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(Asia and Pacific Region)**

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## Foreword

The second meeting of the Asia Regional Advisory Group (AG) on Aquatic Animal Health (AGM-2) was held at the NACA Headquarters, Bangkok, Thailand on 10-12 November 2003. The 10-member Advisory Group, constituted by NACA, in cooperation with OIE and FAO, advises Asian governments on aquatic animal health management. Members are experts from government and the private sector with representatives from FAO, the Aquatic Animal Health Standards Commission of the OIE and the OIE Regional Representation for Asia and the Pacific.

During the three-day meeting, the AG addressed key aquatic animal health issues in Asia, including regional disease reporting systems, emerging aquatic animal disease problems (emphasizing taura syndrome virus (TSV), koi herpes virus (KHV), and abalone die-offs), implementation of the Asia Regional Technical Guidelines on Health Management and the Responsible Movement of live aquatic animals, and ways to further strengthen regional and international cooperation in Asian aquatic animal health management.

The final report will be circulated to the region's fisheries and veterinary authorities in early 2004 and will be made available to the general public through the NACA website ([www.enaca.org](http://www.enaca.org)). Some of the key points discussed on emerging diseases and regional reporting are summarized below as advance information.

### Emerging diseases and reporting

The recent outbreaks of **koi herpes virus (KHV)** in Japan and continued occurrence of **koi mass mortality** (yet to be confirmed as KHV) in Indonesia emphasize the need for effective programs on surveillance and emergency preparedness. National Coordinators (NCs) in countries or regions with susceptible species are advised to increase vigilance for KHV. Information on KHV has been posted on the NACA website to assist in this matter ([www.enaca.org/health](http://www.enaca.org/health)).

The AG expressed concern over recent reports on isolation of **spring viraemia of carp (SVC)** from common carp and koi carp in China PR. The SVC virus detected in China did not cause mortality, but is a concern because SVC was presumed exotic to the region. NCs in countries or regions with susceptible species should increase vigilance for SVC.

Since the listing of **grouper iridoviral disease** in the QAAD from January 2003, Hong Kong China and Singapore have reported the occurrence of iridoviral diseases. The occurrence of grouper iridoviral diseases is generally accepted as being widespread, but not officially reported. In view of the increasing importance of marine finfish farming in Asia, and extensive movement of fry, fingerlings and adult fish, NCs in countries or regions with marine finfish culture activities are advised to strengthen surveillance and reporting of grouper iridoviral diseases.

**Taura syndrome virus (TSV)** is a new exotic shrimp virus in Asia now reported from *Penaeus vannamei* in China PR, Indonesia and Thailand. TSV may be under-reported due to existing government restrictions on *P. vannamei* introductions and limited screening. The AG was concerned that the spread of TSV may be greater than indicated by QAAD reports and emphasized the need for improved reporting of TSV in the region indicating the species in which it occurs.

With reports of **white spot syndrome virus (WSSV)** now causing health problems in *P. vannamei* cultured in Asia, the AG recommended that the occurrence of WSSV in *P. vannamei* be reflected in the QAAD reports.

Little attention has so far been given to molluscan diseases in the region, although serious losses are known to be occurring. Recent **abalone die offs** in Taiwan Province of China and China PR are causes of concern. There is yet no confirmatory aetiology, but viruses and/or *Vibrio alginolyticus* have been implicated. Japan, Australia, Taiwan Province of China and China PR have large abalone industries. In view of the importance of mollusc aquaculture to Asia, as well as movement of their spat and adults, efforts are required to improve reporting of their pathogens.

Emerging health problems (not yet listed in the QAAD) such as **slow growth syndrome** in *Penaeus monodon*, **mourilyan virus** in shrimps, **peripheral neuropathy and retinopathy** in *P. monodon*, and **white tail/body disease** in *Macrobrachium rosenbergii*, were highlighted during the discussions and are a concern for the region. The AG emphasized the need for epidemiological studies, good disease outbreak investigations and clear case definitions to better understand these problems and their impacts.

### Required changes to the QAAD reporting form

Below are proposed changes in the QAAD form to conform with changes to the OIE *Aquatic Animal Health Code*. These changes were adopted by the OIE International Committee at the General Session in May 2003 and have been incorporated in the latest (6<sup>th</sup>) edition of the *Aquatic Code* (2003). Also included are changes recommended by the AG to reflect the aquatic animal disease situation in the region.

- Addition of ‘spherical baculovirus’ (*Penaeus monodon*-type baculovirus or MBV) to ensure that all OIE-listed diseases appear on the QAAD form;
- Adjusting the names of OIE-listed diseases of molluscs as follows:

Old name	New name
Bonamiosis:	infection with <i>Bonamia ostreae</i>
	infection with <i>Bonamia exitiosus</i>
	infection with <i>Mikrocytos roughleyi</i>
MSX disease:	infection with <i>Haplosporidium nelsoni</i>
Marteiliosis:	infection with <i>Marteilia refringens</i>
	infection with <i>Marteilia sydneyi</i>
Mikrocytosis:	infection with <i>Mikrocytos mackini</i>
Perkinsosis:	infection with <i>Perkinsus marinus</i>
	infection with <i>Perkinsus olseni/atlanticus</i>
SSO disease:	infection with <i>Haplosporidium costale</i>
Withering syndrome of abalone:	infection with <i>Candidatus Xenohaliotis californiensis</i>

- Removing reference to ‘notifiable’ (previously indicated by an asterisk behind the disease name);
- Adding ‘spring viraemia of carp’ to the list of diseases prevalent in the region and removing it from the list of diseases presumed to be exotic;
- Adding ‘infection with koi herpesvirus’ to the list of diseases prevalent in the region; and
- Adding ‘abalone viral mortality’ as an unknown disease of a serious nature.

As in the past, joint letter from OIE/NACA will be circulated together with a copy of the new QAAD reporting form (to be used from the January-March 2004 reporting period)

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





Country: **Australia**

Period: July-September 2003

Item	Disease status <sup>a</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	July	August	September		
<b>Finfish diseases</b>					
1. Epizootic haematopoietic necrosis*	-(2003)	-(2003)	-(2003)		1
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. <i>Oncorhynchus masou</i> virus disease*	0000	0000	0000		
4. Viral haemorrhagic septicaemia*	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Viral encephalopathy and retinopathy	-(2003)	-(2003)	-(2003)		2
7. Epizootic ulcerative syndrome (EUS)	+	+	+	I	3
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	0000/0000/-(2002)	0000/0000/-(2002)	0000/0000/+	II	4
2. Marteiliiosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000/-(2002)	0000/-(2002)	0000/-(2002)		5
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	0000	0000	0000		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>g/</sup> )*	0000/+	0000/+	0000/+	II	6
5. MSX disease ( <i>Haplosporidium nelsoni</i> )*	0000	0000	0000		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	0000/+?	0000/+?	0000/+?	III	7
2. White spot disease*	0000	0000	0000		
3. Taura syndrome*	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Spawner-isolated mortality virus disease	-(?)	-(?)	-(?)		8
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	0000	0000	0000		
<b>Any other diseases of importance <sup>b/</sup></b>					
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohaliothis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>g/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	Epizootic haematopoietic necrosis was not reported this period despite passive surveillance but is known to have previously occurred in Victoria (last reported first quarter 2003), New South Wales (last year reported 2000) and South Australia (last year reported 1992). Targeted surveillance and never reported in Tasmania. Passive surveillance and never reported in Queensland or Western Australia. Annual occurrence of the disease in the Australian Capital Territory, but no laboratory confirmation. No information available this quarter from the Northern Territory.
2	Viral encephalopathy and retinopathy was not reported this period from Queensland despite passive surveillance (last reported first quarter 2003). Not reported from the Northern Territory this period despite targeted surveillance (last year reported 2002). Not reported this period despite active surveillance from Tasmania (last year reported 2000) and South Australia (last year reported 1998). Never reported from New South Wales, Victoria or Western Australia despite passive surveillance. No information available in the Australian Capital Territory.
3	Epizootic ulcerative syndrome was detected in New South Wales in one pond of farmed silver perch ( <i>Bidyanus bidyanus</i> ) using field level diagnosis in July, August and September 2003. EUS was not reported during this period despite passive surveillance, but is known to have occurred in Queensland (last reported second quarter 2003), Victoria and Western Australia (last year reported 2002). Passive surveillance and never reported in Northern Territory, South Australia and Tasmania. No information available in the Australian Capital Territory.
4	<p><b><i>Bonamia exitiosus and Bonamia ostreae:</i></b> Never reported in South Australia despite active surveillance. Passive surveillance and never reported in New South Wales, Queensland, Tasmania, Victoria and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility). No information available in the Northern Territory.</p> <p><b><i>Mikrocytos roughleyi:</i></b> Significant (up to 90%) mortality in Sydney rock oysters (<i>Saccostrea glomerata</i>) reported from one farm in New South Wales in September (passive surveillance). Mortality was associated with heavy infection with microcells, which in histological sections appeared consistent with <i>Mikrocytos roughleyi</i>. Never reported in South Australia or Tasmania despite active surveillance. Not reported during this period (passive surveillance) but known to have occurred in Western Australia (last year reported 1996). Considered enzootic in Queensland but lack of diagnostic submissions. Passive surveillance and never reported in Victoria. No information available in the Australian Capital Territory (no marine water responsibility). No information available in the Northern Territory.</p>
5	<p><b><i>Marteilia refringens:</i></b> Active surveillance and never reported in South Australia or Tasmania. Passive surveillance and never reported in New South Wales, Queensland, Victoria and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility). No information available in the Northern Territory.</p> <p><b><i>Marteilia sydneyi:</i></b> Not reported this period despite passive surveillance from New South Wales (last year reported 2002) or Western Australia (last year reported 1994). Considered enzootic in Queensland but lack of diagnostic submissions. Active surveillance and never reported in South Australia or Tasmania. Passive surveillance and never reported in Victoria. No information available in the Australian Capital Territory (no marine water responsibility). No information available in the Northern Territory.</p>

6	<p><b>Perkinsus marinus:</b> Active surveillance and never reported from South Australia or Tasmania. Passive surveillance and never reported in Northern Territory, New South Wales, Queensland, Victoria and Western Australia. No information available for the Australian Capital Territory (no marine water responsibility).</p> <p><b>Perkinsus olseni/atlanticus:</b> Reported from South Australia in July, August and September 2003 (targeted surveillance) and Western Australia in July (active surveillance) in wild, but not in cultured, <i>Haliotis</i> spp. Not reported this quarter from New South Wales, despite passive surveillance (last year reported 2002). Targeted 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>
7	<p><b>Yellowhead disease:</b> Targeted surveillance and never reported in the Northern Territory. Passive surveillance and never reported in New South Wales, Queensland, South Australia, Victoria and Western Australia. No information available from Tasmania (susceptible species not present). No information available from the Australian Capital Territory (no marine water responsibility).</p> <p><b>Gill-associated virus:</b> Reported from the Northern Territory in July, August and September 2003 at a research facility in apparently healthy broodstock <i>Penaeus monodon</i> prawns in quarantine by PCR (targeted surveillance). Not reported this period despite passive surveillance, but known to have occurred previously in New South Wales (last reported second quarter 2003). Gill-associated virus is considered endemic in Queensland where the lack of a clear case definition, of readily available detection tests and an apparent role for mixed virus infections, make any conclusion about the incidence of GAV-related epizootics impossible. Passive surveillance and never reported in South Australia, Victoria and Western Australia. No information available in Tasmania (susceptible species not present) and the Australian Capital Territory (no marine water responsibility).</p>
8	<p>The lack of a clear case definition, of readily available detection tests and an apparent role for mixed virus infections, make any conclusion about the incidence of SMV-related epizootics impossible.</p>

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

Country: **Bangladesh**

Period: July-September 2003

Item	Disease status <sup>al</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	July	August	September		
<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. Viral haemorrhagic septicaemia*	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Viral encephalopathy and retinopathy	0000	0000	0000		
7. Epizootic ulcerative syndrome (EUS)	-	+	+	II	1
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus.</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	0000	0000	0000		
2. Marteilioidosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	0000	0000	0000		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P.</i>	0000	0000	0000		
5. MSX disease ( <i>Haplosporidium. nelsoni</i> )*	0000	0000	0000		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	0000	0000	0000		
2. White spot disease*	+	+	-	I	2
3. Taura syndrome*	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Spawner-isolated mortality virus disease	0000	0000	0000		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	0000	0000	0000		
<b>Any other diseases of importance <sup>b/</sup></b>					
Bacterial Disease	+	+	+	I	3
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality					
2. Akoya oyster disease					
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohalotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>g/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	Epizootic ulcerative syndrome was identified from Indian major carp <i>L.rohita</i> , <i>C.mrigala</i> , <i>C.catla</i> , <i>Barbodes gonionotus</i> and <i>H.molitrix</i> in the central part of the country, Mymensingh region during August and September. Liming was suggested. Sometimes potash was also suggested. Some fish growers applied other commercially available drugs. But the result was not satisfactory
2	It was reported that outbreak of white spot disease in shrimp farms were observed in the coastal region of the country
3	<i>Pangasius sutchi</i> was seriously affected with bacteria in the fish farms of Mymensingh area during the reporting period. <i>E.tarda</i> and <i>Aeromonas</i> spp were identified from the affected fish. However, report of incidence or disease outbreak from other part of the country has not come.

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

Country: Cambodia

Period: July-September 2003

Item	Disease status <sup>al</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	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*	***	***	***		
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***		
4. Viral haemorrhagic septicaemia*	***	***	***		
5. Infectious pancreatic necrosis	***	***	***		
6. Viral encephalopathy and retinopathy	***	***	***		
7. Epizootic ulcerative syndrome (EUS)	-	-	-		1
8. Bacterial kidney disease	***	***	***		
9. Red sea bream iridoviral disease	***	***	***		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus.</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	***	***	***		
2. Marteiliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	***	***	***		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P.</i>	***	***	***		
5. MSX disease ( <i>Haplosporidium. nelsoni</i> )*	***	***	***		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	***	***	***		
2. White spot disease*	***	***	***		
3. Taura syndrome*	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Spawner-isolated mortality virus disease	***	***	***		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	***	***	***		
<b>Any other diseases of importance <sup>b/</sup></b>					
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality					
2. Akoya oyster disease					
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohaliotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>g/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	Not reported during this reporting period

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

Country: **China P.R**

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	July	August	September		
<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. Viral haemorrhagic septicaemia*	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Viral encephalopathy and retinopathy	0000	0000	0000		
7. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus.</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	0000	0000	0000		
2. Marteiliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	0000	0000	0000		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>c/</sup> )*	0000	0000	0000		
5. MSX disease ( <i>Haplosporidium. nelsoni</i> )*	0000	0000	0000		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	0000	0000	0000		
2. White spot disease*	+()	+()	+()		1
3. Taura syndrome*	+()	+()	+()		2
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Spawner-isolated mortality virus disease	0000	0000	0000		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	***	***	****		
<b>Any other diseases of importance <sup>b/</sup></b>					
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohaliotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>c/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	From July to Sept in 2003, White Spot Disease was reported in main Chinese coastal provinces. Te situation of Hainan, Guangxi provinces were more serious and average mortality rate reached 30%. As present, it has an apparent trend that WSSD has widely spread to Whiteleg Shrimp culture.
2	From July to Sept in 2003, Taura syndrome was detected in the coastal provinces located south of Shanghai metropolises. The situation in Hainan, Guangdong provinces was more serious and the average morality rate reached 30%. Now TS has not been reported in the northern area of China.

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

Country: **Hong Kong China**

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	July	August	September		
<b>Diseases prevalent in some parts of the region</b>					
<b>Finfish diseases</b>					
1. Epizootic haematopoietic necrosis*	0000	0000	0000	II	
2. Infectious haematopoietic necrosis*	0000	0000	0000	III	
3. <i>Oncorhynchus masou</i> virus disease*	0000	0000	0000	II	
4. Viral haemorrhagic septicaemia*	0000	0000	0000	III	
5. Infectious pancreatic necrosis	0000	0000	0000	III	
6. Viral encephalopathy and retinopathy	-	-	-	III	1
7. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	II	
8. Bacterial kidney disease	0000	0000	0000	III	
9. Red sea bream iridoviral disease	0000	0000	0000	III	
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	0000	0000	0000	II	
2. Marteilioidosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000	II	
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	0000	0000	0000	II	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olsenii/atlanticus</i> <sup>c/</sup> )*	0000	0000	0000	II	
5. MSX disease ( <i>Haplosporidium nelsoni</i> )*	0000	0000	0000	II	
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	0000	0000	0000	III	
2. White spot disease*	(+?2003)			III	2
3. Taura syndrome*	0000	0000	0000	III	
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	II	
5. Spawner-isolated mortality virus disease	0000	0000	0000	II	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	0000	0000	0000	III	
<b>Any other diseases of importance <sup>b/</sup></b>					
1. Grouper Iridoviral Disease	+	+	-	III	3
2. Epitheliocystis	+?(2002)			II	4
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	0000	0000	0000	II	
2. Akoya oyster disease	0000	0000	0000	II	
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohalotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>c/</b> Although <i>Perkinsus olsenii</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	No cases reported or detected in the July-September 2003 quarter but freedom status not established on farms reported in previous quarter.
2	No further White Spot Syndrome Virus cases reported for the reporting period.
3	New cases were detected in July (4) and August 2003 (1). Of these, single cases were detected in three additional fish culture zones (YSA, SKW and SLK) from an active surveillance project conducted during July and August 2003.
4	No further cases reported.

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

Country: **India**

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	July	August	September		
<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. Viral haemorrhagic septicaemia*	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Viral encephalopathy and retinopathy	0000	0000	0000		
7. Epizootic ulcerative syndrome (EUS)	-	-	-		
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	0000	0000	0000		
2. Marteiliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	0000	0000	0000		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>c/</sup> )*	0000	0000	0000		
5. MSX disease ( <i>Haplosporidium nelsoni</i> )*	0000	0000	0000		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*					
2. White spot disease*	+()	+()	+()	I	1
3. Taura syndrome*	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Spawner-isolated mortality virus disease	0000	0000	0000		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	0000	0000	0000		
<b>Any other diseases of importance <sup>b/</sup></b>					
Monodon baculovirus (MBV)	+()	+()	+()	I	2
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		
<p><b>b/</b> In particular, these include the following diseases:</p> <p><b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease</p> <p><b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohalotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)</p> <p><b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis</p> <p><b>c/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	Reported from very limited areas of Andhra Pradesh, Goa, Maharashtra and West Bengal.
2	Reported from limited areas of Kannur region in Kerala.

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

Country: **Indonesia**

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	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*	***	***	***		
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***		
4. Viral haemorrhagic septicaemia*	***	***	***		
5. Infectious pancreatic necrosis	***	***	***		
6. Viral encephalopathy and retinopathy	+	+	+	III	1
7. Epizootic ulcerative syndrome (EUS)	***	***	***		
8. Bacterial kidney disease	***	***	***		
9. Red sea bream iridoviral disease	***	***	***		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	***/**	***/**	***/**		
2. Marteilioidosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***/**	***/**	***/**		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	***/**	***/**	***/**		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>c/</sup> )*	***/**	***/**	***/**		
5. MSX disease ( <i>Haplosporidium nelsoni</i> )*					
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	***	***	***		
2. White spot disease*	+	+	+	III	2
3. Taura syndrome*	+	+	+	III	3
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Spawner-isolated mortality virus disease	***	***	***		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	***	***	***		
<b>Any other diseases of importance <sup>b/</sup></b>					
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	+	+	+	III	4
2. Akoya oyster disease	***	***	***		
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohalotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>c/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	The disease occurred in grouper ( <i>Cromileptes altivelis</i> ) at Lampung province, Sumatera islands.
2	Post larvae of <i>Penaeus monodon</i> sent by farmer from Central Java (District of Brebes) and East Java (Districts of Sidoarjo and Bangil) were PCR positive against WSSV.
3	<p>Despite active surveillance on <i>Penaeus vannamei</i>, TSV infection was not found in West Java and Banten provinces. However, most of <i>Penaeus vannamei</i> which originated from East Java (Banyuwangi, Situbondo, Pasuruan, Bangil, Sidoarjo, Malang) were TSV positive. TSV mostly caused mortality to 1-2 months old of <i>P. vannamei</i> reared in intensive culture system (120 PLs/m<sup>2</sup>). It is suspected that TSV first occurred in Banyuwangi and Situbondo before spread to other districts in East Java through movement of infected post larvae. Banyuwangi and Situbondo is one of shrimp (<i>P. monodon</i> and <i>P. vannamei</i>) production center. They produced both seed and marketable shrimp.</p> <p>Samples of <i>Penaeus monodon</i> originated from Brebes (Central Java), Situbondo (East Java) and Bali islands were also PCR positive against TSV. TSV has also been found in <i>Penaeus vannamei</i> from Maros (Sulawesi islands) and Sumbawa islands. All of the samples were confirmed by PCR-based methods.</p>
4	Koi mass mortality still occurred in Blitar (East Java), Brebes (Central Java), Bogor, Cianjur, Sukabumi, Purwakarta (West Java), Lubuh Linggau (South Sumatera). The disease has spread to the west of Sumatera (Jambi province). Koi and common carp samples were tested by using PCR methods.

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

1. Ministerial Decree No.20/2003 regarding classification of fish drug. (Effective date: 9 June 2003).
2. Directorate General Decree No.4158/2003 regarding procedure for testing and registration of fish drug. (Effective date: 8 July 2003)

Country: **Iran**

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological 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*	?	?	?	I & III	1
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***		
4. Viral haemorrhagic septicaemia*	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Viral encephalopathy and retinopathy	***	***	***		
7. Epizootic ulcerative syndrome (EUS)	***	***	***		
8. Bacterial kidney disease	***	***	***		
9. Red sea bream iridoviral disease	***	***	***		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus.</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	***	***	***		
2. Marteiliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	***	***	***		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>c/</sup> )*	***	***	***		
5. MSX disease ( <i>Haplosporidium. nelsoni</i> )*	***	***	***		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	0000	0000	0000		
2. White spot disease*	-(2002)	-(2002)	-(2002)		2
3. Taura syndrome*	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Spawner-isolated mortality virus disease	***	***	***		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	0000	0000	0000		
<b>Any other diseases of importance <sup>b/</sup></b>					
<b>Unknown diseases of serious nature</b>	***	***	***		
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease					
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohalotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteiloides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>c/</b> Although <i>Perkinsus olsenii</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	Clinical signs of IHN were observed in 17 rainbow trout farms of 8 provinces that caused about 70% mortality from 20 April 2003 and then was detected using indirect fluorescent antibody test but molecular techniques have not been used to confirm this disease.
2	White spot disease was not reported during this period but was known to have occurred in Choebdeh area of Abadan in July to September 2002 that was eventually eradicated by using active surveillance in all of the cultured sites in aquaculture provinces.

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

Country: **Japan**

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	July	August	September		
<b>Diseases prevalent in some parts of the region</b>					
<b>Finfish diseases</b>					
1. Epizootic haematopoietic necrosis*	0000	0000	0000	I	
2. Infectious haematopoietic necrosis*	+	+	+	III	
3. <i>Oncorhynchus masou</i> virus disease*	+	+	+	III	
4. Viral haemorrhagic septicaemia*	-	-	-	I	
5. Infectious pancreatic necrosis	+	+	-	III	
6. Viral encephalopathy and retinopathy	-	-	+	III	
7. Epizootic ulcerative syndrome (EUS)	-	-	-	I	
8. Bacterial kidney disease	+	+	+	III	
9. Red sea bream iridoviral disease	+	+	+	III	
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus.</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	0000	0000	0000	I	
2. Marteiliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000	I	
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	0000	0000	0000	I	
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>g/</sup> )*	0000	0000	0000	I	
5. MSX disease ( <i>Haplosporidium. nelsoni</i> )*				I	1
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	0000	0000	0000	I	
2. White spot disease*	+	+	+	III	
3. Taura syndrome*	0000	0000	0000	I	
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	I	
5. Spawner-isolated mortality virus disease	0000	0000	0000	I	
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	0000	0000	0000	I	
<b>Any other diseases of importance <sup>b/</sup></b>					
Epitheliocystis	+	+	-	II	
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	0000	0000	0000	I	
2. Akoya oyster disease	+	+	+	II	
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohaliotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>g/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	<p><i>Haplosporidium nelsoni</i> was detected at 2% positive in Pacific oyster (<i>Crassostrea gigas</i>) spats collected from the North-eastern part of Japan (see OIE Disease Information on the 5 October, 2001 on the OIE internet homepage). However, mortality or disease of Pacific oyster associated with <i>H.nelsoni</i> has not been reported at all. Therefore, the symbol is not described at the portion of Haplosporidiosis in this report form.</p>

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

Country: **Malaysia**

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	July	August	September		
<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. Viral haemorrhagic septicaemia*	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Viral encephalopathy and retinopathy	0000	0000	0000		
7. Epizootic ulcerative syndrome (EUS)	(1987)	(1987)	(1987)		
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus.</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	***	***	***		
2. Marteiliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	***	***	***		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>c/</sup> )*	***	***	***		
5. MSX disease ( <i>Haplosporidium. nelsoni</i> )*	***	***	***		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	0000	0000	0000		
2. White spot disease*	-	-	-		
3. Taura syndrome*	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Spawner-isolated mortality virus disease	0000	0000	0000		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	0000	0000	0000		
<b>Any other diseases of importance <sup>b/</sup></b>					
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	****	****	****		
2. Akoya oyster disease	****	****	****		
<b>b/</b> In particular, these include the following diseases: <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis ( <i>Gyrodactylus salaris</i> ); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease <b>Mollusc:</b> Withering syndrome of abalones ( <i>Candidatus Xenohaliotis californiensis</i> ); SSO disease ( <i>Haplosporidium costale</i> ); Marteiloides infection ( <i>Marteilioides chungmuensis</i> ) <b>Crustacean:</b> Tetrahedral baculovirus ( <i>Baculovirus penaei</i> ); Crayfish plague ( <i>Aphanomyces astaci</i> ); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis <b>c/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.					

\* 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:**

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

Country: Myanmar

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological 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*	***	***	***		
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***		
4. Viral haemorrhagic septicaemia*	***	***	***		
5. Infectious pancreatic necrosis	***	***	***		
6. Viral encephalopathy and retinopathy	***	***	***		
7. Epizootic ulcerative syndrome (EUS)	***	***	***		
8. Bacterial kidney disease	***	***	***		
9. Red sea bream iridoviral disease	***	***	***		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	***	***	***		
2. Marteilioidosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	***	***	***		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>g/</sup> )*	***	***	***		
5. MSX disease ( <i>Haplosporidium nelsoni</i> )*	***	***	***		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	***	***	***		
2. White spot disease*	***	***	+()	III	1
3. Taura syndrome*	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Spawner-isolated mortality virus disease	***	***	***		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	***	***	***		
<b>Any other diseases of importance<sup>b/</sup></b>					
<i>Trichodina</i> spp	***	+()	***	I	2
<i>Dactylogyrus</i> spp	***	+()	+()	I	3
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohalotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>g/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	A case of white spot disease was diagnosed on PL 9 by nested PCR in a private farm
2	<i>Trichodina</i> spp parasite were found in fin, body surface and gills from <i>Pangasius</i> spp fry
3	<i>Dactylogyrus</i> spp parasite found on gill filament from koi carp.

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

Country: Nepal

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	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*	***	***	***		
3. <i>Oncorhynchus masou</i> virus disease*	***	***	***		
4. Viral haemorrhagic septicaemia*	***	***	***		
5. Infectious pancreatic necrosis	***	***	***		
6. Viral encephalopathy and retinopathy	***	***	***		
7. Epizootic ulcerative syndrome (EUS)	-	-	+	I	1
8. Bacterial kidney disease	***	***	***		
9. Red sea bream iridoviral disease	***	***	***		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	***	***	***		
2. Marteilioidosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	***	***	***		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>g/</sup> )*	***	***	***		
5. MSX disease ( <i>Haplosporidium nelsoni</i> )*	***	***	***		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	***	***	***		
2. White spot disease*	***	***	***		
3. Taura syndrome*	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Spawner-isolated mortality virus disease	***	***	***		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	***	***	***		
<b>Any other diseases of importance <sup>b/</sup></b>					
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		
3. Falling of scales in cage fish (Silver and Bighead carp)	+	+	+	I	2
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohalotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>g/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	Symptoms of EUS in common carp ( <i>Cyprinus carpio</i> ) and rohu ( <i>Labeo rohita</i> ) was reported in September from Rupandehi District only and the loss was reported to be not significant. Calcium hydro-oxide was used for its control @ 500kg/ha
2	An unknown disease in fish grown in cages had been reported from Indrasarowar Reservoir Ku;ekhani, Makwanpur, Nepal. Falling of scales reported to be one of the major symptoms of the diseases and caused mortality in particular silver carp ( <i>Hypophthalmichthys molitris</i> ) and bighead carp ( <i>Aristichthys nobilis</i> ) of 200 g size and above. No causative organism had been identified to this date. The cases of disease had been reported since last three years but the fish mortality was reported to be quite high this year. The case is of prime concern and needs to be addressed properly to sustain cage fish culture in the reservoir.

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

Country: **Philippines**

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	Month				
	July	August	September		
<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. Viral haemorrhagic septicaemia*	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Viral encephalopathy and retinopathy	+	+	+	III	1
7. Epizootic ulcerative syndrome (EUS)	-	-	-		2
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	0000	0000	0000		
2. Marteilioidosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	0000	0000	0000		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>g/</sup> )*	0000	0000	0000		
5. MSX disease ( <i>Haplosporidium nelsoni</i> )*	0000	0000	0000		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	***	***	***		
2. White spot disease*	+	+	+	III	3
3. Taura syndrome*	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Spawner-isolated mortality virus disease	***	***	***		4
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	0000	0000	0000		
<b>Any other diseases of importance <sup>b/</sup></b>					
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohaliotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>g/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	<p>July 2003 -Tilapia (153 g), <i>Chanos chanos</i> (eggs, day 17) and grouper (<i>Epinephelus</i> sp.) eggs from Iloilo produced positive results for VER using RT-PCR (Nested Step)</p> <p>Aug – Sept 2003 -Grouper (415 g, day 20, eggs) produced positive results for VER using RT-PCR (Nested Step)</p> <p>Examinations conducted by SEAFDEC-AQD, Fish Health Laboratory</p>
2	<p>No reported case (passive) during the month of July-September 2003</p>
3	<p>There were 247 (batches/samples) of <i>P. monodon</i> post larva examined from different provinces during the month of July-September 2003. Out these batches/samples, 232 showed negative results and 15 batches/samples showed positive results for White Spot Virus using PCR technique (Two Step and Nested Step).</p> <p>In <i>P. monodon</i> grow-out ponds there were 176 batches/samples from different farms examined using PCR technique. Out of these samples/batches, 160 showed negative results and 16 produced positive results for WSV.</p> <p>Examinations conducted by BFAR-Fish Health Laboratories, SEAFDEC-AQD, Fish Health Laboratory.</p>
4	<p>Information available was in 1998, when samples of <i>P. monodon</i> from selected grow-out farms sent to Australia in October 1998 (Dr. L. Owens, James Cook University). Examination of the samples by <i>in-situ</i> hybridization using Spawner Mortality Virus (SMV) probe produced positive results.</p>

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

Country: Singapore

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	July	August	September		
<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. Viral haemorrhagic septicaemia*	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Viral encephalopathy and retinopathy	+	-	-	III	1
7. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus.</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	***	***	***		
2. Marteiliosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	***	***	***		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>g/</sup> )*	***	***	***		
5. MSX disease ( <i>Haplosporidium. nelsoni</i> )*	***	***	***		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	***	***	***		
2. White spot disease*	-	-	-		
3. Taura syndrome*	***	***	***		
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Spawner-isolated mortality virus disease	***	***	***		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	0000	0000	0000		
<b>Any other diseases of importance <sup>b/</sup></b>					
Mullet iridoviral disease	+	-	-	III	2
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	***	***	***		
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohalotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>g/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* 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.	
1	Viral encephalopathy and retinopathy was diagnosed in one batch of yellow pompano fingerlings imported from Taiwan, by histology, tissue culture and RT-PCR using the primers specific for the striped jack nodavirus. Affected fish suffered 100% mortality
2	Histological evidence of a systemic iridoviral disease was observed in one batch of 4 month-old mullet fingerlings, <i>Mugil cephalus</i> imported from Taiwan. Viral isolates were tested negative as RSIV by PCR using primer sets recommended in the OIE diagnostic manual. Affected fish suffered 10% mortality

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

Country: Sri Lanka

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	July	August	September		
<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. Viral haemorrhagic septicaemia*	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Viral encephalopathy and retinopathy	0000	0000	0000		
7. Epizootic ulcerative syndrome (EUS)	?	?	?	I	1
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	0000	0000	0000		
2. Marteiliiosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	0000	0000	0000		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	0000	0000	0000		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>c/</sup> )*	0000	0000	0000		
5. MSX disease ( <i>Haplosporidium nelsoni</i> )*	0000	0000	0000		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	?	?	?	I	2
2. White spot disease*	+	+	+	III	3
3. Taura syndrome*	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Spawner-isolated mortality virus disease	0000	0000	0000		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	0000	0000	0000		
<b>Any other diseases of importance <sup>b/</sup></b>					
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohaliotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>c/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

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0000 Never reported

- Not reported (but disease is known to occur

(year) year of last occurrence

**1. Epidemiological comments:**

Comment No.	
1	Clear visual signs were not reported
2	No symptoms were observed
3	<i>P. monodon</i> samples from the hatcheries and farms tested with PCR amplification for WSSV showed positive results. Intensity of occurrence was higher than the previous quarter.

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

Country: **Thailand**

Period: July-September 2003

Item	Disease status <sup>a/</sup>			Level of diagnosis	Epidemiological comment numbers
	July	August	September		
<b>Diseases prevalent in some parts of the region</b>					
<b>Finfish diseases</b>					
1. Epizootic haematopoietic necrosis*	0000	0000	0000	III	
2. Infectious haematopoietic necrosis*	0000	0000	0000	III	
3. <i>Oncorhynchus masou</i> virus disease*	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia*	0000	0000	0000	III	
5. Infectious pancreatic necrosis	(1985)	(1985)	(1985)	III	
6. Viral encephalopathy and retinopathy	-	-	-	III	
7. Epizootic ulcerative syndrome (EUS)	-	-	-	II	
8. Bacterial kidney disease	0000	0000	0000	II	
9. Red sea bream iridoviral disease	0000	0000	0000	III	
<b>Mollusc diseases</b>					
1. Bonamiosis ( <i>B. exitiosus</i> , <i>B. ostreae</i> , <i>M. roughleyi</i> )*	***	***	***		
2. Marteiliiosis ( <i>Marteilia refringens</i> , <i>M. sydneyi</i> )*	***	***	***		
3. Mikrocytosis ( <i>Mikrocytos mackini</i> )*	***	***	***		
4. Perkinsosis ( <i>Perkinsus marinus</i> , <i>P. olseni/atlanticus</i> <sup>g/</sup> )*	***	***	***		
5. MSX disease ( <i>Haplosporidium nelsoni</i> )*	***	***	***		
<b>Crustacean diseases</b>					
1. Yellowhead disease (YH virus; gill-associated virus)*	?	?	?	I	
2. White spot disease*	+	+	+	III	1
3. Taura syndrome*	?	?	?	III	2
4. Infectious hypodermal and haematopoietic necrosis	***	***	***		
5. Spawner-isolated mortality virus disease	***	***	***		
<b>Diseases presumed exotic to the region, but reportable to the OIE</b>					
<b>Finfish disease</b>					
1. Spring viraemia of carp*	0000	0000	0000	III	
<b>Any other diseases of importance <sup>b/</sup></b>					
<b>Unknown diseases of serious nature</b>					
1. Koi mass mortality	0000	0000	0000	III	
2. Akoya oyster disease	***	***	***		
<p><b>b/</b> In particular, these include the following diseases:  <b>Finfish:</b> Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (<i>Gyrodactylus salaris</i>); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease  <b>Mollusc:</b> Withering syndrome of abalones (<i>Candidatus Xenohaliotis californiensis</i>); SSO disease (<i>Haplosporidium costale</i>); Marteilioides infection (<i>Marteilioides chungmuensis</i>)  <b>Crustacean:</b> Tetrahedral baculovirus (<i>Baculovirus penaei</i>); Crayfish plague (<i>Aphanomyces astaci</i>); Necrotising hepatopancreatitis; Baculoviral midgut gland necrosis  <b>g/</b> Although <i>Perkinsus olseni</i> and <i>P. atlanticus</i> are now considered conspecific, they may have different host species in different regions, and countries are encouraged to provide epidemiological comments where either of these agents occurs.</p>					

\* OIE notifiable diseases

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

+ Disease reported or known to be present

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? Suspected by reporting officer but presence not confirmed

+() Occurrence limited to certain zones

\*\*\* No information available

0000 Never reported

- Not reported (but disease is known to occur

(year) year of last occurrence



**1. Epidemiological comments:**

Comment No.	
1	A total of 4,421 prawn samples cultured in 23 provinces had been sent to 11 PCR Laboratories of the Department of Fisheries. Most of the prawn samples were post-larvae stage, which were PCR-tested before stocking in culture ponds. 182 samples or 4.12% were recorded as PCR positive or carrying SEMBV gene.
2	Four suspected cases of Taura syndrome in Pacific white shrimp farms that were cultured in freshwater water were collected for TSV screening at a laboratory of the Department of Fisheries. The preliminary screening tests showed positive RT-PCR products. The products will be analyzed for confirmation of the TSV.

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



## Recent Related Publications

### **Sixth Edition of Aquatic Animal Health Code, 2003**

OIE (World Organisation for Animal Health) has published the Sixth Edition of Aquatic Animal Health Code in August 2003. The aim of the aquatic animal health code is to assure the sanitary safety of international trade in aquatic animals and their products. This is achieved through the detailing of health measures to be used by the competent authorities of importing and exporting countries to avoid the transfer of agents pathogenic for animals or humans, while avoiding unjustified sanitary barriers. The health measures in the aquatic animal health code (in the form of standards, guidelines and recommendations) have been formally adopted by the OIE international committee, the general assembly of all delegates of OIE Member Countries. The Aquatic Animal Health Code is available on [www.oie.int](http://www.oie.int). The book can be ordered from [pub.sales@oie.int](mailto:pub.sales@oie.int)

### **Fourth Edition of Manual of Diagnostic Tests for Aquatic Animals, 2003**

OIE has published the Fourth Edition of Manual of Diagnostic Tests for Aquatic Animals in August 2003. The aim of the manual is to provide a uniform approach to the diagnosis of the diseases listed in the OIE Aquatic Animal Health Code, so that the requirements for health certification in connection with trade in aquatic animals and aquatic animal products, can be met. The fourth edition includes two new chapters, one on the requirements for surveillance for international recognition of freedom from infection, and one on validation and quality control of PCR methods used for diagnosis of infectious diseases. The Manual of Diagnostic Tests for Aquatic Animals is available on [www.oie.int](http://www.oie.int). The book can be ordered from [pub.sales@oie.int](mailto:pub.sales@oie.int)

### **Biosecurity Australia 2003, Import Risk Analysis Handbook**

This handbook sets out the process that Biosecurity Australia follows to undertake an import risk analysis. Electronic copies are available on [www.affa.gov.au/BiosecurityAustralia](http://www.affa.gov.au/BiosecurityAustralia)

### **Shrimp Health Management Extension Manual. 2003**

This extension manual summarizes farm level risk factors and practical management practices that can be used to reduce risks of shrimp disease outbreaks and improve farm production. The recommendations are based on a study conducted by NACA in Andhra Pradesh, India. The publication is therefore of particular relevance to Andhra Pradesh, but many recommendations are still of use to farmers from other areas.

Available for download at: <http://www.enaca.org/Shrimp/manual/ShrimpHealthManual.pdf>

### **Aquaplan – a five year review 2002**

This publication provides a comprehensive review of progress towards the implementation of AQUAPLAN (Australia's National Strategic Plan for Aquatic Animal Health 1998-2003) programs and projects. It can be downloaded from [www.affa.gov.au](http://www.affa.gov.au)

### **Primary Aquatic Animal Health Care in Rural, Small-scale, Aquaculture Development, 2002**

Arthur, J.R.; Phillips, M.J.; Subasinghe, R.P.; Reantaso, M.B.; MacRae, I.H. (eds.) FAO Fisheries Technical Paper.No.406 .The Technical Proceedings of the Asia Regional Scoping Workshop on "Primary Aquatic Animal Health Care in Rural, Small-scale, Aquaculture Development," held in Dhaka, Bangladesh from 27 - 30 September 1999. The Proceedings give useful information on socio-economic impacts, risks of disease incursions and health management strategies in rural, small-scale aquaculture and enhanced fisheries programs; and identifies potential interventions for their better health management and appropriate follow-up actions. A copy could be downloaded from <http://www.enaca.org/Health/Publications.htm>. Copies could also be obtained from FAO through writing to [rohana.subasinghe@fao.org](mailto:rohana.subasinghe@fao.org)

### **Survey Toolbox for Aquatic Animal Diseases: A Practical Manual. 2002**

This book written by Cameron, Angus is designed for people working in the aquatic animal diseases and production. The tools presented in the book will be valuable for anybody who needs to collect reliable information about aquatic diseases or production. The structure of the book allows it to be used on three different levels. Planners, Trainers and Field Operational Staff. The prevention, control, and eradication of aquatic animal diseases depend on a good understanding of the disease and its distribution. ACIAR Monograph MN94.

Also available at: <http://www.aciar.gov.au/web.nsf/doc/JFRN-5J46ZY>

### **Diseases in Asian Aquaculture IV. 2002**

Triennial scientific publication of the Fish Health Section, Asian Fisheries Society. The proceedings contains 43 peer reviewed original research and review papers dealing with the diseases and health management of aquatic animals, with emphasis on the Asia-Pacific Region, presented during the Fourth Symposium on Diseases in Asian Aquaculture (DAA IV), Cebu,, Philippines, November 1999. C.R. Lavilla-Torres and E. Lacierda-Cruz (eds). Further details at: <http://afs-fhs.seafdec.org.ph/daa4pub.html>

### **Risk Analysis in Aquatic Animal Health, 2001**

A publication from the OIE , edited by C.J.Rodgers, gives a very good account on the need for risk analysis, risk analysis methodology, areas of application to aquatic animal health and many case histories. A very good reference book for people interested in knowing more about risk analysis or interested in performing risk analysis ([www.oie.int](http://www.oie.int))

Following publications resulting from FAO/NACA Regional Technical Cooperation Program provide very useful guidelines and procedures for implementing comprehensive and practical “National Aquatic Animal Health Management Strategies” in the countries of the region. The books can be downloaded from [www.enaca.org](http://www.enaca.org)

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

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

**Asia Regional Technical Guidelines on health management for the responsible movement of live aquatic animals and the Beijing consensus and implementation strategy, 2000.** FAO/NACA. Fisheries Technical paper, No 402.

Two most comprehensive handbooks on Epizootic Ulcerative Syndrome (EUS) are available from AAHRI, Bangkok. For information contact: [aahri@fisheries.go.th](mailto:aahri@fisheries.go.th)

**Pathology and Histopathology of EUS** by S. Chinabut and R.J. Roberts

**EUS Technical Handbook** by J.H. Lilley, R.B. Callinan, S. Chinabut, S. Kanchanakhan, I.H. MacRae and M.J. Phillips.

## List of National Coordinators\*

Country	Name and Address
<b>Australia</b>	<p>Dr. Eva -Maria Bernoth (NC)                      Manager, Aquatic Animal Health Unit ,                      Office of the Chief Veterinary Officer                      Department of Agriculture, Fisheries and Forestry                      GPO Box 858, Canberra ACT 2601, Australia                      Fax: 61-2-6272 3150; Tel: 61-2-6272 4328                      Email: <a href="mailto:Eva-Maria.Bernoth@affa.gov.au">Eva-Maria.Bernoth@affa.gov.au</a></p> <p>Mr. Alistair Herfort (FP)                      Aquatic Animal Health Unit ,                      Office of the Chief Veterinary Officer                      Department of Agriculture, Fisheries and Forestry                      GPO Box 858, Canberra ACT 2601, Australia                      Fax: +61 2 6272 3150; tel: +61 2 6272 4009                      E-mail: <a href="mailto:Alistair.Herfort@affa.gov.au">Alistair.Herfort@affa.gov.au</a></p>
<b>Bangladesh</b>	<p>Dr. M. A. Mazid (NC)                      Director General,                      Bangladesh Fisheries Research Institute (BFRI)                      Mymensingh 2201, Bangladesh                      Fax: 880-2-55259, Tel: 880-2-54874                      E-mail: <a href="mailto:dgbfr@bdonline.com">dgbfr@bdonline.com</a></p>
<b>Cambodia</b>	<p>Mr Hav Viseth (NC)                      Vice Chief, Aquaculture Bureau, Department of Fisheries                      186 Norodom Blvd., P.O. Box 835,                      Phnom Penh, Cambodia                      Fax: (855) 23 210 565; Tel: (855) 23 210 565                      E-mail: <a href="mailto:smallfish@online.com.kh">smallfish@online.com.kh</a></p>
<b>China</b>	<p>Mr Zhuzewen (NC)                      Disease Prevention and Control Division                      National Fisheries Technique Extension Center (NFTEC)                      Ministry of Agriculture                      Mai Zi Dian Street No 18                      Chanyang District, Beijing 100026, China                      Fax: 86-10-65074250; Tel: 86-010-64195073                      E-mail: <a href="mailto:zewenzhu@sina.com">zewenzhu@sina.com</a></p> <p>Prof. Yang Ningsheng (FP)                      Director, Information Center, China Academy of Fisheries Science                      150 Qingta Cun, South Yongding Road, Beijing 100039, China                      Fax: 86-010-68676685; Tel: 86-010-68673942                      E-mail: <a href="mailto:nsyang@cafs.ac.cn">nsyang@cafs.ac.cn</a></p>
<b>DPR Korea</b>	<p>Mr. Chong Yong Ho (NC)                      Director of Fish Farming Technical Department, Bureau of Freshwater Culture                      Sochangdong Central District, P.O.Box. 95 , Pyongyang,                      DPR Korea                      Fax- 850-2-814416; Tel- 3816001, 3816121</p>

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

<p><b>Hong Kong China</b></p>	<p>Dr Jim Chu Aberdeen Fisheries Office 100 A, Shek Pai Wan Road Aberdeen, Hong Kong Tel: 852-2873833; Fax: 852-28700324 E-Mail: <a href="mailto:jim_cw_chu@afcd.gov.hk">jim_cw_chu@afcd.gov.hk</a></p>
<p><b>India</b></p>	<p>Dr.S.Ayyappan, (NC) DDG Fisheries Indian Council of Agricultural Research (ICAR) Krishi Anusandhan Bhawan, Pusa, New Delhi-110012, India Tel:91 11 2582 2738; Fax:91 11 2582 2738 E-mail: <a href="mailto:ayyappans@icar1.nic.in">ayyappans@icar1.nic.in</a></p> <p>Mr.M.K.R.Nair (Contact for OIE) Fisheries Development Commissioner Ministry of Agriculture, Krishi Bhawan, New Delhi 110001 Tel: 91 11 338 6370; Fax: 91 11 338 4030 E-mail: <a href="mailto:m.k.r.nair@mailcity.com">m.k.r.nair@mailcity.com</a></p>
<p><b>Indonesia</b></p>	<p>Dr. Ahmed Rukyani (NC) Directorate General of Fisheries Jl. Harsono RM No. 3, Ragunan Pasar Minggu Tromol Pos No.: 1794/JKS Jakarta – 12550 Indonesia Tel: 7804116-119; Fax: 7803196 – 7812866 E-mail: <a href="mailto:dfhe@indosat.net.id">dfhe@indosat.net.id</a></p> <p>Mr. Agus Sunarto (FP) Fish Health Research Laboratory Central Research Institute of Aquaculture Ministry of Marine Affairs and Fisheries Jakarta, Indonesia E-mail: <a href="mailto:agussunarto@hotmail.com">agussunarto@hotmail.com</a></p>
<p><b>Iran</b></p>	<p>Dr. Reza Pourgholam (NC) National Coordinator Veterinary Organization Ministry of Jihad – E – Sazandegi Vali-ASR Ave, S.J.Asad Abadi St PO Box 14155 – 6349, Tehran, Iran Tel: 8857007-8857193; Fax: 8857252</p> <p>Dr. A.E. Maghsodi Fard (FP) Manager Director of Aquatic Animal Diseases Department <a href="mailto:amaghsodifard@yahoo.com">amaghsodifard@yahoo.com</a></p>
<p><b>Japan</b></p>	<p>Mr. Mahito Masuda (NC) Fisheries Health Protection Office Fish Ranching and Aquaculture Division Fishery Agency 1-2-1, Kasumigaseki Chiyoda-ku, Tokyo 100-8907, Japan Fax: 813-3591-1084; Tel: 813-350-28111(7365) E-mail: <a href="mailto:mahito_masuda@nm.maff.go.jp">mahito_masuda@nm.maff.go.jp</a></p> <p>Dr. Hiroshi Kimiya (FP) Director, Office of Fish Health Protection</p>

<b>Lao PDR</b>	<p>Mr. Khampet Roger (NC) National Coordinator Fisheries and Livestock Department Ministry of Agriculture, Forestry and Fisheries P.O. Box 811, Vientianne, Lao PDR TeleFax: (856-21) 415674; Tel: (856-21) 416932 E-mail: <a href="mailto:eulaodlf@laotel.com">eulaodlf@laotel.com</a></p> <p>Mr. Bounma Luang Amath (FP) Focal Point for Disease Reporting Fisheries and Livestock Department Ministry of Agriculture, Forestry and Fisheries P.O. Box 811, Vientianne, Lao PDR TeleFax: (856-21) 415674; Tel: (856-21) 416932 E-mail: <a href="mailto:eulaodlf@laotel.com">eulaodlf@laotel.com</a></p>
<b>Malaysia</b>	<p>Mr. Ambigadevi Palanisamy (NC) National Coordinator Fisheries Research Institute, Department of Fisheries Penang, Malaysia E-mail: <a href="mailto:ambigadevip@yahoo.com">ambigadevip@yahoo.com</a></p> <p>Dr. Ong Bee Lee (FP) Head, Regional Veterinary Laboratory Services Department of Veterinary Services, 8<sup>th</sup> &amp; 9<sup>th</sup> Floor, Wisma Chase Perdana Off Jln Semantan 50630, Kuala Lumpur, Malaysia Fax: (60-3) 254 0092/253 5804; Tel: (60-3) 254 0077 ext.173 E-mail: <a href="mailto:ong@jph.gov.my">ong@jph.gov.my</a></p>
<b>Myanmar</b>	<p>Ms. Daw May Thanda Wint (NC) Assistant Staff Officer, Aquatic Animal Health Section Department of Fisheries Sinmin Road, Alone Township , Yangon, Myanmar Fax: (95-01) 228-253; Tel: (95-01) 283-304/705-547 E-mail: <a href="mailto:dof@mptmail.net.mm">dof@mptmail.net.mm</a></p>
<b>Nepal</b>	<p>Mr. Gagan B.N. Pradhan (NC) Fisheries Development Officer Directorate of Fisheries Development Central Fisheries Building, Balaju, Kathmandu, Nepal Tel: + 350 662 E-mail: <a href="mailto:dofd@mail.com.np">dofd@mail.com.np</a></p> <p>Mr. Shankar Prasad Dahal (FP) Assistant Fisheries Development Officer Directorate of Fisheries Development Central Fisheries Building, Balaju, Kathmandu, Nepal Tel: + 350 662 E-mail: <a href="mailto:dofd@mail.com.np">dofd@mail.com.np</a></p>
<b>Pakistan</b>	<p>Dr. Muhammad Hayat (NC) Assistant Fisheries Development Commissioner Livestock Division, Ministry of Food, Agriculture and Livestock 10<sup>th</sup> Floor, Shaheed-e-Millat Secretariat (Livestock Wing) I Islamabad Fax: 92-51-922 1246; Tel: 92-51-920 8267 <a href="mailto:ahc@isb.paknet.com.pk">ahc@isb.paknet.com.pk</a></p>

<b>Philippines</b>	<p>Dr. Joselito R. Somga (NC)                  Aquaculturist II, Fish Health Section, BFAR                  860 Arcadia Building, Quezon Avenue, Quezon City 1003                  Fax: (632)3725055/4109987; Tel:(632) 3723878 loc206 or 4109988 to 89                  E-mail: <a href="mailto:jsomga@bfar.da.gov.ph">jsomga@bfar.da.gov.ph</a></p>
<b>Republic of Korea</b>	<p>Dr. Mi-Seon Park (NC)                  Director of Pathology Division                  National Fisheries Research and Development Institute                  408-1 Sirang, Kijang, Pusan 619-900 Korea RO                  Tel: 82-51-720-2470; Fax: 82-51-720-2498                  E-mail: <a href="mailto:parkms@haema.nfrda.re.kr">parkms@haema.nfrda.re.kr</a></p>
<b>Singapore</b>	<p>Mr Hanif Loo Jang Jing (NC)                  Programme Executive (Aquaculture)                  Aquaculture Branch                  Food Supply &amp; Technology Department                  Agri-Food &amp; Veterinary Authority of Singapore                  5 Maxwell Road, #01-00, Tower Block, MND Complex, Singapore 069110                  Tel: 65 – 63257636; Fax: 65 – 63257677                  Email: <a href="mailto:loo_jang_jing@ava.gov.sg">loo_jang_jing@ava.gov.sg</a></p> <p>Dr. Susan Kueh (FP)                  Agri-Food and Veterinary Authority of Singapore                  Central Veterinary Laboratory, 60 Sengkang East Way, Singapore 548596                  Tel: (65) 3863572; Fax No. (65) 3862181                  E-mail: <a href="mailto:Susan_KUEH@ava.gov.sg">Susan_KUEH@ava.gov.sg</a></p>
<b>Sri Lanka</b>	<p>Dr.P.P.G.S.N.Siriwardena                  Director General                  National Aquatic Resources Research and Development Agency                  Crow Island, Colombo 15                  Tel: 91 1 2521932; Fax: 94-1-2521932                  E-Mail: <a href="mailto:sunil@nara.ac.lk">sunil@nara.ac.lk</a></p> <p>Dr. Geetha Ramani Rajapaksa (FP)                  Veterinary Surgeon, Department of Animal Production and Health                  Veterinary Investigation Centre, Welisara, Ragama, Sri Lanka                  Tel: + 01-958213                  E-mail: <a href="mailto:sser@sri.lanka.net">sser@sri.lanka.net</a></p>
<b>Thailand</b>	<p>Dr. Somkiat Kanchanakhan (NC)                  Fish Virologist, Aquatic Animal Health Research Institute (AAHRI)                  Department of Fisheries , Kasetsart University Campus                  Jatujak, Bangkok 10900, Thailand                  Fax: 662-561-3993; Tel: 662-579-4122, 6977                  E-mail: <a href="mailto:somkiatkc@fisheries.go.th">somkiatkc@fisheries.go.th</a></p>
<b>Vietnam</b>	<p>Dr. Le Thanh Luu (NC)                  Vice-Director                  Research Institute for Aquaculture No. 1 (RIA No. 1)                  Dinh Bang, Tien Son, Bac Ninh, Vietnam                  Fax: 84-4-827-1368; Tel: 84-4-827-3070                  E-mail: <a href="mailto:ria1@hn.vnn.vn">ria1@hn.vnn.vn</a></p> <p>Ms Phan Thi Van (FP)                  Researcher, Research Institute for Aquaculture No.1 (RIA No.1 )                  Dinh Bang , Tien Son, Bac Ninh, Vietnam                  Fax: 84-4-827-1368; Tel : 84-4-827 - 3070                  E-mail: <a href="mailto:ria1@hn.vnn.vn">ria1@hn.vnn.vn</a>; <a href="mailto:phanvan@hn.vnn.vn">phanvan@hn.vnn.vn</a></p>



## **List of Diseases in the Asia-Pacific** *Quarterly Aquatic Animal Disease Reports (Beginning 2003)*

### **I. Diseases prevalent in some parts of the region**

#### **Finfish diseases**

- Epizootic haematopoietic necrosis\*
- Infectious haematopoietic necrosis\*
- *Oncorhynchus masou* virus disease\*
- Viral haemorrhagic septicaemia\*
- Infectious pancreatic necrosis
- Viral encephalopathy and retinopathy
- Epizootic ulcerative syndrome (EUS)
- Bacterial kidney disease
- Red sea bream iridoviral disease

#### **Mollusc diseases**

- Bonamiosis (*B. exitiosus.*, *B. ostreae* , *M. roughleyi*)\*
- Marteiliosis (*Marteilia refringens*, *M. sydneyi*)\*
- Mikrocytosis (*Mikrocytos mackini*)\*
- Perkinsosis (*Perkinsus marinus*, *P. olseni/atlanticus*)\*
- MSX disease (*Haplosporidium. nelsoni*)\*

#### **Crustacean diseases**

- Yellowhead disease (YH virus; gill-associated virus)\*
- White spot disease\*
- Taura syndrome\*
- Infectious hypodermal and haematopoietic necrosis
- Spawner-isolated mortality virus disease

### **II. Diseases presumed exotic to the region, but reportable to OIE**

#### **Finfish Diseases**

- Spring Viraemia of carp\*

### **III. Any other diseases of importance: In particular, these include the following diseases sofar presumed, but not proven, to be exotic to this region**

#### **Finfish:**

- Channel catfish virus disease
- Infectious salmon anaemia
- Piscirickettsiosis
- Epitheliocystis
- Gyrodactylosis (*Gyrodactylus salaris*)
- Enteric septicaemia of catfish
- White sturgeon iridoviral disease
- Grouper iridoviral disease

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\*

OIE notifiable diseases

**Mollusc:**

- Withering syndrome of abalones (*Candidatus Xenohaliotis californiensis*)
- SSO disease (*Haplosporidium costale*)
- Marteilioides infection (*Marteilioides chungmuensis*)

**Crustacean:**

- Tetrahedral baculovirosis (*Baculovirus penaei*)
- Crayfish plague (*Aphanomyces astaci*)
- Necrotising hepatopancreatitis
- Baculoviral midgut gland necrosis

**IV. Unknown Diseases of serious nature**

- Koi mass mortality
- Akoya oyster disease

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

(Revised during the Provisional Meeting of the AG<sup>1</sup>, Bangkok, Thailand, November 7-9, 2001)

Symbols used in the report are similar to those used by FAO, OIE and WHO for the *Animal Health Yearbook*. Please read these instructions carefully before you fill in the forms.

Under the heading 'Country', please enter your country.

Under the heading 'Period', please enter the reporting quarter (months) and year, e.g. January to March 2002.

Under the heading "Month", please enter months of a quarter in question, e.g. January, February, March.

In "Level of Diagnosis", please enter the Level of Diagnosis used, e.g., I, II, or III. See Section C below.

In "Epidemiological Comment Numbers", please enter the serial numbers, and write your corresponding epidemiological comments on page 2. See Section D below for guidance on the subjects to be covered under Epidemiological Comments.

If an unknown disease of serious nature appears, please fill in the last line of the form, with additional information on "Level of Diagnosis" and "Epidemiological Comment Numbers" as above.

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

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

Please use the following symbols to fill in the forms.

A. Symbols used for negative occurrence are as follows:

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

B. Symbols used for positive occurrence are shown below.

- + This symbol means that the disease in question is reported or known to be present.
- +? 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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<sup>1</sup> Regional Advisory Group on Aquatic Animal Health (AG)

### C. Levels of Diagnosis

LEVEL	SITE	ACTIVITY
I	Field	Observation of animal and the environment Clinical examination
II	Laboratory	Parasitology Bacteriology Mycology Histopathology
III	Laboratory	Virology Electron microscopy Molecular biology Immunology

### D. Subjects to be covered in the Epidemiological Comments

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

### IMPORTANT

Please send the **original report** or the best photocopy thereof to the OIE and/or NACA **by fax** and **registered airmail**. Faxed reports are needed to check whether or not the reports are all right. The deadline for submission of the reports is **two and a half months (75 days)** after the end of the quarterly period.

If you require further explanation, please write to the OIE (Tokyo), NACA (Bangkok) or FAO (Rome) at the following addresses, respectively:

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

**NACA** P. O. Box 1040, Kasetsart Post Office, Bangkok 10903, Thailand  
Tel: 66-2-561-1728/9 (ext. 117); Fax: 66-2-561-1727  
Dr. C.V. Mohan  
E-mail: [mohan@enaca.org](mailto:mohan@enaca.org)

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

## Notes

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

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