2004/1

QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

January-March 2004

Published by the

Network of Aquaculture Centres in Asia-Pacific

Suraswadi Building, Department of Fisheries
Kasetsart University Campus, Ladyao, Jatujak
Bangkok 10900, Thailand

Food and Agriculture Organization of the United Nations

Viale delle Terme di Caracalla
Rome 00100
Italy

July 2004

Network of Aquaculture Centres in Asia-Pacific and Food and Agriculture Organization of the United Nations. July 2004. *Quarterly Aquatic Animal Disease Report (Asia and Pacific Region)*, 2004/1, January-March 2004. NACA: Bangkok, Thailand.

Contents

Foreword

Recognizing the increasing serious socio-economic, environmental and possible international trade consequences arising from disease incursions related to the introduction and spread of trans-boundary pathogens/diseases through irresponsible movement of live aquatic animals, an APEC Fisheries Working Group-supported Project, **"Capacity and Awareness Building on Import Risk Analysis (IRA) for Aquatic Animals**" was successfully implemented by NACA during 2002-2004 in partnership with several regional and international organizations.

The Project directly supported six global and regional efforts on aquatic animal health management, namely: (a) FAO's Code of Conduct for Responsible Fisheries, (b) WTO's Sanitary and Phytosanitary Agreement; (c) FAO/NACA Regional Project on "Assistance for the Responsible Movement of Live Aquatic Animals in Asia"; (d) FAO/NACA/OIE Asia-Pacific Quarterly Aquatic Animal Disease Reporting System; (e) the WB/WWF/FAO/NACA Consortium on Shrimp and the Environment; and (f) the FAO Regional Technical Cooperation Programme in the Americas on Assistance to Health Management in Shrimp Aquaculture in Americas.

Two training workshops were conducted under the Project to build capacity in import risk analysis. The first training workshop was completed from 1-6 April 2002 in Bangkok, Thailand, and a second training workshop was held from 12-17 August 2002 in Mazatlan, Mexico.

The two training workshops brought together regulatory authorities and administrators responsible for trade of live aquatic animals and aquatic animal health specialists to share experience, raise awareness, build capacity and contribute to the development of a practical manual for risk analysis to support responsible aquatic animal movements. They also provided valuable regional training and learning opportunities for APEC economies, NACA and FAO member governments and participating regional/international organizations. Capacity on aquatic animal health management, particularly risk analysis, was enhanced which could lead to improved aquatic animal health policies and practices in the region.

Two publications, that have resulted from the Project (*Capacity and Awareness Building on Import Risk Analysis (IRA) for Aquatic Animals: Report of the joint workshops* and *Manual on risk analysis for the safe movement of aquatic animals*) will provide further guidance to the region in development of health management measures based on understanding and analysis of risk, a key element of the WTO SPS agreement and the Asia Regional Technical Guidelines on health management for the responsible movement of live aquatic animals.

Rich in information, these two publications present a simplified overview of the risk analysis process to assist responsible authorities in developing countries to initiate formulating national policies and approaches to conducting risk analyses.

In addition, the publications support national efforts in IRAs and contribute to the standardization of approaches - by defining criteria, trade issues, regional and international issues - that will enable harmonization of import risk assessment procedures and processes including health certification requirements for import/export of aquatic animals across countries and across regions.

Reports Received by the NACA Secretariat

Country: Australia **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	+	-(2004)	-(2004)	III	1
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. *Oncorhynchus masou* virus disease	0000	0000	0000		
4. Spring viraemia of carp	0000	0000	0000		
5. Viral haemorrhagic septicaemia	0000	0000	0000		
6. Viral encephalopathy and retinopathy	-(2003)	+	+	III	2
7. Infectious pancreatic necrosis	0000	0000	0000		
8. Epizootic ulcerative syndrome (EUS)	-(2003)	-(2003)	-(2003)		3
9. Bacterial kidney disease	0000	0000	0000		
10. Red seabream iridoviral disease	0000	0000	0000		
11. Enteric septicaemia of catfish	-(2001)	-(2001)	-(2001)		4
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
14. Infection with koi herpesvirus	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Mikrocytos roughleyi*	-(2003)	-(2003)	-(2003)		5
3. Infection with *Haplosporidium nelsoni*	0000	0000	0000		
4. Infection with *Marteilia sydneyi*	-(2002)	-(2002)	-(2002)		6
5. Infection with *Perkinsus olseni/atlanticus* [b/])	+	+	+	II	7
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	0000	0000	0000		
3. Yellowhead disease (YH virus, gill-associated virus)	0000/+	0000/-	0000/+	III	8
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-(2003)	-(2003)	-(2003)		9
5. Infectious hypodermal and haematopoietic necrosis	-(2003)	+?	-(2004)	III	10
6. Spawner-isolated mortality virus disease	-(?)	-(?)	-(?)		11
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
8. Necrotising hepatopancreatitis	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		
3. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.*Streptococcus iniae*	+	+	+	II	12
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/]
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	Epizootic haematopoietic necrosis was detected in redfin perch (*Perca fluviatilis*) from Lake Eildon in Victoria by histology, electron microscopy and cell culture, following a fish kill in January 2004 (passive surveillance). Not reported this period despite passive surveillance, but is known to have previously occurred in 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 Northern Territory, Queensland or Western Australia. Annual occurrence of the disease in the Australian Capital Territory, but no laboratory confirmation.
2	Viral encephalopathy and retinopathy was detected in Queensland by immunohistochemical stain and nested RT-PCR in larvae and fry of barramundi (*Lates calcarifer*) in two hatcheries and barramundi cod (*Cromileptes altivelis*) in a third hatchery in February and March 2004 following clinical signs with extensive mortality. An outbreak of VER in 21 day old barramundi fry (*Lates calcarifer*) was diagnosed from histology and confirmed by PCR in a Western Australia hatchery in March 2004 (passive surveillance). All stock (50,000 fry) were destroyed and the hatchery sterilised. Not reported this period despite targeted surveillance in Northern Territory (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 or Victoria despite passive surveillance. No information available in the Australian Capital Territory.
3	Epizootic ulcerative syndrome was not reported during this period despite passive surveillance, but is known to have occurred in New South Wales and Queensland (last year reported 2003), Victoria and Western Australia (last year reported 2002). Considered enzootic in Northern Territory, but lack of diagnostic submissions. Passive surveillance and never reported in South Australia and Tasmania. No information available in the Australian Capital Territory.

4	Enteric septicaemia of catfish was not reported this quarter but is known to have occurred in zebrafish (*Brachydanio rerio*) in PC2 containment in Tasmania (last year reported 2001). Never reported in New South Wales, Queensland, South Australia and Victoria despite passive surveillance. No information available in the Australian Capital Territory, Northern Territory and Western Australia (no monitoring).
5	*Mikrocytos roughleyi* was not reported during this period (passive surveillance) but is known to have occurred in New South Wales (last year reported 2003) and Western Australia (last year reported 1996). Considered enzootic in Queensland but lack of diagnostic submissions. Active surveillance and never reported in Tasmania. Passive surveillance and never reported in Northern Territory, South Australia and Victoria. No information available in Australian Capital Territory (no marine water responsibility).
6	*Marteilia sydneyi*: Not reported this period from New South Wales (last year reported 2002) or Western Australia (last year reported 1994), despite passive surveillance. Active surveillance and never reported in Tasmania. Considered enzootic in Queensland but lack of diagnostic submissions. Passive surveillance and never reported in Northern Territory, South Australia or Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
7	*Perkinsus olseni*: Reported from South Australia in January, February and March 2004 in wild, but not in cultured *Haliotis* spp. (targeted 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 year reported 2003). Not reported this quarter from New South Wales, despite passive surveillance (last year reported 2003). 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).
8	Yellowhead virus: Passive surveillance and never reported in New South Wales, Northern Territory, 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 on 2 commercial farms in the Northern Territory in January and March 2004 in clinically infected *Penaeus monodon* (targeted surveillance). Not reported this period despite passive surveillance, but known to have occurred previously in New South Wales (last year reported 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. Active surveillance and never reported in Western Australia. Passive surveillance and never reported in South Australia and Victoria. No information available in Tasmania (susceptible species not present), the Australian Capital Territory (no marine water responsibility).
9	Spherical baculovirosis has not been reported this period despite passive surveillance but is known to have occurred previously in Queensland (last year reported 2003), New South Wales and Western Australia (last year reported 2002). Never reported with passive surveillance in Northern Territory, South Australia and Victoria. No information available in the Australia Capital Territory (no marine water responsibility) and Tasmania (susceptible species not present).
10	Infectious hypodermal and haematopoietic necrosis was detected by PCR in 6/10 wild caught adult *Penaeus japonicus* originating from Queensland when tested with the new primer set QPF/R1. None of these prawns had clinical signs of IHHN. Sequence analysis of the IHHNV PCR product from *P. japonicus* showed an identical nucleotide sequence to that IHHNV previously detected in *P. monodon* and found to have the highest nucleotide identity with the Madagascan strain of IHHNV. Not reported this period (passive surveillance) in Northern Territory, but detected in *P. monodon* following targeted surveillance in 2003, with no clinical signs of IHHNV. Passive surveillance and never reported in New South Wales, South Australia, Victoria and Western Australia. No information available in Australian Capital Territory (no marine responsibility) or Tasmania (susceptible species not present).

11	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 spawner-isolated mortality virus-related epizootics impossible.
12	*Streptococcus iniae* was found to be the cause of mortality in a large number of adult barramundi (*Lates calcarifer*) on four Western Australia farms in January, February and March 2004. Diagnosed from histology and bacterial isolation/identification.

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

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)	+	+	+	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/]					
Bacterial Disease	+	+	-	I	2
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	Outbreak of EUS observed in Indian major carp in Chandpuri area (Eastern part of the country) during the reporting period. Report of EUS outbreak in Indian major carp, Thai Sarputi and Silver carp came from Mymensingh region (Central part of the country). Fish farmers used locally produced commercial drugs to cure fish from disease
2	*Pangasius sutchi* were seriously affected with bacteria and *Saprolegnia*-type fungus in the fish farms of Mymensingh area. Farm owners used different kinds of antibiotics.

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

Country: Bangladesh **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. *Oncorhynchus masou* virus disease	***	***	***		
4. Spring viraemia of carp	***	***	***		
5. Viral haemorrhagic septicaemia	***	***	***		
6. Viral encephalopathy and retinopathy	***	***	***		
7. Infectious pancreatic necrosis	***	***	***		
8. Epizootic ulcerative syndrome (EUS)	+	+	+	I	1
9. Bacterial kidney disease	***	***	***		
10. Red seabream iridoviral disease	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
14. Infection with koi herpesvirus	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Mikrocytos roughleyi*	***	***	***		
3. Infection with *Haplosporidium nelsoni*	***	***	***		
4. Infection with *Marteilia sydneyi*	***	***	***		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	***	***	***		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	+	+	+	I	2
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
8. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		
3. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/]
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	Outbreak of EUS observed in the Indian major caprs in Mymensingh area (central part of the country) during the reported period. Indian major carp, *B.gonionotus* and *H.molitrix* are the affected species. Dermal lesions, deep ulcers, haemorrahges and infection in the fin base are the main disease symptoms. Disease confirmed by field observations and by study the pattern of mortality. Size of infected areas is not available. Fish farmers used locally produced commercial drugs to cure fish from disease. Samples were not sent to any laboratory
2	In the eastern part of the country (Cox Bazar), outbreaks of white spot disease in *Penaeus monodon* observed during January-February both in the brood stock and PL and in the south west region (Khulna) outbreak of white spot disease in *P.monodon* observed during March-May in the juveniles showing clinical symptoms and pattern of mortality were the key tools for diagnosis

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

Country: Cambodia **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. *Oncorhynchus masou* virus disease	***	***	***		
4. Spring viraemia of carp	***	***	***		
5. Viral haemorrhagic septicaemia	***	***	***		
6. Viral encephalopathy and retinopathy	***	***	***		
7. Infectious pancreatic necrosis	***	***	***		
8. Epizootic ulcerative syndrome (EUS)	-	-	+()	I	1
9. Bacterial kidney disease	***	***	***		
10. Red seabream iridoviral disease	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
14. Infection with koi herpesvirus	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Mikrocytos roughleyi*	***	***	***		
3. Infection with *Haplosporidium nelsoni*	***	***	***		
4. Infection with *Marteilia sydneyi*	***	***	***		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	***	***	***		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	***	***	***		
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
8. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		
3. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/]
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	Reported from very limited area of Tonle Sap River and other areas

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

Country: China P.R. **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	—	—	—		
3. *Oncorhynchus masou* virus disease	0000	0000	0000		
4. Spring viraemia of carp	***	***	***		
5. Viral haemorrhagic septicaemia	0000	0000	0000		
6. Viral encephalopathy and retinopathy	0000	0000	0000		
7. Infectious pancreatic necrosis	0000	0000	0000		
8. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
9. Bacterial kidney disease	0000	0000	0000		
10. Red seabream iridoviral disease	0000	0000	0000		
11. Enteric septicaemia of catfish	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	0000	0000	0000		
13. Grouper iridoviral disease	0000	0000	0000		
14. Infection with koi herpesvirus	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Mikrocytos roughleyi*	0000	0000	0000		
3. Infection with *Haplosporidium nelsoni*	0000	0000	0000		
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	***	***	+	III	1
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
8. Necrotising hepatopancreatitis	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	The first quarter isn't the fishery production period in China; therefore there is no important aquatic animal disease report in the most area of China. White spot disease was detected in shrimp aquaculture of Guangdong province on March 2004. The average mortality rate reached 30 %.

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

Country: Hong Kong China **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed 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. Spring viraemia of carp	0000	0000	0000	III	
5. Viral haemorrhagic septicaemia	0000	0000	0000	III	
6. Viral encephalopathy and retinopathy	-	+	-	III	1.
7. Infectious pancreatic necrosis	0000	0000	0000	III	
8. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	II	
9. Bacterial kidney disease	0000	0000	0000	III	
10. Red seabream iridoviral disease	0000	0000	0000	III	
11. Enteric septicaemia of catfish	0000	0000	0000		
Non OIE-listed diseases relevant to the region	0000	0000	0000		
12. Epitheliocystis	+? (2002)			II	2.
13. Grouper iridoviral disease	-	-	-	III	
14. Infection with koi herpesvirus	0000	0000	0000	II	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	II	
2. Infection with *Mikrocytos roughleyi*	0000	0000	0000	II	
3. Infection with *Haplosporidium nelsoni*	0000	0000	0000	II	
4. Infection with *Marteilia sydneyi*	0000	0000	0000	II	
5. Infection with *Perkinsus olseni/atlanticus* [b/])	0000	0000	0000	II	
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	III	
2. White spot disease	+? (2003)	-	-	III	3.
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000	III	
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000	II	
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	II	
6. Spawner-isolated mortality virus disease	0000	0000	0000	II	
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000	II	
8. Necrotising hepatopancreatitis	0000	0000	0000	II	
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	0000	0000	0000	II	
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	0000	0000	0000	II	
2. Akoya oyster disease	0000	0000	0000	II	
3. Abalone viral mortality	0000	0000	0000	II	
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	On 14th February some wild-caught grey mullet fry suffered losses due to high ammonia levels in the pond associated with high pH, and subsequent secondary disease. A nodavirus was detected by PCR, but no histological changes were found in the brain or eyes. On 17th February some imported green grouper eggs were submitted for screening before being grown out at a culture facility. The eggs were positive for a nodavirus by PCR.
2	No further cases reported.
3	No further cases reported.

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

Country: India **Period: January-March 2004**

DISEASES PREVALENT IN THE REGION	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. *Oncorhynchus masou* virus disease	0000	0000	0000		
4. Spring viraemia of carp					
5. Viral haemorrhagic septicaemia	0000	0000	0000		
6. Viral encephalopathy and retinopathy					
7. Infectious pancreatic necrosis	0000	0000	0000		
8. Epizootic ulcerative syndrome (EUS)	-	-	-		
9. Bacterial kidney disease	0000	0000	0000		
10. Red seabream iridoviral disease	0000	0000	0000		
11. Enteric septicaemia of catfish					
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis					
13. Grouper iridoviral disease					
14. Infection with koi herpesvirus					
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Mikrocytos roughleyi*	0000	0000	0000		
3. Infection with *Haplosporidium nelsoni*	0000	0000	0000		
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*					
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	+()	+()	+()	I	1
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)					
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)					
8. Necrotising hepatopancreatitis					
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis					
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality					
2. Akoya oyster disease					
3. Abalone viral mortality					
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	Reported from parts of Andhra Pradesh, Goa, Gujarat, Kerala and Tamil Nadu

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

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	+	+	+	III	1
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	2
3. Taura syndrome*	+	+	+	III	3
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	+	+	+	III	4
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	Sample of grouper (*Cromileptes altivelis*) from Lampung province, Sumatera islands and Situbondo, East Java were found PCR-positive against VER.
2	Most post larvae of *Penaeus monodon* send by farmer from Bali, East Java, West Java, and Lampung province were PCR-positive against WSSV.
3	TSV in *Penaeus vannamei* was reported occurred in Subang District, West Java. This report send by farmer was based on the clinical sign of the disease (Diagnostic level 1). PCR-positive samples against TSV were also received from in East Java, but not from Central Java.
4	Koi mass mortality occurred in Java and southern part of Sumatera island. Koi and common carp samples were tested by using PCR methods. Since the disease causes high mortality in running water culture system, most of carp farmer did not stock their raceway pond yet. Carp cultured in earthen ponds seems to be less affected (low mortality).

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

a) Ministerial Decree No.20/2003 regarding classification of fish drug. (Effective date: 9 June 2003).

b) Ministerial Decree no.15/2003 pertaining requirement and procedures for either private or government institution to be qualified as a fish quarantine unit. (Effective date: 9 June 2003).

c) Ministerial Decree no. 16/2003 pertaining renewal of the decree no. 470/2002 concerning updates of the list of entry, exit and domestics checkpoints for fish quarantine purposes. (Effective date: 9 June 2003).

d) Ministerial Decree no. 17/2003 pertaining updates of the decree no. 841/1993 concerning list of quarantine fish disease. (Effective date: 9 June 2003).

e) Ministerial Decree No.18/2003 pertaining renewal of the decree no. 405/Update list of international, and domestic exit and entry points for live fish (airports, seaports, river ports, inland ports, and other intra-national checkpoints). (Effective date: 9 June 2003).

f) Directorate General Decree No.4158/2003 pertaining procedure for testing and registration of fish drug. (Effective date: 8 July 2003).

g) Ministerial Decree No.34/2003 pertaining legal documents required for fish quarantine. (Effective date: 17 September 2003).

Country: Indonesia **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. *Oncorhynchus masou* virus disease	***	***	***		
4. Spring viraemia of carp	***	***	***		
5. Viral haemorrhagic septicaemia	***	***	***		
6. Viral encephalopathy and retinopathy	0000	0000	0000		
7. Infectious pancreatic necrosis	0000	0000	0000		
8. Epizootic ulcerative syndrome (EUS)	***	***	***		
9. Bacterial kidney disease	0000	0000	0000		
10. Red seabream iridoviral disease	0000	0000	0000		
11. Enteric septicaemia of catfish	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	0000	0000	0000		
13. Grouper iridoviral disease	+()	+()	+()	III	
14. Infection with koi herpesvirus	+	+	+	III	1
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Mikrocytos roughleyi*	0000	0000	0000		
3. Infection with *Haplosporidium nelsoni*	0000	0000	0000		
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	+	+	+	III	
2. White spot disease	+	+	+	III	
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
8. Necrotising hepatopancreatitis	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality					
2. Akoya oyster disease	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	The disease spread rapidly throughout Java island and caused very high mortality (80-90%) to both common and koi carp populations. Necrosis of gill filaments, haemorrages on the surface of the body and skin lesions are the important clinical signs. Movement of infected populations to other Islands in Indonesia and abroad have been prohibited. Samples sent to International laboratory in United Kingdom.

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

Country: Iran **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. *Oncorhynchus masou* virus disease	***	***	***		
4. Spring viraemia of carp	0000	0000	0000		
5. Viral haemorrhagic septicaemia	0000	0000	0000		
6. Viral encephalopathy and retinopathy	***	***	***		
7. Infectious pancreatic necrosis	0000	0000	0000		
8. Epizootic ulcerative syndrome (EUS)	***	***	***		
9. Bacterial kidney disease	***	***	***		
10. Red seabream iridoviral disease	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
14. Infection with koi herpesvirus	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Mikrocytos roughleyi*	***	***	***		
3. Infection with *Haplosporidium nelsoni*	***	***	***		
4. Infection with *Marteilia sydneyi*	***	***	***		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	***	***	***		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	-(2002)	-(2002)	-(2002)		1
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
8. Necrotising hepatopancreatitis	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		
3. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	White spot disease has not been reported during this period but was known to have occurred in Khoozestan Province from July-September 2002, that was eventually eradicated by using active surveillance system

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

Country: Japan **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000	I	
2. Infectious haematopoietic necrosis	+	+	+	III	
3. *Oncorhynchus masou* virus disease	-	-	+	III	
4. Spring viraemia of carp	0000	0000	0000	I	
5. Viral haemorrhagic septicaemia	+	+	+	III	
6. Viral encephalopathy and retinopathy	-	-	-	I	
7. Infectious pancreatic necrosis	+	-	+	III	
8. Epizootic ulcerative syndrome (EUS)	-	-	-	I	
9. Bacterial kidney disease	+	-	+	III	
10. Red seabream iridoviral disease	+	-	+	III	
11. Enteric septicaemia of catfish	0000	0000	0000	I	
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	+	+	+	III	
13. Grouper iridoviral disease	0000	0000	0000	I	
14. Infection with koi herpesvirus	+	-	+	III	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	I	
2. Infection with *Mikrocytos roughleyi*	0000	0000	0000	I	
3. Infection with *Haplosporidium nelsoni*				I	1
4. Infection with *Marteilia sydneyi*	0000	0000	0000	I	
5. Infection with *Perkinsus olseni/atlanticus* [b/])	0000	0000	0000	I	
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	+	-	-	III	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	I	
2. White spot disease					
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000	I	
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000	I	
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	I	
6. Spawner-isolated mortality virus disease	0000	0000	0000	I	
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000	I	
8. Necrotising hepatopancreatitis	0000	0000	0000	I	
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	0000	0000	0000	I	
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	0000	0000	0000	I	
2. Akoya oyster disease	-	+	+	II	
3. Abalone viral mortality	0000	0000	0000	I	
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

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

Country: Lao PDR **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. *Oncorhynchus masou* virus disease	***	***	***		
4. Spring viraemia of carp	***	***	***		
5. Viral haemorrhagic septicaemia	***	***	***		
6. Viral encephalopathy and retinopathy	***	***	***		
7. Infectious pancreatic necrosis	***	***	***		
8. Epizootic ulcerative syndrome (EUS)	***	***	***		
9. Bacterial kidney disease	***	***	***		
10. Red seabream iridoviral disease	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
14. Infection with koi herpesvirus	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Mikrocytos roughleyi*	***	***	***		
3. Infection with *Haplosporidium nelsoni*	***	***	***		
4. Infection with *Marteilia sydneyi*	***	***	***		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	***	***	***		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	***	***	***		
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
8. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		
3. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
	NIL

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

Country: Malaysia **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. *Oncorhynchus masou* virus disease	***	***	***		
4. Spring viraemia of carp	0000	0000	0000		
5. Viral haemorrhagic septicaemia	0000	0000	0000		
6. Viral encephalopathy and retinopathy	+()	?	?	III	1
7. Infectious pancreatic necrosis	***	***	***		
8. Epizootic ulcerative syndrome (EUS)	-	-	-		
9. Bacterial kidney disease	***	***	***		
10. Red seabream iridoviral disease	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	-	-	-		
14. Infection with koi herpesvirus	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Mikrocytos roughleyi*	0000	0000	0000		
3. Infection with *Haplosporidium nelsoni*	0000	0000	0000		
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	?	?	?	III	2
2. White spot disease	+( )	+( )	+( )	III	3
3. Yellowhead disease (YH virus, gill-associated virus)	-	-	-		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	-	-	-		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	-	-	-		
8. Necrotising hepatopancreatitis	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis					
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	Viral encephalopathy and retinopathy was detected in juvenile *Lates calcarifer* obtained from Department Of Fisheries (DOF) hatchery in Marine Finfish Production and Research Centre in Tanjong Demong, Trengganu by PCR technique at the National Prawn Fry Production and Research Laboratory of DOF. The affected juvenile stocks were destroyed and chlorine disinfection was used.
2	Taura syndrome was detected by PCR technique in juveniles of *Litopenaeus vannamei* collected from ponds cultured at Manjung District, Perak. However repeated runs of PCR on the same samples, preserved at -20 ^{o}C did not give confirmatory positive test. DOF, Malaysia has taken steps to ban the culture of the species locally. Importation of postlarvae of *L. vannamei* is banned by DOF.
3	WSSV was confirmed by PCR method in newly stocked PL samples collected from ponds located at in Kedah State north western coastal district. Affected ponds (3 ponds with a total of 750,000 PL_{15-20}) were disinfected with chlorination.

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

Country: Myanmar **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. *Oncorhynchus masou* virus disease	***	***	***		
4. Spring viraemia of carp	***	***	***		
5. Viral haemorrhagic septicaemia	***	***	***		
6. Viral encephalopathy and retinopathy	***	***	***		
7. Infectious pancreatic necrosis	***	***	***		
8. Epizootic ulcerative syndrome (EUS)	***	***	***		
9. Bacterial kidney disease	***	***	***		
10. Red seabream iridoviral disease	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
14. Infection with koi herpesvirus	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Mikrocytos roughleyi*	***	***	***		
3. Infection with *Haplosporidium nelsoni*	***	***	***		
4. Infection with *Marteilia sydneyi*	***	***	***		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	***	***	***		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	***	+()	+()	III	1
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	***	+()	+()	III	1
6. Spawner-isolated mortality virus disease	***	***	***		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
8. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		
3. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	WSSV and IHHNV were diagnosed on broodstock and PL at some private company, detected using IQ2000 WIT Multi Vir System

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

Country: Nepal **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. *Oncorhynchus masou* virus disease	***	***	***		
4. Spring viraemia of carp	***	***	***		
5. Viral haemorrhagic septicaemia	***	***	***		
6. Viral encephalopathy and retinopathy	***	***	***		
7. Infectious pancreatic necrosis	***	***	***		
8. Epizootic ulcerative syndrome (EUS)	+	+	+	I	1
9. Bacterial kidney disease	***	***	***		
10. Red seabream iridoviral disease	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
14. Infection with koi herpesvirus	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Mikrocytos roughleyi*	***	***	***		
3. Infection with *Haplosporidium nelsoni*	***	***	***		
4. Infection with *Marteilia sydneyi*	***	***	***		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	***	***	***		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	***	***	***		
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
8. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		
3. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	Cases of epizootic ulcerative syndrome (EUS) were reported in private fish ponds from 4 districts of Tarai Plains. However, occurrence of disease not reported from fish ponds in government run fisheries development centers in Nepal. EUS affected fish species reported were Rohu (*Labeo rohita*), Naini (*Cirrhina mrigala*), Catla (*Catla catla*) including some wild/weed fish species. The occurrence of the disease was reported to be sporadic. The economic loss caused by the disease was reported to be not significant. Commercial brand drugs like CIFAX, $KMnO_4$ as well as lime were reported to be used by some of the farmers. Feed back on their efficacy awaited.

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

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)	-	+	+	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/]					
1.Dropsy			+	II	
2.Motile Aeromonad Disease	+	+	+	I	
3.Pathogenic Vibriosis	+	+	+	I	
4.Peduncle Disease	+	+	+	I	
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	The disease has been reported in Thatta and Badin Districts of lower Sindh and Larkana District of upper Sindh during the months of November and December. Susceptible in major carps and few cat fishes. Primarily the small lesion occur on the various parts of the body which secondarily converts into deep lesions causing growth of fungus colonies over the body of fish which leads it to mortality. Precautionary measures has been taken and infected fish has been isolated and dead fish has been buried with lime.

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

Country: Pakistan **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	***	***	***		
2. Infectious haematopoietic necrosis	***	***	***		
3. *Oncorhynchus masou* virus disease	***	***	***		
4. Spring viraemia of carp	***	***	***		
5. Viral haemorrhagic septicaemia	***	***	***		
6. Viral encephalopathy and retinopathy	***	***	***		
7. Infectious pancreatic necrosis	***	***	***		
8. Epizootic ulcerative syndrome (EUS)	-	-	-	I	1
9. Bacterial kidney disease	***	***	***		
10. Red seabream iridoviral disease	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
14. Infection with koi herpesvirus	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Mikrocytos roughleyi*	***	***	***		
3. Infection with *Haplosporidium nelsoni*	***	***	***		
4. Infection with *Marteilia sydneyi*	***	***	***		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	***	***	***		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	***	***	***		
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
8. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	***	***	***		
2. Akoya oyster disease	***	***	***		
3. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. Abdominal dropsy	-	+	+	1	2
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	Known through the previous experiences as it was reported in Thalte and Badin districts of lower Sindh and Larkan district of upper Sindh during the last quarter.
2	Five cases of abdominal dropsy (bacterial haemorrhagic septicaemia) as reported from rpivate fish farms (total infected area 31 acres). Oxytetracycline was suggested for the treatment of diseased fish @ 60 mg/kg fish body weight for 5-7 days.

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

Country: Philippines **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. *Oncorhynchus masou* virus disease	0000	0000	0000		
4. Spring viraemia of carp	0000	0000	0000		
5. Viral haemorrhagic septicaemia	0000	0000	0000		
6. Viral encephalopathy and retinopathy	-	-	-		
7. Infectious pancreatic necrosis	0000	0000	0000		
8. Epizootic ulcerative syndrome (EUS)	-	-	-		1
9. Bacterial kidney disease	0000	0000	0000		
10. Red seabream iridoviral disease	0000	0000	0000		
11. Enteric septicaemia of catfish	***	***	***		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
14. Infection with koi herpesvirus	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Mikrocytos roughleyi*	0000	0000	0000		
3. Infection with *Haplosporidium nelsoni*	0000	0000	0000		
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+	+	-	III	2
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		3
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
8. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	No reported case (passive surveillance) during the month of January - March 2004.
2	There were 66 (batches/samples) of *P. monodon* post larva, 26 spent spawners, and 113 (batches/samples) from grow-out ponds examined from different provinces (Pangasinan, Masbate, Aklan, Bulacan, Batangas, Camarines Norte, Camarines Sur, Quezon, Cebu, Bohol, Davao, Lanao del Norte, Negros Oriental) during the month of January to March 2004. Results of PCR test showed 4 (batches/samples) of *P. monodon* post larva (Negros Oriental) and 8 batches/samples from different grow-out ponds (Bohol, Sorsogon, Batangas) had positive results for White Spot Virus. The shrimp sample from grow-out pond (in Sorsogon) experienced 100% mortalities while the shrimp sample from Batangas grow-out ponds had significant mortalities and resulted to emergency harvest . Examinations conducted by BFAR- Central and Regional Fish Health Laboratories.
3	Information available was in 1998, when samples of *P. monodon* from selected grow-out farms sent to Australia in October 1988 (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):

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*	0000	0000	0000	III	
2. Infectious haematopoietic necrosis*	-	-	-	III	
3. *Oncorhynchus masou* virus disease*	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia*	-	-	-	III	
5. Infectious pancreatic necrosis	-	-	-	III	
6. Viral encephalopathy and retinopathy	-	-	-	III	
7. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
8. Bacterial kidney disease	0000	0000	0000		
9. Red sea bream iridoviral disease	+	+	+	III	
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/])*	+	+	+	III	
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*	-	-	-		
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*	?	?	?		
Any other diseases of importance [b/]					
Marteilioides infection (*Marteilioides chungmuensis*)	+	+	+	III	
Unknown diseases of serious nature					
1. Koi mass mortality	-	-	-		
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

* 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: Singapore **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. *Oncorhynchus masou* virus disease	0000	0000	0000		
4. Spring viraemia of carp	0000	0000	0000		
5. Viral haemorrhagic septicaemia	0000	0000	0000		
6. Viral encephalopathy and retinopathy	-	-	-		
7. Infectious pancreatic necrosis	0000	0000	0000		
8. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
9. Bacterial kidney disease	0000	0000	0000		
10. Red seabream iridoviral disease	0000	0000	0000		
11. Enteric septicaemia of catfish	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
14. Infection with koi herpesvirus	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Mikrocytos roughleyi*	***	***	***		
3. Infection with *Haplosporidium nelsoni*	***	***	***		
4. Infection with *Marteilia sydneyi*	***	***	***		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	***	***	***		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	***	***	***		
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
8. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	***	***	***		
3. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.Mullet systemic iridoviral disease	-	+	-	II	1
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	Systemic iridoviral disease was observed histologically in a batch of two-month-old mullet (*Mugil cephalus*) reported as suffering daly mortality estimated at 0.1%, for 2 months since stocking in a floating farm

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

Country: Sri Lanka **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. *Oncorhynchus masou* virus disease	0000	0000	0000		
4. Spring viraemia of carp	0000	0000	0000		
5. Viral haemorrhagic septicaemia	0000	0000	0000		
6. Viral encephalopathy and retinopathy	0000	0000	0000		
7. Infectious pancreatic necrosis	0000	0000	0000		
8. Epizootic ulcerative syndrome (EUS)	?	?	?	I	1
9. Bacterial kidney disease	0000	0000	0000		
10. Red seabream iridoviral disease	0000	0000	0000		
11. Enteric septicaemia of catfish	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	0000	0000	0000		
13. Grouper iridoviral disease	0000	0000	0000		
14. Infection with koi herpesvirus	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Mikrocytos roughleyi*	0000	0000	0000		
3. Infection with *Haplosporidium nelsoni*	0000	0000	0000		
4. Infection with *Marteilia sydneyi*	0000	0000	0000		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+	+	+	III	2
3. Yellowhead disease (YH virus, gill-associated virus)	?	?	?	I	3
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
8. Necrotising hepatopancreatitis	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	0000	0000	0000		
2. Akoya oyster disease	0000	0000	0000		
3. Abalone viral mortality	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/])
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	Clear visual signs were not reported
2	PCR amplifications results from two laboratories indicate that *P.monodon* samples from hatcheries (PL and Broodstock) and adult stages from farms at North Western Province (NWP) of the country showed positive results. Intensity of the disease was high. Due to high infection rate of the previous quarter, farming intensity was reduced to 5-10% of the total. Authorities have divided NWP shrimp farming area into several operational zones considering some important factors for monitoring purposes and a farming calendar was introduced to the said zones on 21st February 2004 to reduce the disease spread
3	No symptoms were observed

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

Country:Thailand **Period: January-March 2004**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed 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. Spring viraemia of carp	0000	0000	0000	III	
5. Viral haemorrhagic septicaemia	0000	0000	0000	III	
6. Viral encephalopathy and retinopathy	?	?	+	III	1
7. Infectious pancreatic necrosis	(1985)	(1985)	(1985)	III	
8. Epizootic ulcerative syndrome (EUS)	+	-	+	II	2
9. Bacterial kidney disease	***	***	***		
10. Red seabream iridoviral disease	0000	0000	0000	III	
11. Enteric septicaemia of catfish	***	***	***		
Non OIE-listed diseases relevant to the region					
12. Epitheliocystis	0000	0000	0000	II	
13. Grouper iridoviral disease	0000	0000	0000	III	
14. Infection with koi herpesvirus	0000	0000	0000	III	3
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Mikrocytos roughleyi*	***	***	***		
3. Infection with *Haplosporidium nelsoni*	***	***	***		
4. Infection with *Marteilia sydneyi*	***	***	***		
5. Infection with *Perkinsus olseni/atlanticus* [b/])	***	***	***		
Non OIE-listed diseases relevant to the region					
6. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	+	+	+	III	4
2. White spot disease	+	+	+	III	5
3. Yellowhead disease (YH virus, gill-associated virus)	-	-	-	III	6
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	?	?	?	II	
5. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	7
6. Spawner-isolated mortality virus disease	***	***	***		
7. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
8. Necrotising hepatopancreatitis	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Baculoviral midgut gland necrosis	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Koi mass mortality	0000	0000	0000	I	
2. Akoya oyster disease	***	***	***		
3. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION, BUT LISTED BY THE OIE[c/]
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); White sturgeon iridoviral disease
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini*; *Perkinsus marinus*; *Candidatus Xenohaliotis californiensis*; *Hapolosporidium costale*
Crustaceans: Crayfish plague (*Aphanomyces astaci*)

a/ Please use the following symbols:

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

b/ *Perkinsus olseni* and *P.atlanticus* 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 occur.

c/ If there is suspicion or confirmation of any of these diseases, they must be reported immediately, because the region is considered free of these diseases.

1. Epidemiological comments:

(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)

Comment No.	
1	There was one confirmed case of grouper seeds infected by VNN in one fish nursery in Pangnga province in March. The seeds were destroyed and the contaminated areas of the nursery were disinfected.
2	Two outbreaks were recorded and identified using histopathological signs. One outbreak occurred in January in water reservoir located in Nakornratsima province. Species affected were *Channa striata, Hampala dispa, Cirrhina julleni, Xenentodon concila.* A loss due to the disease was very limited as the outbreak lasted for a few weeks and in small water area of the reservoir. The *Aphanomyces* fungus was isolated. Disease prevention was given to fish farmers through local media. The second outbreak occurred in a marbled goby, *Oxyeleotris marmoratus*, farm located in Pathumthanee province in March. One out of four concrete fishponds was affected Death toll was low. Advice given were kept strict quarantine, added 0.5-1% salt and kept the water warm (>28°C) by exposing the pond to the Sun.
3	Starting in March, the Department of Fisheries (DOF) has combined virus isolation in KF-1 and BF2 cell lines and PCR detection for the KHV monitoring program. No KHV detected since August 2002.
4	561 shrimp PL samples had been tested at 11 PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 21specimens or 3.7% were recorded as RT-PCR positive or carrying TSV genes that advised to be destroyed.
5	4,411 shrimp PL samples had been tested at 11 PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 6 specimens or 0.1% were recorded as PCR positive or carrying SEMBV genes that advised to be destroyed.
6	279 shrimp PL samples had been tested at 11 PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. No specimens (0%) were recorded as RT-PCR positive or carrying YHV gene.
7	981 shrimp PL samples had been tested at 11 PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 154 specimens or 15.7% were recorded as PCR positive or carrying IHHNV genes that advised to be destroyed.

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

Country: Vietnam **Period: July-September 2003**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
	Month				
Diseases prevalent in some parts of the region	July	August	September		
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)	+( )	+( )	+( )	II	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)*	+	+	+	III	3
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/]					
Monodon Baculovirus disease (MBV)	+	+	+	II	3
Diseases of grass carp	-	-	+		
Gill fluke	+( )	+( )	+( )	II	4
White feces in shrimp	+( )	+( )	+( )	II	5
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	VNN was detected during this period in fish larvae of grouper in hatcheries
2	Disease occurred in some provinces in northern Vietnam, but not serious
3	The diseases were spread in nearly whole of shrimp cultured sites in Vietnam.
4	Gill fluke caused a high mortality in Catba island on grouper, cobia
5	White feces disease occurred in some midle coastal provinces such as Phu Yen, Khanh hoa, the causative agent (s) was still in discussion

2. 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*	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)	-	-	-		
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)*	+	-	-	III	1
2. White spot disease*	+	-	-	III	1
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/]					
Monodon Baculovirus disease (MBV)	-	-	-		
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	Diseases occurred during this period in Southern Vietnam as they cultured second crop

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

Decision 07/QD-BTS of Fisheries Ministry dated 05/08/2003-transferring the duties of Fisheries Veterinary to "The National Fisheries Quality Assurance and Veterinary Directorate" (NAFIQAVED)

Recent Related Publications

J.R.Arthur and M.G. Bondad-Reantaso. (eds.). **Capacity and Awareness Building on Import Risk Analysis for Aquatic Animals**. Proceedings of the workshop held 1-6 April 2002 in Bangkok, Thailand and 12-17 August 2002 in Mazatlan, Mexico. APEC FWG 01/2002, NACA, Bangkok. 203p. The proceedings contains 26 technical presentations, divided into 4 parts: (a) Background for risk analysis, (b) the risk analysis process, (c) Risk analysis and the World Trade Organization: Country experiences and (d) National strategies for aquatic animal health. Available for download from www.enaca.org

Arthur, J.R., M.G.Bondad-Reantaso, F.C.Baldock, C.J.Rodgers and B.F.Edgerton. 2004. **Manual on risk analysis for the safe movement of aquatic animals** (FWG/01/2002). APEC/DoF/NACA/FAO, 59p. This manual provides a simplified overview of the risk analysis process to assist responsible individuals in developing countries to begin formulating national policies and approaches to conducting risk analyses. Available for download from www.enaca.org

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 may 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 may 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 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 on 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).

List of National Coordinators*

Country	Name and Address
Australia	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: Eva-Maria.Bernoth@affa.gov.au 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: Alistair.Herfort@affa.gov.au
Bangladesh	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: dgbfr@bdonline.com
Cambodia	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: smallfish@online.com.kh
China	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:zewenzhu@sina.com 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: nsyang@cafs.ac.cn
DPR Korea	Mr. Chong Yong Ho (NC) Director of Fish Farming Technical Department, Bureau of Freshwater Culture Sochangdong Central District, P.O.Box. 95 , Pyongyong, DPR Korea Fax- 850-2-814416; Tel- 3816001, 3816121

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

Hong Kong China	Dr Jim Chu Aberdeen Fisheries Office 100 A, Shek Pai Wan Road Aberdeen, Hong Kong Tel: 852-2873833; Fax: 852-28700324 E-Mail: jim_cw_chu@afcd.gov.hk
India	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: ayyappans@icar1.nic.in 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: m.k.r.nair@mailcity.com
Indonesia	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: dfhe@indosat.net.id Mr. Agus Sunarto (FP) Fish Health Research Laboratory Central Research Institute of Aquaculture Ministry of Marine Affairs and Fisheries Jakarta, Indonesia E-mail: agussunarto@hotmail.com
Iran	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 Dr. A.E. Maghsodi Fard (FP) Manager Director of Aquatic Animal Diseases Department amaghsodifard@yahoo.com
Japan	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: mahito_masuda@nm.maff.go.jp Dr. Hiroshi Kimiya (FP) Director, Office of Fish Health Protection

Lao PDR	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: eulaodlf@laotel.com 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: eulaodlf@laotel.com
Malaysia	Mr. Ambigadevi Palanisamy (NC) National Coordinator Fisheries Research Institute, Department of Fisheries Penang, Malaysia E-mail: ambigadevip@yahoo.com Dr. Ong Bee Lee (FP) Head, Regional Veterinary Laboratory Services Department of Veterinary Services, 8th & 9th 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: ong@jph.gov.my
Myanmar	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: dof@mptmail.net.mm
Nepal	Mr. Gagan B.N. Pradhan (NC) Fisheries Development Officer Directorate of Fisheries Development Central Fisheries Building, Balaju, Kathmandu, Nepal Tel: + 350 662 E-mail: dofd@mail.com.np Mr. Shankar Prasad Dahal (FP) Assistant Fisheries Development Officer Directorate of Fisheries Development Central Fisheries Building, Balaju, Kathmandu, Nepal Tel: + 350 662 E-mail: dofd@mail.com.np
Pakistan	Dr. Muhammad Hayat (NC) Assistant Fisheries Development Commissioner Livestock Division, Ministry of Food, Agriculture and Livestock 10th Floor, Shaheed-e-Millat Secretariat (Livestock Wing) I Islamabad Fax: 92-51-922 1246; Tel: 92-51-920 8267 ahc@isb.paknet.com.pk

Philippines	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: jsomga@bfar.da.gov.ph
Republic of Korea	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: parkms@haema.nfrda.re.kr
Singapore	Mr Hanif Loo Jang Jing (NC) Programme Executive (Aquaculture) Aquaculture Branch Food Supply & Technology Department Agri-Food & Veterinary Authority of Singapore 5 Maxwell Road, #01-00, Tower Block, MND Complex, Singapore 069110 Tel: 65 – 63257636; Fax: 65 – 63257677 Email: loo_jang_jing@ava.gov.sg 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: Susan_KUEH@ava.gov.sg
Sri Lanka	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: sunil@nara.ac.lk Mr Mahinda Kulathilaka Assistant Manager National Aquatic Resources Research and Development Agency Ministry of Fisheries and Ocean Resources Mattakkuliya Colombo 15 Tel: 94 1 2521005; Fax: 94 1 2521932 E-mail: hamkulathilaka@yahoo.com
Thailand	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: somkiatkc@fisheries.go.th

Vietnam	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: ria1@hn.vnn.vn Ms Phan Thi Van (FP) RIA No.1,Dinh Bang , Tien Son, Bac Ninh, Vietnam Fax: 84-4-827-1368; Tel : 84-4-827 - 3070 E-mail: ria1@hn.vnn.vn; phanvan@hn.vnn.vn

List of Diseases in the Asia-Pacific
Quarterly Aquatic Animal Disease Reports (Beginning 2004)

DISEASES PREVALENT IN THE REGION
FINFISH DISEASES
OIE-listed diseases
1. Epizootic haematopoietic necrosis
2. Infectious haematopoietic necrosis
3. *Oncorhynchus masou* virus disease
4. Spring viraemia of carp
5. Viral haemorrhagic septicaemia
6. Viral encephalopathy and retinopathy
7. Infectious pancreatic necrosis
8. Epizootic ulcerative syndrome (EUS)
9. Bacterial kidney disease
10. Red seabream iridoviral disease
11. Enteric septicaemia of catfish
Non OIE-listed diseases relevant to the region
12. Epitheliocystis
13. Grouper iridoviral disease
14. Infection with koi herpesvirus
MOLLUSC DISEASES
OIE-listed diseases
1. Infection with *Bonamia exitiosa*
2. Infection with *Mikrocytos roughleyi*
3. Infection with *Haplosporidium nelsoni*
4. Infection with *Marteilia sydneyi*
5. Infection with *Perkinsus olseni/atlanticus* [b/])
Non OIE-listed diseases relevant to the region
6. Infection with *Marteilioides chungmuensis*
CRUSTACEAN DISEASES
OIE-listed diseases
1. Taura syndrome
2. White spot disease
3. Yellowhead disease (YH virus, gill-associated virus)
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)
5. Infectious hypodermal and haematopoietic necrosis
6. Spawner-isolated mortality virus disease
7. Tetrahedral baculovirosis (*Baculovirus penaei*)
8. Necrotising hepatopancreatitis
Non OIE-listed diseases relevant to the region
9. Baculoviral midgut gland necrosis
UNKNOWN DISEASES OF A SERIOUS NATURE
1. Koi mass mortality
2. Akoya oyster disease
3. Abalone viral mortality

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	ACTITIVTY
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:

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

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

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 or mohan@enaca.org.**
Website: **http://www.enaca.org**

ISSN 1513-6558

Printed by Craftsman Press, Bangkok