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# **QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)**

**October-December 2000**

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# Contents

	<i>Page</i>
Contents	iii
<b>Reports received by the NACA Secretariat</b>	
Australia	3
Bangladesh (no report)	6
Cambodia (no report)	8
China PR	10
Hong Kong, China	12
India	14
Indonesia (no report)	16
Iran (no report)	18
Japan	20
Korea DPR (no report)	22
Korea RO (no report)	24
Lao PDR	26
Malaysia	28
Myanmar (no report)	30
Nepal	32
Pakistan (no report)	34
Philippines	36
Singapore	38
Sri Lanka (July to September)	40
Sri Lanka (October to December)	42
Thailand	44
Vietnam (no report)	46
Related events and publications	48
List of National Coordinators	51
List of Diseases covered under the Asia-Pacific Quarterly Aquatic Animal Disease Report	55
Instructions on how to fill in the <i>Quarterly Aquatic Animal Disease Report</i>	56

## **Reports Received by the NACA Secretariat**

Country: Australia

Period: October to December 2000

	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
1. Epizootic haematopoietic necrosis*	-(2000)	-(2000)	-(2000)	1
2. Infectious haematopoietic necrosis*	0000	0000	0000	
3. <i>Oncorhynchus masou</i> virus disease*	0000	0000	0000	
4. Infectious pancreatic necrosis	0000	0000	0000	
5. Viral encephalopathy and retinopathy	-(2000)	+	+	2
6. Epizootic ulcerative syndrome (EUS)	-(2000)	-(2000)	+	3
7. Bacterial kidney disease	0000	0000	0000	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	-(2000)/0000	-(2000)/0000	-(2000)/0000	4
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000/-(1999)	0000/-(1999)	0000/-(1999)	5
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	0000/-(1996)	0000/-(1996)	0000/-(1996)	6
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olsenii</i> )*	0000/-(1997)	0000/-(1997)	0000/-(1997)	7
<b>Crustacean disease</b>				
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)	xxx	xxx	xxx	9
6. Spawner mortality syndrome ('Midcrop mortality syndrome')	xxx	xxx	xxx	10
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	0000	0000	0000	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsonii</i> )*	0000/0000	0000/0000	0000/0000	
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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	Epizootic haematopoietic necrosis not reported during this period but known to have occurred in New South Wales in the first quarter of 2000. Victoria (last year 1996), and South Australia (last year 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 November 2000 and December 2000 in Queensland (based on histology and RT – nPCR only), and December 2000 in Tasmania. 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, Victoria and Western Australia. No information available in the Australian Capital Territory.
3	Reported from Queensland in December 2000 (based on histological diagnosis). Not reported during this period, but reported to have occurred in 2000 in Western Australia and New South Wales and 1999 in Northern Territory (passive surveillance). Passive surveillance and never reported in Tasmania and Victoria. No information available in the Australian Capital Territory.
4	<p><i>Bonamia</i> species: Not reported during this period but known to have occurred earlier this year in Western Australia, Tasmania (last year 1999) and Victoria (last year 1993). Passive surveillance and never reported in New South Wales, Northern Territory, Queensland and South Australia. No information available in the Australian Capital Territory (no marine water responsibility).</p> <p><i>Bonamia ostreae</i>: Passive surveillance and never reported in New South Wales, Northern Territory, Queensland, South Australia, Tasmania, Victoria and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility).</p>
5	<p><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).</p> <p><i>M. sydneyi</i>: 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.</p>
6	<p><i>Mikrocytos 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).</p> <p><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).</p>
7	<p><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).</p> <p><i>P. olsenii</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).</p>

8	DNA signals similar to Whitespot syndrome virus were detected by PCR assays in 5/12 shore crabs (species undetermined) collected from Darwin Harbour (Northern Territory) in November 2000. A further sampling and testing of 42 crabs from the same location in December 2000 failed to return any WSSV positive DNA signals. Further testing on crustacean populations is being undertaken. There is no evidence of clinical disease in any crustacean.
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) recognises LOV. LOV appears widespread in healthy farmed 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 a 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 the past six months (with effective date):

### AQUAVETPLAN Enterprise Manual released

On 14 December 2000, Federal Fisheries Minister Warren Truss launched AQUAVETPLAN Enterprise Manual as the first in a series of operational manuals and instruments. AQUAVETPLAN manuals outline the methods and protocols that will help ensure Australia is prepared for aquatic animal emergency disease outbreaks. The AQUAVETPLAN manuals are being produced as part of AQUAPLAN, Australia's National Strategic Plan for Aquatic Animal Health (1998-2003).

The Enterprise Manual – whose writing was supported with funding provided by the Fisheries Research and Development Corporation – is designed to be used by governments and industry and will provide decision makers with quick and easy access to the information they need to implement control strategies at short notice. The Manual also provides industry with guidance on the various factors that need to be taken into account when making decisions during an emergency. It further includes information on various industry practices and structures and outlines approaches that should be considered in the face of an aquatic animal disease emergency.

The Enterprise Manual is available on the Aquatic Animal Health Website (see [http://www.affa.gov.au/animal\\_plant\\_health](http://www.affa.gov.au/animal_plant_health)).

Country: Bangladesh

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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				
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*				
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*				
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*				
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*				
<b>Crustacean disease</b>				
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')				
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*				
2. Viral haemorrhagic septicaemia*				
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*				
<b>Any other diseases of importance <sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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	
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**  
Not applicable.

Country: Cambodia

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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				
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*				
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*				
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*				
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*				
<b>Crustacean disease</b>				
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')				
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*				
2. Viral haemorrhagic septicaemia*				
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*				
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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	
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: People's Republic of China

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	0000	0000	0000	
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000	
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	0000	0000	0000	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	0000	0000	0000	
<b>Crustacean disease</b>				
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')	***	***	***	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	***	***	***	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	0000	0000	0000	
<b>Any other diseases of importance<sup>b</sup></b>				
	0000	0000	0000	
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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	
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: Hong Kong, China

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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	1
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	
7. Bacterial kidney disease	0000	0000	0000	
<b>Mollusc disease</b>				
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. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	0000	0000	0000	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	0000	0000	0000	
<b>Crustacean disease</b>				
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	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	0000	0000	0000	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	0000	0000	0000	
<b>Any other diseases of importance <sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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 batch of 2.9-3.3 cm fingerling marine Pompano in May 00 displayed CNS signs (hyperexcitable behaviour and head self-trauma), when placed in culture cages in one farm. Histology revealed both vacuolation of the brain and, especially, the retina. Viral isolation by cell culture and PCR (by AAHRI) failed to detect Nodavirus, although viral studies are continuing at AAHRI (Thailand). Mortality was 10% in the first week of stocking.
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3	
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### 2. New aquatic animal health regulations introduced within the past six months (with effective date):

Country: India

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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	1
5. Viral encephalopathy and retinopathy	0000	0000	0000	
6. Epizootic ulcerative syndrome (EUS)	+	0000	0000	2
7. Bacterial kidney disease	0000	0000	0000	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	0000	0000	0000	
2. Marteiliiosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000	
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	0000	0000	0000	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	0000	0000	0000	
<b>Crustacean disease</b>				
1. Yellowhead disease	+	0000	0000	3
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	
3. White spot disease	+	0000	0000	4
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	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	0000	0000	0000	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	0000	0000	0000	
<b>Any other diseases of importance <sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>a</sup>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

<sup>a</sup>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	Infectious pancreatic necrosis is sporadic in some area and known to be present. However, the occurrence is relatively rare.
2	EUS disease is common in fish ponds. The fish farmers are advised to use common salt for curing the disease.
3	Common in brackishwater water shrimp ponds.
4	Common in certain area causing heavy losses to shrimp culture.
5	
6	
7	
8	

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

Country: Indonesia

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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				
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*				
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*				
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*				
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*				
<b>Crustacean disease</b>				
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')				
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*				
2. Viral haemorrhagic septicaemia*				
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*				
<b>Any other diseases of importance<sup>b</sup></b>				
1. Bacterial necrosis				
2. Fouling disease on shrimp				
3. MBV				
<b>Unknown diseases of serious nature</b>				

<sup>a</sup>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 hepatopancreatitis

\* OIE notifiable diseases

<sup>a</sup>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
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: Iran

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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				
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*				
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*				
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*				
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*				
<b>Crustacean disease</b>				
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')				
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*				
2. Viral haemorrhagic septicaemia*				
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*				
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: Japan

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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	+	+	-	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	0000	0000	0000	
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000	
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	0000	0000	0000	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	0000	0000	0000	
<b>Crustacean disease</b>				
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	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	0000	0000	0000	
2. Viral haemorrhagic septicaemia*	-	-	-	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	0000	0000	0000	
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: Korea (DPR)

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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				
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*				
2. Marteiliiosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*				
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*				
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*				
<b>Crustacean disease</b>				
1. Yellowhead disease				
2. Infectious hypodermal and haematopoietic necrosis				
3. White spot disease				
4. Baculoviral midgut gland necrosis				
5. Gill associated virus (GA'V)				
6. Spawner mortality syndrome ('Midcrop mortality syndrome')				
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*				
2. Viral haemorrhagic septicaemia*				
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*				
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: Korea (RO)

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
1. Epizootic haematopoietic necrosis*				
2. Infectious haematopoietic necrosis*				
3. <i>Oncorhynchus masou virus</i> disease*				
4. Infectious pancreatic necrosis				
5. Viral encephalopathy and retinopathy				
6. Epizootic ulcerative syndrome (EUS)				
7. Bacterial kidney disease				
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*				
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*				
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*				
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*				
<b>Crustacean disease</b>				
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')				
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*				
2. Viral haemorrhagic septicaemia*				
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*				
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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	
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: Lao PDR

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	***	***	***	
3. <i>Oncorhynchus masou virus</i> disease*	***	***	***	
4. Infectious pancreatic necrosis	***	***	***	
5. Viral encephalopathy and retinopathy	***	***	***	
6. Epizootic ulcerative syndrome (EUS)	***	***	+ ( )	
7. Bacterial kidney disease	***	***	***	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	***	***	***	
2. Marteiliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***	
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	***	***	***	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	***	***	***	
<b>Crustacean disease</b>				
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')	***	***	***	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	***	***	***	
2. Viral haemorrhagic septicaemia*	***	***	***	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	***	***	***	
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>a</sup>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

<sup>a</sup>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
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: Malaysia

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	***	***	***	
2. Marteiliiosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***	
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	***	***	***	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	***	***	***	
<b>Crustacean disease</b>				
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	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	0000	0000	0000	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	***	***	***	
<b>Any other diseases of importance<sup>b</sup></b>				
Iridovirus	+	-	-	2
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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 3 samples were PCR positive from 29 samples tested on <i>P. monodon</i> received during the 3 months reporting period. 2 positive samples were detected from a hatchery in Mersing, Johore in October while one sample was from grow -out farm in Lukut, Negeri Sembilan in November. Remedial steps taken by the hatchery operator and the grow -out farmers include break-cycle, proper disinfection in hatcheries and proper disposal of disease shrimp in farm. The farmer has also been advised to screen the post larvae as well have a sufficiently large reservoir where treated water can be kept for the culture.
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### 2. New aquatic animal health regulations introduced within the past six months (with effective date):

NIL -

Country: Myanmar

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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				
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*				
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*				
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*				
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olsenii</i> )*				
<b>Crustacean disease</b>				
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')				
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*				
2. Viral haemorrhagic septicaemia*				
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*				
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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	
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: Nepal

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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	***	***	***	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	***	***	***	
2. Marteiliiosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***	
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	***	***	***	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	***	***	***	
<b>Crustacean disease</b>				
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')	***	***	***	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	***	***	***	
2. Viral haemorrhagic septicaemia*	***	***	***	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	***	***	***	
<b>Any other diseases of importance <sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>a</sup>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

<sup>b</sup>Please use the following symbols:

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

**1. Epidemiological Comments**

Comment No.	Epidemiological comment
1	EUS was found in Terai as well as in the Mid-Hill lakes of the country during the reporting period, in the local as well as Chinese and major carp species including <i>Clarias</i> species. The extent of fish loss was estimated to be less than 1%
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**2. New aquatic animal health regulations introduced within the past six months (with effective date)**

No new aquatic animal health regulation in the reporting quarter.

Country: Pakistan

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
1. Epizootic haematopoietic necrosis*				
2. Infectious haematopoietic necrosis*				
3. <i>Oncorhynchus masou virus</i> disease*				
4. Infectious pancreatic necrosis				
5. Viral encephalopathy and retinopathy				
6. Epizootic ulcerative syndrome (EUS)				
7. Bacterial kidney disease				
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*				
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*				
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*				
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*				
<b>Crustacean disease</b>				
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')				
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*				
2. Viral haemorrhagic septicaemia*				
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*				
<b>Any other diseases of importance<sup>b</sup></b>				
Argulosis				
Lernaea infection				
<b>Unknown diseases of serious nature</b>				

<sup>a</sup>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

<sup>b</sup>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
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: Philippines

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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	***	****	****	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	***	****	****	
2. Marteiliiosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	****	****	
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	***	****	****	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	***	****	****	
<b>Crustacean disease</b>				
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
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	***	****	****	
2. Viral haemorrhagic septicaemia*	***	****	****	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	***	****	****	
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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 (October-December). EUS was last observed from snakehead taken from the river in La Paz, Carmen, Davao del Norte (Region XI), Mindanao.
3	<i>P. monodon</i> post larvae (145 batches) from Bohol, Cebu and Dumaguete (Visayas) examined using PCR technique produced negative results. Examination conducted by BFAR-Region VII, Fish Health Satellite Laboratory and NPPMCI. <i>P. monodon</i> (60 days of culture) from Calauag, Quezon (Luzon) that had significant mortalities examined using PCR technique (during the month of December) produced positive results.
4	Information available was in 1998, when samples of <i>P. monodon</i> from selected grow -out farms sent to Australia in October 1998 (Dr. Leigh Owens of James Cook University). Examination of the samples by <i>in-situ</i> hybridization using Spawner Mortality Virus (SMV) probe produced positive results.
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### 2. New aquatic animal health regulations introduced within the past six months (with effective date):

Country: Singapore

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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	- (1999)	+	-(2000)	1
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	
7. Bacterial kidney disease	0000	0000	0000	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	***	***	***	
2. Marteiliiosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***	
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	***	***	***	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	***	***	***	
<b>Crustacean disease</b>				
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')	***	***	***	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	0000	0000	0000	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	***	***	***	
<b>Any other diseases of importance<sup>b</sup></b>				
	Nil	Nil	Nil	
<b>Unknown diseases of serious nature</b>	Nil	Nil	Nil	

<sup>b</sup>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

<sup>a</sup>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	VER was detected in a single batch of grouper fingerlings imported from Taipei China. High mortalities with characteristic clinical signs were observed 3 days post-arrival. The fish were positive for VER by RT-PCR and histopathology. A concomitant iridovirus infection was suspected based on histopathological findings. The entire batch of fish was culled.
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### 2. New aquatic animal health regulations introduced within the past six months (with effective date):

Country: Sri Lanka

Period: July to September 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	July	August	September	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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)	?	?	?	1
7. Bacterial kidney disease	0000	0000	0000	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	0000	0000	0000	
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000	
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	0000	0000	0000	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	0000	0000	0000	
<b>Crustacean disease</b>				
1. Yellowhead disease	?	?	?	2
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	
3. White spot disease	+	+	+	3
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	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	0000	0000	0000	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	0000	0000	0000	
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>a</sup>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

<sup>b</sup>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	Clear visual signs were not reported.
2	No symptoms were observed for presumptive diagnosis of YHD virus.
3	White spot disease was observed. Occurrence was limited to different zones in several localities.
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: Sri Lanka

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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)	?	?	?	1
7. Bacterial kidney disease	0000	0000	0000	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	0000	0000	0000	
2. Marteiliiosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000	
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	0000	0000	0000	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	0000	0000	0000	
<b>Crustacean disease</b>				
1. Yellowhead disease	?	?	?	2
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	
3. White spot disease	+	+	+	3
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	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	0000	0000	0000	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	0000	0000	0000	
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>a</sup>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 hepatopancreatitis

\* OIE notifiable diseases

<sup>b</sup>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	Clear visual signs were not reported.
2	No symptoms were observed for presumptive diagnosis of YHD virus.
3	White spot disease was observed, intensity of occurrence was higher compared to the [previous quarter.
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

Country: Thailand

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
1. Epizootic haematopoietic necrosis*	***	***	***	
2. Infectious haematopoietic necrosis*	***	***	***	
3. <i>Oncorhynchus masou virus</i> disease*	***	***	***	
4. Infectious pancreatic necrosis	***	***	***	
5. Viral encephalopathy and retinopathy	-	-	-	
6. Epizootic ulcerative syndrome (EUS)	-	-	+	1
7. Bacterial kidney disease	***	***	***	
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*	***	***	***	
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***	
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*	***	***	***	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*	***	***	***	
<b>Crustacean disease</b>				
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')	***	***	***	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*	***	***	***	
2. Viral haemorrhagic septicaemia*	***	***	***	
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*	***	***	***	
<b>Any other diseases of importance<sup>b</sup></b>				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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	One EUS outbreak occurred in rice paddy field in Prachinburi province, East of Thailand. The major affected fishes were striped snakehead fish, <i>Chana striata</i> and climbing perch, <i>Anabas testudineus</i> . 40% of fish were infected. This report was firm by histological section.
2	A total of 3,808 tiger prawn samples cultured in 21 Provinces had been sent to 11 PCR Laboratories of the Department of Fisheries. 222 samples or 5.83% were recorded as PCR positive or carrying SEMBV gene.
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### 2. New aquatic animal health regulations introduced within the past six months (with effective date):

Country: Vietnam

Period: October to December 2000

Item	Disease status <sup>a</sup>			Comment Numbers
	October	November	December	
<b>Diseases prevalent in some parts of the region</b>				
<b>Finfish diseases</b>				
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				
<b>Mollusc disease</b>				
1. Bonamiosis ( <i>Bonamia</i> sp., <i>B. ostreae</i> )*				
2. Marteilliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*				
3. Microcytosis ( <i>Mikrocytos mackini</i> , <i>M. roughleyi</i> )*				
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni</i> )*				
<b>Crustacean disease</b>				
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')				
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>				
<b>Finfish diseases</b>				
1. Spring viraemia of carp*				
2. Viral haemorrhagic septicaemia*				
<b>Mollusc diseases</b>				
1. Haplosporidiosis ( <i>Haplosporidium costale</i> , <i>H. nelsoni</i> )*				
<b>Any other diseases of importance<sup>b</sup></b>				
Diseases of grass carp				
White spot disease in fish (Ichthyophthiriosis)				
Monodon baculovirus diseases (MBV)				
<b>Unknown diseases of serious nature</b>				

<sup>b</sup>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

<sup>a</sup>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
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**2. New aquatic animal health regulations introduced within the past six months (with effective date):**

## Related Events and Publications

FAO/NACA. 2000. Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and The Beijing Consensus and Implementation Strategy. 2000. *FAO Fisheries Technical Paper No. 402*. 2000. 53 p.

**Information from:**

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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, 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

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

**Information from:**

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

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**Australian Aquatic Animal Disease – Identification Field Guide** by Alistair Herfort and Grant Rawlin

**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 e-mail [shopfront@affa.gov.au](mailto: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](mailto:sales@handirisk.com)

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

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**Fish Health for Fish Farmers** by Tina Thorne

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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 Secretariat  
E-mail: [naca@enaca.org](mailto:naca@enaca.org)

**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.

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**Health Management in Shrimp Ponds.** Third Edition (by P. Chanratchakool, JF Turnbull, SJ Funge-Smith, IH MacRae and C Limsuwan).

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

***Information from:***

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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\*  
                                  *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*)\*  
                                  Microcytosis (*Mikrocytos mackini*, *M. roughleyi*)\*  
                                  Perkinsosis (*Perkinsus marinus*, *P. olseni*)\*
- Crustacean Disease:    Yellowhead disease  
                                  Infectious hypodermal and haematopoietic necrosis (IHHN)  
                                  White spot disease  
                                  Baculoviral midgut gland necrosis  
                                  Gill associated virus (GAV)  
                                  Spawner mortality syndrome ('Midcrop mortality syndrome')

### 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 (*Baculovirus penaei*)  
                                  Crayfish plague (*Aphanomyces astaci*)  
                                  Taura syndrome  
                                  Necrotising hepatopancreatitis

\* OIE notifiable diseases

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

(Revised during the Second Workshop)

Symbols used in the report are similar to those used by FAO, OIE and WHO for the *Animal Health Yearbook*. Please read these instructions 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 page 1, please enter serial numbers, and write your corresponding comments on page 2. See Section C below.

If an unknown disease of serious nature appears, please fill in the last line of the form and add epidemiological comments on page 2.

Please do not fail to enter "\*\*\*" or "-" as appropriate against each disease, which is essential to incorporate your information on the *Quarterly Aquatic Animal Disease Report (Asia and Pacific Region)*.

If you have new aquatic animal health regulations introduced within the past six months, please describe them under Section 2 on page 2.

Please use the following symbols to fill in the forms.

### A. Symbols used for negative occurrence are as follows:

- \*\*\* This symbol means that no information on a disease in question is available due to reasons such as lack of surveillance systems or expertise.
- This symbol is used when a disease is not reported during a reporting period. However the disease is known to be present in the country (date of last outbreak is not always known).
- 0000 This symbol is used when disease surveillance is in place and a disease has never been reported.
- (year) Year of last occurrence (a disease has been absent since then).

### B. Symbols used for positive occurrence are shown below.

- + This symbol means that the occurrence of a disease in question is sporadic but it is known to be present. However the occurrence is relatively rare.
- +? This symbol is used when the presence of a disease is suspected but there is no recognised occurrence of clinical signs of the disease in the country. Serological evidence and isolation of the causal agent may indicate the presence of the disease, but no confirmed report is available. **It is important that the species of animals to which it applies is indicated in the "Comments" on page 2 of the form if you use this symbol.**
- +() These symbols mean that a disease is present in a very limited zone or zones as exceptional cases. It may also include the occurrence of a disease in a quarantine area.
- ? This symbol is used only when a disease is suspected by the reporting officer, but the presence of the disease has not been confirmed.

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

### IMPORTANT

Please send the **original report** or the best photocopy thereof to the OIE and/or NACA **by fax** and **registered airmail**. Faxed reports are needed to check whether or not the reports are all right. The deadline for submission of the reports is **one and a half months (45 days)** after the end of the quarterly period.

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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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