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QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

October-December 2003

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Contents

Foreword

Aquatic animal disease surveillance (active/passive) programs will provide information for assessing and managing risks associated with trade in aquatic animals and their products. Data gathering, analysing and sharing information on the health of aquatic animals will become increasingly important to aid decision makers in developing sound national aquatic animal health management strategies. Enabling government policies, active awareness raising and engagement of all stakeholders, will not only help in disease control but also facilitate responsible movement of aquatic animals both within and between countries in the region.

The Quarterly Aquatic Animal Disease (QAAD) reporting system for the Asia-Pacific region developed and implemented jointly by NACA/FAO/OIE is one of the key activities of NACA's regional aquatic animal health management program. In OIE Member Countries, the veterinary administration is responsible for aquatic animal disease reporting to the OIE. However, many countries in the Asia-Pacific region have nominated fisheries authorities personnel as National Coordinators (NC), reflecting the responsibility for aquatic animal health issues in those countries. Disease reports prepared by the NCs are endorsed by the OIE delegates (usually the Chief Veterinary Officers). Whilst this arrangement appears to work satisfactorily for many countries, the rather infrequent contact between fisheries and veterinary authorities in some countries is of concern, as this may contribute to inaccurate disease reporting.

The OIE Aquatic Animal Health Standards Commission (AAHSC) is instrumental in revising and updating the OIE *Aquatic Animal Health Code* and the OIE *Manual of Diagnostic Tests for Aquatic Animals*. Texts drafted by the AAHSC for the *Aquatic Code* and *Aquatic Manual* are circulated to national delegates of OIE Member Countries for careful review, prior to adoption of draft texts at the meetings of the OIE International Committee each year. The OIE has recently urged national delegates to ensure that aquatic animal health experts in their country as well as the appropriate aquatic animal health authority receive the Commission's reports. The AAHSC meetings held in June and October 2003 raised a number of issues relevant to the Asian region on trade and aquatic animal diseases that will be considered in their report to the OIE General Assembly

The 23rd Conference of the OIE Regional Commission for Asia, the Far East and Oceania was held in Nouméa (New Caledonia) from 25 to 28 November 2003. The President of the OIE AAHSC and Vice-Chair of the NACA Regional Advisory Group (AG) on Aquatic Animal Health made a presentation on aquatic animal diseases. The report from the meeting will be presented to the OIE General Assembly in Paris. The Regional Commission endorsed a set of recommendations that include suggestions for improving aquatic animal health reporting in Asia.

The NACA Regional Advisory Group (AG) on Aquatic Animal Health in its second meeting held on 10-12th November 2003 welcomed the OIE initiatives to improve cooperation between veterinary and fisheries authorities. The AG considered that the NCs are currently functioning as focal points for aquatic animal disease reporting in may countries in the region. Further involvement of NCs in OIE standard setting would strengthen the regional aquatic animal health program and disease reporting. Improved cooperation between fisheries and veterinary authorities should help ensure aquatic animal disease issues relevant to Asia region are properly considered during the development of reporting systems and aquatic animal disease control standards.

Reports Received by the NACA Secretariat

Country: **Australia** Period: October-December 2003

Item	Disease status [a] Month			Level of diagnosis	Epidemiological comment numbers
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	-(2003)	-(2003)	-(2003)		1
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* 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)	+?	III	2
7. Epizootic ulcerative syndrome (EUS)	+	-(2003)	-(2003)	I	3
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	0000/0000/-(2003)	0000/0000/-(2003)	0000/0000/-(2003)		4
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000/-(2002)	0000/-(2002)	0000/-(2002)		5
3. Mikrocytosis (*Mikrocytos mackini*)*	0000	0000	0000		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus*[c/])*	0000/+	0000/+	0000/+	II	6
5. MSX disease (*Haplosporidium. nelsoni*)*	0000	0000	0000		
Crustacean diseases					
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	+?	-(2003)	-(2003)	III	8
5. Spawner-isolated mortality virus disease	-(?)	-(?)	-(?)		9
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	0000	0000	0000		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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
[a] Please use the following symbols:
\+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
\- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
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 in barramundi fry (*Lates calcarifer*) was detected through passive surveillance and confirmed by histology at a hatchery in Western Australia in October 2003. All stock were destroyed and tanks sterilised. PCR signals consistent with VER virus were detected in 2 healthy barramundi fry through targeted surveillance in a research station in the Northern Territory in December 2003. Not reported this period despite passive surveillance in Queensland (last reported first quarter 2003). 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 or Victoria despite passive surveillance. No information available in the Australian Capital Territory.
3	Epizootic ulcerative syndrome was detected in October 2003 in New South Wales in one pond of farmed silver perch (*Bidyanus bidyanus*) with clinical lesions, using field level diagnosis. 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	***Bonamia exitiosus and Bonamia ostreae:*** 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. ***Mikrocytos roughleyi:*** Never reported in South Australia or Tasmania despite active surveillance. Not reported during this period (passive surveillance) but known to have occurred in New South Wales (last reported third quarter 2003) and 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.
5	***Marteilia refringens:*** 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. ***Marteilia sydneyi:*** Not reported this period from New South Wales (last year reported 2002) or Western Australia (last year reported 1994) despite passive surveillance. 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.

6	***Perkinsus marinus:*** 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). ***Perkinsus olseni:*** Reported from South Australia in October, November and December 2003 in wild, but not in cultured *Haliotis* spp. (targeted surveillance) and suspected (but not confirmed) in healthy broodstock (*Haliotis asinia*) in a research station in Queensland in October (active surveillance). Not reported this quarter from Western Australia despite targeted surveillance, but known to have previously occurred in wild, but not in cultured *Haliotis* spp. (last reported third quarter 2003). 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 and Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
7	**Yellowhead virus:** 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). **Gill-associated virus:** Detected by PCR in the Northern Territory in October, November and December 2003 at a research facility in apparently healthy *Penaeus monodon* broodstock prawns in quarantine (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), the Australian Capital Territory (no marine water responsibility).
8	126/153 individual prawn (*P. monodon*) broodstock or prawns bred from broodstock originating from Queensland yielded positive PCR results when tested with two IHHNV-specific primer sets. None of these prawns had clinical signs of IHHN or histological lesions indicating IHHNV infection, and none reacted with the IHHNV primer set 77012F/77353R published in the OIE *Aquatic Manual.* On sequence analysis, amplicons showed highest nucleotide identity with the Madagascar strain of IHHNV.
9	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.

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

Exercise Tethys, a national simulated aquatic disease outbreak, was held on November 17 and 18, 2003. Over 80 staff from eight Australian government jurisdictions and 3 industry bodies participated in the exercise that simulated a major disease outbreak in the Australian silver perch aquaculture industry.The aim of the simulation was to address issues of inter-jurisdictional communication and cooperation in response to an emergency disease incident, and heighten the awareness of these jurisdictions to the potential for incursions of emergency disease in Australia's aquatic environment.

For further information go to the Australian Government Department of Agriculture, Fisheries and Forestry -Aquatic Animal Health website; *http://www.daff.gov.au/aquaticanimalhealth* or email *aah@daff.gov.au*

Country: **Bangladesh** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*					
2. Infectious haematopoietic necrosis*					
3. *Oncorhynchus masou* 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					
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*					
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*					
3. Mikrocytosis (*Mikrocytos mackini*)*					
4. Perkinsosis (*Perkinsus marinus, P.*					
5. MSX disease (*Haplosporidium. nelsoni*)*					
Crustacean diseases					
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					
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*					
Any other diseases of importance [b/]					
Bacterial Disease					
Unknown diseases of serious nature					
1. Koi mass mortality					
2. Akoya oyster disease					

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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
c/ Although *Perkinsus olseni* and *P. altanticus* 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
[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	
2	
3	

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

Country: **Cambodia** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	* * *	* * *	* * *		
2. Infectious haematopoietic necrosis*	* * *	* * *	* * *		
3. *Oncorhynchus masou* 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	* * *	* * *	* * *		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	* * *	* * *	* * *		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	* * *	* * *	* * *		
3. Mikrocytosis (*Mikrocytos mackini*)*	* * *	* * *	* * *		
4. Perkinsosis (*Perkinsus marinus, P.*	* * *	* * *	* * *		
5. MSX disease (*Haplosporidium. nelsoni*)*	* * *	* * *	* * *		
Crustacean diseases					
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	* * *	* * *	* * *		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	* * *	* * *	* * *		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality					
2. Akoya oyster disease					

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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
c/ Although *Perkinsus olseni* and *P. altanticus* 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.

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

1. Epidemiological comments:

Comment No.	
1	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: October-December 2003

Item	Disease status [a/] Month			Level of diagnosis	Epidemiological comment numbers
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	****	****	****		
3. *Oncorhynchus masou* 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		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	0000	0000	0000		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000		
3. Mikrocytosis (*Mikrocytos mackini*)*	0000	0000	0000		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus*[c/])*	0000	0000	0000		
5. MSX disease (*Haplosporidium. nelsoni*)*	0000	0000	0000		
Crustacean diseases					
1. Yellowhead disease (YH virus; gill-associated virus)*	0000	0000	0000		
2. White spot disease*	+()	****	****	III	1
3. Taura syndrome*	+()	****	****	III	2
4. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
5. Spawner-isolated mortality virus disease	0000	0000	0000		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	****	****	****		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		

b/ In particular, these include the following diseases:

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

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

c/ Although *Perkinsus olseni* and *P. altanticus* 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

[a] Please use the following symbols:

\+ Disease reported or known to be present

+? Serological evidence and/or isolation of causative agent but no clinical diseases

? Suspected by reporting officer but presence not confirmed

+() Occurrence limited to certain zones

*** No information available

0000 Never reported

\- Not reported (but disease is known to occur

(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	In October 2003, White Spot Disease was reported in the coastal provinces located south of shanghai metropolises. The situation of Hainan, Guangxi provinces were very serious. The average mortality rate of Hainan reached 30% and of Guangdong reached 10%.
2	In October 2003, Taura syndrome was reported in the coastal provinces located south of Fujian provinces. The situation of Hainan, Guangxi provinces were very serious. The average mortality rate of Hainan reached 41% and of Guangdong reached 10%.

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

Country: **Hong Kong China** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	0000	0000	0000	II	
2. Infectious haematopoietic necrosis*	0000	0000	0000	III	
3. *Oncorhynchus masou* 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	
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	0000	0000	0000	II	
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000	II	
3. Mikrocytosis (*Mikrocytos mackini*)*	0000	0000	0000	II	
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus*[c/])*	0000	0000	0000	II	
5. MSX disease (*Haplosporidium. nelsoni*)*	0000	0000	0000	II	
Crustacean diseases					
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	
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	0000	0000	0000	III	
Any other diseases of importance [b/]					
1. Grouper Iridoviral Disease	+	-	-	III	3
2. Epitheliocystis	+?(2002)			II	4
Unknown diseases of serious nature					
1. Koi mass mortality	0000	0000	0000	II	
2. Akoya oyster disease	0000	0000	0000	II	

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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

[a] Please use the following symbols:

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

1. Epidemiological comments:

Comment No.	
1	In December a batch of Green Grouper fry (20 days-old) that had been imported from Taiwan to a fish research facility showed high mortality over a 2 day period. Virus culture in SB cells and PCR testing gave positive results for SJNNV and RGNNV nodaviruses.
2	No further White Spot Syndrome Virus cases reported for the reporting period.
3	In October, high mortality (> 90%) was detected over a 5 day period in young Giant Grouper (12-13 cm) that had been recently imported from Taiwan (2 days previously) to a Hong Kong fish farm. Giant Grouper iridovirus disease was diagnosed by pathological examination and PCR testing.
4	No further cases reported.

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

Country: **India** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* 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	
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	0000	0000	0000		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000		
3. Mikrocytosis (*Mikrocytos mackini*)*	0000	0000	0000		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus*[c/])*	0000	0000	0000		
5. MSX disease (*Haplosporidium. nelsoni*)*	0000	0000	0000		
Crustacean diseases					
1. Yellowhead disease (YH virus; gill-associated virus)*	0000	0000	0000		
2. White spot disease*	+()	+()	+()	1	1
3. Taura syndrome*	0000	0000	0000		
4. Infectious hypodermal and haematopoietic necrosis	****	****	****		
5. Spawner-isolated mortality virus disease	0000	0000	0000		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	0000	0000	0000		
Any other diseases of importance [b/]					
Monodon baculovirus (MBV)	+()	+()	+()	1	2
Unknown diseases of serious nature					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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

[a] Please use the following symbols:

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

1. Epidemiological comments:

Comment No.	
1	Reported from very limited areas of Gujrat, Kerala and Maharashtra
2	Reported from limited areas of Kannur region of Kerala

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

Country: **Indonesia** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*					
2. Infectious haematopoietic necrosis*					
3. *Oncorhynchus masou* 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					
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*					
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*					
3. Mikrocytosis (*Mikrocytos mackini*)*					
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus* [c/])*					
5. MSX disease (*Haplosporidium. nelsoni*)*					
Crustacean diseases					
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					
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*					
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality					
2. Akoya oyster disease					

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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
[a] Please use the following symbols:
\+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
\- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	
2	
3	
4	

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

Country: **Iran** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	-	-	-		1
3. *Oncorhynchus masou* 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	***	***	***		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus* [c/])*	***	***	***		
5. MSX disease (*Haplosporidium. nelsoni*)*	***	***	***		
Crustacean diseases					
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	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	0000	0000	0000		
Any other diseases of importance [b/]					
Unknown diseases of serious nature	***	***	***		
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease					

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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

[a] Please use the following symbols:

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

1. Epidemiological comments:

Comment No.	
1	No further IHN reported during this period
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 system 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: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	0000	0000	0000	I	
2. Infectious haematopoietic necrosis*	+	+	+	III	
3. *Oncorhynchus masou* 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	
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	0000	0000	0000	I	
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000	I	
3. Mikrocytosis (*Mikrocytos mackini*)*	0000	0000	0000	I	
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus* [c/])*	0000	0000	0000	I	
5. MSX disease (*Haplosporidium. nelsoni*)*				I	1
Crustacean diseases					
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	
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	0000	0000	0000	I	
Any other diseases of importance [b/]					
1.Epitheliocystis	+	+	+	II	
2. Marteilioides infection (*Marteilioides chungmuensis*	-	-	+	III	
Unknown diseases of serious nature					
1. Koi mass mortality	0000	+	+	III	2
2. Akoya oyster disease	+	+	+	II	

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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

[a] Please use the following symbols:

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

1. Epidemiological comments:

Comment No.	
1	*Haplosporidium nelsoni* was detected at 2% positive in Pacific oyster (*Crassostrea gigas*) 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 *H.nelsoni* has not been reported at all. Therefore, the symbol is not described at the portion of Haplosporidiosis in this report form.
2	Cultured common carp (*Cyprinus carpio*) have died since October 2003 in Ibaraki Prefecture. This is the first case of Koi herpesvirus disease in Japan. Later, other cases of koi herpesvirus disease have been recognized among *Cyrpinus carpio* in other parts of Japan (see OIE Disease Information on the 21st November 2003, 27 February 2004 on the OIE internet homepage*)*

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

Country: **Lao PDR** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* 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	***	***	***		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus* [c/])*	***	***	***		
5. MSX disease (*Haplosporidium. nelsoni*)*	***	***	***		
Crustacean diseases					
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	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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

[a] Please use the following symbols:

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

1. Epidemiological comments: Nil

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

Country: **Malaysia** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Viral haemorrhagic septicaemia*	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Viral encephalopathy and retinopathy	?	?	?		
7. Epizootic ulcerative syndrome (EUS)	(1987)	(1987)	(1987)		
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus* [c/])*	***	***	***		
5. MSX disease (*Haplosporidium. nelsoni*)*	***	***	***		
Crustacean diseases					
1. Yellowhead disease (YH virus; gill-associated virus)*	-	-	-		
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		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	0000	0000	0000		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	***	***	***		

b/ In particular, these include the following diseases:

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

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

c/ Although *Perkinsus olseni* and *P. altanticus* 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

[a] Please use the following symbols:

+ Disease reported or known to be present

+? Serological evidence and/or isolation of causative agent but no clinical diseases

? Suspected by reporting officer but presence not confirmed

+() Occurrence limited to certain zones

*** No information available

0000 Never reported

- Not reported (but disease is known to occur

(year) year of last occurrence

1. **Epidemiological comments:**

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

Country: **Myanmar** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* 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	***	***	***		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus*[c/])*	***	***	***		
5. MSX disease (*Haplosporidium. nelsoni*)*	***	***	***		
Crustacean diseases					
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	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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

[a] Please use the following symbols:

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

1. Epidemiological comments:

Comment No.	
1	Positive sign of WSSV was detected by PCR test in broodstock from one hatchery in Yangon (first step) and in frozen shrimp sample from processing plant (nested)

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

Country: **Nepal** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* 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	***	***	***		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus*[c/])*	***	***	***		
5. MSX disease (*Haplosporidium. nelsoni*)*	***	***	***		
Crustacean diseases					
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	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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
[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	Symptoms of epizootic ulcerative syndrome (EUS) in rohu (*Labeo rohita*), naini (*Cirrhina mrigala*), bhakura (*Catla catla*) were reported from Bara, Kailali, Dhanusha and Jhapa districts. The total production area affected by this disease was reported to be 6.6 ha and the economic loss was reported to be not significant. Lime was used for the EUS control @ 500kg/ha

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

Country: **Pakistan** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*					
2. Infectious haematopoietic necrosis*					
3. *Oncorhynchus masou* 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					
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*					
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*					
3. Mikrocytosis (*Mikrocytos mackini*)*					
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus* [c/])*					
5. MSX disease (*Haplosporidium. nelsoni*)*					
Crustacean diseases					
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					
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*					
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality					
2. Akoya oyster disease					

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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
[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	

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

Country: **Philippines** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* 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		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	0000	0000	0000		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000		
3. Mikrocytosis (*Mikrocytos mackini*)*	0000	0000	0000		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus*[c/])*	0000	0000	0000		
5. MSX disease (*Haplosporidium. nelsoni*)*	0000	0000	0000		
Crustacean diseases					
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
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	0000	0000	0000		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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

[a] Please use the following symbols:

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

1. Epidemiological comments:

Comment No.	
1	October 2003 -Grouper (*Epinephelus* sp.) from Iloilo produced positive results for VER using RT-PCR (Examination conducted by SEAFDEC-AQD, Fish Health Lab.). No reported case (passive) during the month of Oct– Dec 2003.
2	No reported case (passive) during the month of Oct-December 2003
3	There were 24 (batches/samples) of *P. monodon* post larva, 7 batches/samples of spent spawners examined from different provinces (Cebu, Kalibo, Iloilo, Negros Occidental, Samar, Bohol, Sorsogon, Leyte) examined during the month of October-December 2003 that showed positive results for White Spot Virus using PCR technique (Two Step and Nested Step). In *P. monodon* grow-out ponds there were 6 batches/samples from different farms examined using PCR technique that produced positive results for WSV. Examinations conducted by BFAR-Fish Health Laboratories, SEAFDEC-AQD, Fish Health Laboratory.
4	Information available was in 1998, when samples of *P. monodon* from selected grow-out farms sent to Australia in October 1998 (Dr. L. Owens, James Cook University). Examination of the samples by *in-situ* hybridization using Spawner Mortality Virus (SMV) probe produced positive results.

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

Country: **Republic of Korea** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*					
2. Infectious haematopoietic necrosis*					
3. *Oncorhynchus masou* 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					
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*					
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*					
3. Mikrocytosis (*Mikrocytos mackini*)*					
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus* [c/])*					
5. MSX disease (*Haplosporidium. nelsoni*)*					
Crustacean diseases					
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					
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*					
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality					
2. Akoya oyster disease					

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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
[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	

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

Country: **Singapore** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Viral haemorrhagic septicaemia*	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Viral encephalopathy and retinopathy	-	-	-		
7. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus* [c/])*	***	***	***		
5. MSX disease (*Haplosporidium. nelsoni*)*	***	***	***		
Crustacean diseases					
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	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	0000	0000	0000		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	***	***	***		

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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

[a] Please use the following symbols:

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

1. **Epidemiological comments: Nil**

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

Since reports of koi hervesvirus (KHV) disease outbreak in Japan in October 2003, AVA has instituted compulsory inspection, testing and quarantine of all koi consignments imported from Japan and Indonesia. Quarantine is for a minimum of 3 weeks. Koi tested negative for KHV by tissue culture will be released from quarantine. KHV positive koi consignments will be destroyed, and the premise disinfectd accordingly.

Country: **Sri Lanka** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* 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		
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	0000	0000	0000		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000		
3. Mikrocytosis (*Mikrocytos mackini*)*	0000	0000	0000		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus*[c/])*	0000	0000	0000		
5. MSX disease (*Haplosporidium. nelsoni*)*	0000	0000	0000		
Crustacean diseases					
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		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	0000	0000	0000		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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
[a] Please use the following symbols:
\+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
\- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	Clear visual signs were not reported
2	No symptoms were observed
3	*Penaeus monodon* samples from the hatcheries and farms in the North-Western province were tested using PCR amplification for WSSV showed positive results. Intensity of occurrence was very high compared to the previous times.

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

Country: **Thailand** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*	0000	0000	0000	III	
2. Infectious haematopoietic necrosis*	0000	0000	0000	III	
3. *Oncorhynchus masou* 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	
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus* [c/])*	***	***	***		
5. MSX disease (*Haplosporidium. nelsoni*)*	***	***	***		
Crustacean diseases					
1. Yellowhead disease (YH virus; gill-associated virus)*	-	-	+	III	
2. White spot disease*	+	+	+	III	1
3. Taura syndrome*	+	+	+	III	
4. Infectious hypodermal and haematopoietic necrosis	?	?	?	III	
5. Spawner-isolated mortality virus disease	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*	0000	0000	0000	III	
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality	0000	0000	0000	III	
2. Akoya oyster disease	***	***	***		

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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

[a] Please use the following symbols:

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

1. Epidemiological comments:

Comment No.	
1	A total of 6,003 prawn samples 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 under the health management and disease control strategies. 184 specimens or 3.1% were recorded as PCR positive or carrying WSSV gene.

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

Country: **Vietnam** Period: October-December 2003

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	October	November	December		
Finfish diseases					
1. Epizootic haematopoietic necrosis*					
2. Infectious haematopoietic necrosis*					
3. *Oncorhynchus masou* 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					
Mollusc diseases					
1. Bonamiosis (*B. exitiosus*., *B. ostreae , M. roughleyi*)*					
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*					
3. Mikrocytosis (*Mikrocytos mackini*)*					
4. Perkinsosis (*Perkinsus marinus, P. olseni/atlanticus* [c/])*					
5. MSX disease (*Haplosporidium. nelsoni*)*					
Crustacean diseases					
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					
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish disease					
1. Spring viraemia of carp*					
Any other diseases of importance [b/]					
Unknown diseases of serious nature					
1. Koi mass mortality					
2. Akoya oyster disease					

b/ In particular, these include the following diseases:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Epitheliocystis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease; Grouper iridoviral disease
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

c/ Although *Perkinsus olseni* and *P. altanticus* 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
[a] Please use the following symbols:
\+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
\- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	

2. 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. The book can be ordered from 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. The book can be ordered from 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

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

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

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)

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

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

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.

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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[1], 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.

[1] 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:

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