territory in April, May and June (histology). Not reported but known to have occurred earlier in 1997 in New South Wales and in Western (passive surveillance). Passive surveillance and never reported in South Australia, Tasmania and Victoria. No information available in the Australia Capital Territory.
5	<i>Bonamia</i> species: Reported from Tasmania in April. Not reported during this period but known to have occurred in Victoria (last year 1993) and Western Australia (last year 1995). 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). <i>Bonamia ostreae</i> : Passive surveillance and never reported in New South Wales, Northern Territory, Queensland, South Australia, Victoria and Western Australia. Never reported in Tasmania. No information available in the Australia Capital Territory (no marine water responsibility).
6	<i>Marteilia 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>Marteilia sydneyi</i> : Not reported during this period (despite targeted active surveillance) but known to have occurred earlier in 1998 in New South Wales. Considered enzootic in Queensland, but lack of diagnostic submissions. Not reported during this period 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).
7	<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> : 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).
8	<i>Perkinsus 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).
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 <i>Penaeus monodon</i> 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’).
11	Pilchard herpesvirus reported from Western Australia in April and May.
12	As part of active surveillance program on New South Wales prawn farms, a new syndrome, temporarily designated ‘monodon ganglioneuritis’ (MGN), was recognised during April. MGN was associated with minor to major losses (up to 50% mortality rates) in affected <i>Penaeus monodon</i> ponds on the farm during in the middle to later stages of the 98/99 grow-out period. Major histological lesions were confined to the nervous system. The cause of MGN has not yet been determined. No causal agents were seen in lesions and no definitive viral inclusion body were recognised. Preliminary transmission electron microscopy failed to show evidence of viral infection. Transmission trials and further virological studies are in progress in an attempt to identify a causal infectious agent.

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

On April 30, 1999, Australia's Ministerial Council on Forestry, Fisheries and Aquaculture endorsed AQAPLAN-Australia's National Strategic Plan for Aquatic Animal Health 1998-2003. Between December 1998 and April 1999, AQAPLAN was endorsed by fisheries and aquaculture peak bodies in Australia, including recreational fishing sector.

AQUAPLAN is a broad, comprehensive strategy that outlines the objectives and projects to develop a national approach to emergency preparedness and response and to the overall management of aquatic animal health in Australia. It has been jointly developed by Government and industry in a manner consistent with existing arrangements in the terrestrial animal sector and, wherever possible, links into existing State/Territory Government and industry health management arrangements.

AQUAPLAN comprises eight key programs under which governments and sectors have identified priority projects to achieve the program objectives. The eight key AQUAPLAN programs are:

1. International linkages
2. Quarantine
3. Surveillance, Monitoring and Reporting
4. Preparedness and Response
5. Awareness
6. Research and Development
7. Legislation, Policies and Jurisdiction
8. Resources and Funding

The Ministerially appointed Fish Health Management Committee (FHMC) is the body which oversees¹ the development and implementation of AQUAPLAN. FHMC is chaired by Gardner Murray, the Managing Director of the National Offices of Animal and Plant Health and Food Safety, FHMC membership comprises representatives from the Commonwealth and State/Territory governments. CSIRO Animal Health, the Australian Sea Food Industry Council, recreational fisheries and representatives from the peak aquaculture industry bodies of Australia. Adjustments to AQUAPLAN will become necessary as progress is reviewed. Updates and progress reports are being provided to stakeholders through the FHMC.

For further information regarding AQUAPLAN, please contact:

Aquatic Animal Health Unit
National Office of Animal and Plant Health
Agriculture, Fisheries and Forestry-Australia
GPO Box 858
Canberra, ACT 2611
Phone: +61 2 62723848
Fax: +61 2 62723150
Web: <http://www.affa.gov.au/ocvo/fhu/html>

Given the statutory nature of international quarantine under the Quarantine Act 1908, the Australian Quarantine and Inspection Service has primary carriage for this AQUAPLAN program.

Country: **Bangladesh**Period: **April-June 1999**

Item	Disease status ^a			Comment numbers
	April	May	June	
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>)*	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	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	
2	

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

Country: **Cambodia**Period: **April-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	0000	0000	0000	
5. Viral encephalopathy and retinopathy	0000	0000	0000	
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>)*	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	0000	0000	0000	
3. White spot disease*	-	-	-	
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*	***	***	***	
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:

April-June 1999

Item	Disease status ^a			Comment numbers
	April	May	June	
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: **April-June 1999**

Item	Disease status ^a			Comment numbers
	April	May	June	
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 regulations introduced.

Country: **India**Period: **April-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)				
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: **Indonesia**Period: **April-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)	-	-	***	
7. Bacterial kidney disease	-	-	+	
8. Parasite	-	+	-	
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				
Gyrodactylosis (<i>Gyrodactylus salaris</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

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

Country: **Iran**Period: **April-June 1999**

Item	Disease status ^a			Comment numbers
	April	May	June	
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>)*				
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: **April-June 1999**

Item	Disease status ^a			Comment numbers
	April	May	June	
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):

We enacted the Law to Ensure Sustainable Aquaculture Production (Law No. 51, 1999) this May. The objective of this law is to ensure sustainable aquaculture production through measures to promote improvement of aquaculture ground by fisheries cooperative associations and measures to prevent diffusion of contagious diseases of specific aquatic animals and plants subjected to aquaculture, thereby contributing to development of aquaculture and stable supply of fishery products.

Country: **Korea (DPR)**Period: **April-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)				
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-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)				
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				
Gyrodactylosis (<i>Gyrodactylus salaris</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

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

Country: **Lao PDR**Period: **April-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)	***	***	***	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*	***	***	***	
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: **April-June 1999**

Item	Disease status ^a			Comment numbers
	April	May	June	
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*	-	-	+	1
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>)*	***	***	***	
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	Yellow head disease occurred as a mixed infection with HPV and MBV in one-month old tiger prawn in Tanjung Pian-dang, Perak. Poppulation at risk is about 250,000. Confirmation of disease is by clinical sign and histopathology. Mor-tality rates moderately high.
2	A total of 29 samples were tested positive (PCR) from 336 P. monodon samples received during the reporting period. The positive samples were from hatcheries and grow-out ponds. Affected areas were Selangor, Sabah and Pahang. Mortalities vary from low to high. Disinfection and breakcycle were implemented infected hatcheries and farms. Unin-fected hatcheries and farms are advised to screen broodstock and fry and practised closed system and used treated water.

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

- NIL -

Country: **Myanmar**Period: **April-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)	***	***	***	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*	***	***	***	
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 cysts of <i>Pangasius sutchi</i>	***	***	-	1
Unknown diseases of serious nature				
	***	-	***	1

^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	More perfect diagnosis capability is required both of skilled technicians and diagnostic apparatus.

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

None

Country: **Nepal**Period: **April-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)	+	+	***	1,2,3
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	In the month of April 1999, about 20% EUS infection was found in IMC Mrigala (Naini) and about 15% in silver carp in the district of Dhanusa, Bara, Siraha and Mahottary.
2	Similarly the month of May 1999, EUS infection was found mostly in IMC and less Chinese carps. The extent of infection was 30% and 25% in IMC and Chinese carps respectively. EUS was found to some extent mostly in all the district of Nepal.
3	In the month of May 1999, with the rise of temperature, EUS infection was almost absent in the Terai districts of Nepal.

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.

Country: **Pakistan**Period: **April-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)				
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: **April-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	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>)*	***	***	***	3
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*	-	-	-	4
2. Infectious hypodermal and haematopoietic necrosis	-	-	-	
3. White spot disease*	+	+	+	5
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*	***	***	***	
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 disease is suspected but not yet confirmed to be present in the country. Surveillance is in place for the clinical manifestation of the disease. The capability to diagnose the disease is limited to histopathology. Reference laboratory is needed for other tests to detect latent infection in fish.
2	No reported case during the reporting period. EUS was last observed in Caraga Region (Region XIII), Mindanao in March 1999. Affected fish were <i>Scatophagus argus</i> (spotted sickle) and <i>Mugil</i> sp. (mullet). H&E and Grocott's stained tissue section showed fungal granuloma and fungal hyphae. BFAR-FHS recommended a monitoring programme in the Region to determine EUS endemic and non-endemic areas. BFAR has also provided the Region a primer on EUS for information dissemination.
3	Lack of capability for the detection/diagnosis of mollusc diseases.
4	No reported case during the reporting period. <i>P.monodon</i> samples taken from three farms in Sarangani Province (Mindanao) and examined at the University of the Philippines at Los Banos (UPLB) Biotechnology using combined SDS Western Blot/Enzyme Immunoassays showed negative results. The disease was last reported in <i>P.monodon</i> samples taken from the province of Bulacan, Bataan, Batangas (Luzon) and Butuan (Mindanao).
5	<i>P. monodon</i> samples from Bulacan (Luzon) and Cebu (Visayas) were tested positive using combined SDS Western Blot Enzyme Immunoassays and PCR technique. Examination conducted at the UPLB-Biotechnology. The cultured <i>P.monodon</i> in Bulacan (Luzon) has a stocking density of 15 pcs per square meter and body weight ranges from 12-25 grams and on its 74 days of culture (DOC). No recognisable clinical signs/manifestations of the disease observed. However, due to significant mortalities occurring emergency harvest was conducted. The culture <i>P.monodon</i> in Cebu (Visayas) has a stocking density of 25 pcs per square meter. The stock shrimp has an average body weight (ABW) of 22 grams and on its 120 DOC. The cultured shrimp showed reddish discoloration. Because of significant mortalities occurring the stocked shrimp were harvested immediately.

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

Draft Fisheries Administrative Order (FAO) on Live Fish Importation is being finalised

Country: **Singapore**Period: **April-June 1999**

Item	Disease status ^a			Comment numbers
	April	May	June	
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				

^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: **April-June 1999**

Item	Disease status ^a			Comment numbers
	April	May	June	
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')				
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	Shrimp with reddish body, with prominent white spots were detected.

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

Country: **Thailand**Period: **April-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)	-	-	+	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 (about 5 cm in length). Mycotic granulomas were found in the body. However, the fungal isolation was failed. The specimens were from Nonthaburi province. Death toll was 15 fish out of 20 fish.
2	PCR diagnosis during this period found 100 positive samples from 1,332 tested tiger prawn samples.

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

Country: **Vietnam**Period: **April-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)	***	***	***	
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	+	+	+	
Disease of grouper cage cultured	-	-	-	
MBV	-	-	-	
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):

None

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:

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Thailand's Department of Fisheries, Kasetsart University Campus, Jatujak, Bangkok 10900
Email: aaagri@fisheries.go.th

Health Management in Shrimp Ponds. Third 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 disease

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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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
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