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Suraswadi Building, Department of Fisheries
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Foreword

Recent Activities to Strengthen Aquatic Animal Health Management in ASEAN

In the month of April 2006, three major activities were held in Bangkok, Thailand, under the 2 AADCP-RPS projects to strengthen aquatic animal health management within ASEAN and achieve some degree of harmonization

Health and Biosecurity: The NACA and AusVet Animal Health Services held the first policy review and development workshop under the project "Strengthening Aquatic Animal Health Capacity and Biosecurity in ASEAN" at the Maruay Garden Hotel in Bangkok in Thailand on 3-6 April, 2006. Eighteen delegates from all ten ASEAN countries participated enthusiastically in the workshop. The workshop was supported by six resource people and facilitators from NACA, AAHRI, SEAFDEC and AusVet. Before the workshop, each country had provided information on its current capacity and management of aquatic animal health and this was collated, summarised and distributed to participants as background material. At the workshop each country also presented an overview of its present situation. After resource papers and country presentations on aquatic animal health management, two working groups addressed technical and policy aspects of the key elements of the Asia Regional Technical Guidelines over two days before reporting their recommendations on the fourth afternoon. The key elements considered for working group discussions included (a) surveillance and reporting (b) health certification (c) quarantine (d) contingency planning (e) import risk analysis and (f) zoning

The two working groups identified and agreed on several practical key action plans that would be implemented in all the participating countries over the next 12 months. Majority of the action plans identified were simple and practical and could be implemented with the existing in-country resources. Implementation of some of the identified action plans would form the basis for harmonized approaches to aquatic animal health management and Biosecurity in ASEAN.

Movement of Live Food Finfish: The first Policy workshop under the project "Operationalise Guidelines on Responsible Movement of Live Food Finfish in ASEAN" was held over two days (Monday 10 April and Tuesday 11 April 2006) at the Maruay Garden Hotel in Bangkok.

Nineteen representatives from all 10 ASEAN countries participated in the first policy workshop. The opening session included presentations by high level representatives of the Asian partners, ASEC, and ASWGFi. Following a NACA resource paper on trade in live food finfish and a presentation of the summary of the pre-workshop survey of policies and practices by AusVet and NACA, each country presented a complementary

overview of their management and trade of live food finfish. In preparation for day 2, participants were asked to consider the desired content of the draft Standard Operating Procedures (SOPs) and issues that needed to be addressed for responsible movement of live food finfish. Following a review of the differences between countries, participants developed a draft Table of Contents for the SOPs and allocated tasks and selected the leaders for four inter-workshop working groups. Participants then joined working groups and discussed their work plans for developing the SOPs.

Aquatic Animal Pathogen Quarantine Information System: Related to the live food finfish project, the AAPQIS training was held in the conference room at NACA on the campus of Kasetsart University on Wednesday 12 April with all the participants having access to computers to use the system. An initial assessment of awareness and use of AAPQIS was conducted by asking participants to answer 10 questions on aquatic anima health, the answers to which could be easily found in AAPQIS. Participants then used the computers to review their assessment questions and also worked in discussion groups to consider how they could make better use of the system. A second 10-question assessment was undertaken at the end of the training day. The mean score before and after the training session increased by 5.0 (out of 10) from 4.4 and 9.4. The improvement was the result of both increased awareness of the use of the information system and reduced time taken to locate information.

The 2 policy workshops and the AAPQIS training were considered highly successful by the participants and by NACA, AusVet, AAHRI and SEAFDEC facilitators. It is expected that the working group activity and the implementation of in-country activities between now and the second set of policy workshops in 2007 will be very productive and will contribute to implementation of various elements contained in the FAO/NACA Asia Regional Technical Guidelines. The same set of ASEAN delegates will come together in 2007 to develop and adopt harmonized approaches to deal with aquatic animal health issues including SOPs for responsible movement of live food finfish.

Reports Received by the NACA Secretariat

Country: **AUSTRALIA** Period: **January to March 2006**

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)	-(2004)		1
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	-(2005)	-(2005)	-(2005)		2
7. Bacterial kidney disease	0000	0000	0000		
8. Red seabream iridoviral disease	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	0000	0000	0000		
10. Viral encephalopathy and retinopathy	+	-(2006)	+	III	3
11. Enteric septicaemia of catfish	-(2001)	-(2001)	-(2001)		4
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	+	+	+	II	5
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	+	+	+	III	6
4. 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/ -(2005)	0000/ -(2005)	0000/ -(2005)		7
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-(2005)	-(2005)	-(2005)		8
5. Infectious hypodermal and haematopoietic necrosis	-(2004)	-(2004)	-(2004)		9
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
2. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.Mortalities in farmed abalone	+	+	+	III	10
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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 not reported this period despite passive surveillance, but is known to have previously occurred in Victoria (last year reported 2004), New South Wales (last year reported 2003) and South Australia (last year reported 1992). Targeted surveillance and never reported in Tasmania. Passive surveillance and never reported in the Northern Territory, Queensland or Western Australia. Annual occurrence of the disease in the Australian Capital Territory, but no laboratory confirmation.
2	Epizootic ulcerative syndrome was not reported during this period despite passive surveillance, but is known to have previously occurred in New South Wales and Queensland (last year reported 2005), Northern Territory (last year reported 2004) and Victoria (last year reported 2002). Passive surveillance and never reported in South Australia and Tasmania. Not reported this quarter but considered to be endemic in Western Australia. No information available in the Australian Capital Territory.
3	**Viral encephalopathy and retinopathy** 1. **Reported in Queensland** in a) January and b) March 2006. Passive surveillance: 2. **In**; a) i. 108 day old barramundi cod (*Cromileptes altivelis*) fry; ii. 35 day old barramundi (*Lates calcarifer*) fry; b)iii. 3 month old barramundi cod (*Cromileptes altevilis*); iv. 30 day old flowery cod (*Epinephelus fuscoguttatus*) larvae. 3. **Clinical signs-** a) i.spiral swimming, mortality; ii.spiral swimming, lying on side at surface; b) iii .spiral swimming, darkened colour and lying on bottom; iv. abnormal swimming. 4. **Pathogen-** betanodavirus; 5. **Mortality rate**- a) i.2000/5000, ii.100s/100000 b) iii. 600/3000; iv.unknown; 6. **Economic loss-** a) i. n/a; ii. est.$AUD5000,b) iii. n/a, iv. n/a; 7. **Geographic extent-** a) i. 1 of 2 tanks; ii. 6 tanks; b) iii. 1 tank; iv. 2 tanks; 8. **Containment measures**- not required; 9. **Laboratory confirmation-** Diagnosed by histology and b)iii. immunohistochemistry (IHCT); iv. nested RT-PCR 10. **Publications-** Unpublished. Not reported this period despite targeted surveillance from South Australia (last year reported 2004). Not reported this period despite active surveillance from Northern Territory (last year reported 2005), Tasmania (last year reported 2000). Not reported this period despite passive surveillance from New South Wales (last year reported 2005) and Western Australia (last year reported 2005). Never reported from Victoria despite passive surveillance. 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, Northern Territory, Queensland, South Australia and Victoria despite passive surveillance. No information available in the Australian Capital Territory and Western Australia.
5	***Perkinsus olseni*** 1. **Reported in South Australia** in January, February and March 2006. Targeted surveillance: 2. **In** wild (but not cultured) blacklip abalone (*Haliotis rubra)* and greenlip abalone (*Haliotis laevigata)*. 3. **Clinical signs-** Pustules on epipodium (normal clinical signs of perkinsosis in abalone); 4. **Pathogen-** *Perkinsus olseni*; 5. **Mortality rate-** no mortalities observed, some morbidity associated with infection. Infections are ongoing; 6. **Economic loss-** unknown; 7. **Geographic extent-** Open system. Lower Eyre and Yorke Peninsulas; 8. **Containment measures-** none. Open system; 9. **Laboratory confirmation-** Diagnosed by histology; 10. **Publications-** Unpublished. Not reported this quarter from Western Australia despite targeted surveillance (last year reported 2003). While *Perkinsus* has been isolated previously by culture off the gills of a clinically normal abalone in 2003, clinical infection from *Perkinsus* has never been reported from Western Australia. Active surveillance and never reported in Tasmania. Passive surveillance and never reported in the Northern Territory, Queensland and Victoria. Presence suspected but not confirmed from New South Wales (last year reported 2005). No information available in the Australian Capital Territory (no marine water responsibility).
6	***Marteilia sydneyi*** 1. **Reported in New South Wales** in January, February and March 2006. Targeted surveillance: 2. **In** Sydney rock oysters (*Saccostrea glomerata*); 3. **Clinical signs-** not reported*;* 4. **Pathogen-** *Marteilia sydneyi;* 5. **Mortality rate-** uncertain; 6. **Economic loss-** Local industry is restructuring following significant economic losses in 2004/05; 7. **Geographic extent-** Hawkesbury River; 8. **Containment measures-** Not applicable-experimental plots used to monitor active infection in Hawkesbury River; 9. **Laboratory confirmation-** Diagnosis made by PCR and cytology; 10. **Publications-** Unpublished. Not reported this period despite passive surveillance but known to have previously occurred in Queensland (last year reported 2004) and Western Australia (last year reported 1994). Active surveillance and never reported in Tasmania. Passive surveillance and never reported in the Northern Territory, South Australia or Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
7	**Yellowhead virus:** Active surveillance and never reported in the Northern Territory. Passive surveillance and never reported in New South Wales, Queensland, South Australia, Victoria and Western Australia. No information available from the Australian Capital Territory (no marine water responsibility) and Tasmania (susceptible species not present). **Gill-associated virus** Not reported this period despite active surveillance but known to have occurred previously in the Northern Territory and Western Australia (last year reported 2005). 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. Passive surveillance and never reported in South Australia and Victoria. No information available in Australian Capital Territory (no marine water responsibility) and Tasmania (susceptible species not present).
8	Spherical baculovirosis was not reported this period despite passive surveillance, but is known to have occurred previously in Queensland (last year reported 2005), New South Wales and Western Australia (last year reported 2002). Never reported despite passive surveillance in the Northern Territory, South Australia and Victoria. No information available in the Australia Capital Territory (no marine water responsibility) and Tasmania (susceptible species not present).
9	Infectious hypodermal and haematopoietic necrosis virus was not reported this period despite passive surveillance. This virus is known to have previously occurred in Queensland (last year reported 2004) and in the Northern Territory (last year reported 2003). No disease has been associated with the virus. The Australian virus is considered to be closest to the avirulent Madagascar strain. 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) and Tasmania (susceptible species not present).

10	**Mortalities in farmed abalone** Further to the report in the previous quarter of the investigation of a mortality incident on an abalone (*Haliotis rubra* and *Haliotis laevigata*) farm in south west Victoria, the probable causal agent has been identified, and active tracing and surveillance activities have been carried out to define the extent of the outbreak. The disease presents with high mortality in affected sup-populations. Moribund and dead abalone usually have enlarged mouth parts, often with a protruded radula, and curling of the foot sometimes to the point where the sides meet. Histopathologically the disease is characterised by a ganglioneuritis with haemocytic infiltration. Electron Microscopy examination at the CSIRO Australian Animal Health Laboratory in Geelong has found the presence of herpes-like viral particles in both necrotic and apparently healthy ganglia of affected abalone. The viruses are icosahedral, ca 104nm in diameter, and have electron dense cores. The ultrastructure of the viruses is similar to that described by Chang et al[1]. Traceforward and traceback investigations from the index farm indicate that infection is confined to two land-based farms in south-west Victoria. Both farms are "pump ashore" operations, where abalone are grown in various tanks on land, the water being pumped from the ocean, through the tanks, and then flowing back to the ocean through settling ponds. Active targeted surveillance of wild (ie free living) stocks and enhanced passive surveillance of both wild and aquaculture stock have not detected presence of disease. The source of the outbreak is unknown, but epidemiological investigation suggests that an exotic source or feed source is highly unlikely. Restrictions on the movement of live abalone from infected farms to other farms are in place, pending further evaluation of control measures. There are no known or likely effects on human health or food safety. Transmission trials have commenced. Preliminary results indicate that direct contact between abalone is likely to be the primary mode of transmission. Further research is also planned to develop a reliable screening test, to elucidate the epidemiology of the disease, and to establish control techniques. [1] Chang, Pen Heng et al, Herpes-like virus infection causing mortality of cultured abalone *Haliotis diversicolor* supertexta in Taiwan. Diseases of Aquatic Organisms, Vol 65:23-27, 2005.

2. New aquatic animal health regulations introduced within past six months (with effective date): None

Country: **BANGLADESH** Period: **January to March 2006**

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. Spring viraemia of carp	***	***	***		
4. Viral haemorrhagic septicaemia	***	***	***		
5. Infectious pancreatic necrosis	***	***	***		
6. Epizootic ulcerative syndrome (EUS)	-	-	-		
7. Bacterial kidney disease	***	***	***		
8. Red seabream iridoviral disease	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	***	***	***		
10. Viral encephalopathy and retinopathy	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	***	***	***		
4. 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. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	***	***	***		
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
2. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.Mass mortality in Anabas testudineus	+	+	+		
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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 was recorded from Paikgacha, Koira, Tala Asashuni and Shyamnagar Upazilla in the Southern part of the country
2	Outbreak of disease and mass mortality of climbing perch (Anabas testudineus) was recorded throughout the country. Diseased fish showed tail and fin erosion, big prominent lesion and sometimes opercular erosion. Rate of mortality ranged from 20-60%. Bacteria Aeromonads was isolated and identified from diseased fish. Fish growers are applying potash and antibiotics including some available commercial drugs to treat these fish. Bacterial infection in Hypopthalmus sutchi was recorded during the reported period. Fingerlings to juveniles fish were affected by the bacteria Aeromonas spp. And Enterobacter. Fish growers are using commercial drugs along with antibiotics.

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

Country: **HONG KONG SAR CHINA** Period: **January to March 2006**

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. Spring viraemia of carp	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia	0000	0000	0000	III	
5. Infectious pancreatic necrosis	0000	0000	0000	III	
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	II	
7. Bacterial kidney disease	0000	0000	0000	II	
8. Red seabream iridoviral disease	-	-	-	III	
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	-	-	+	III	1.
10. Viral encephalopathy and retinopathy	-	-	+	III	2.
11. Enteric septicaemia of catfish	0000	0000	0000	III	
12. Epitheliocystis	(2002)				
13. Grouper iridoviral disease	-	-	-	III	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	II	
2. Infection with *Perkinsus olseni*	0000	0000	0000	II	
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000	II	
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	III	
2. White spot disease	-	-	-	III	
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. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000	II	
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	0000	0000	0000	II	
8. Baculoviral midgut gland necrosis	0000	0000	0000	II	
9. White tail disease (MrNV and XSV)	0000	0000	0000	II	
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000	II	
2. Abalone viral mortality	0000	0000	0000	II	
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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	One case of KHV was detected in a batch of Koi carp imported recently from Japan. The farm was destocked by agreement with the farmer.
2	Two cases of mortalities associated with Red-spotted Grouper Nervous Necrosis Virus were detected in small fingerlings of giant grouper and green grouper recently after importation.

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

Country: **INDONESIA** Period: **January to March 2006**

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. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	-	-	-		
7. Bacterial kidney disease	0000	0000	0000		
8. Red seabream iridoviral disease	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	+	+	+	I,III	1
10. Viral encephalopathy and retinopathy	+	+	+	III	2
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis	0000	0000	0000		
13. Grouper iridoviral disease	-	-	-		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000		
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	+	+	+	III	3
2. White spot disease	+	+	+	I,II,III	4
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	+	+	+	I,III	5
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
2. Abalone viral mortality	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1. Infection with *Edwardsiella ichtaluri*	+	-	+	III	6
2. Infection with *Streptococcus sp.*	+	+	+	I ,II	7
3. Infection with *Aeromonas sp.*	-	+	+	II	8
4. Infection with *Mycobacterium sp.*	-	+	+	II	9
5. Infection with *Flavobacterium sp.*	+	-	-	II	10
6. Infection with *Pseudomonas sp.*	+	-	-	II	11
7. Infection with *Vibrio sp.*	+	+	+	II	12

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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	1). Reported in West Java, Sumatera, and South Kalimantan province in January until March 2006; 2). Species affected *Cyprinus carpio* 3). All samples have been detected by PCR analyze, 4). Pathogen : Koi Herpesvirus 5). Mortality rate: medium to high (more than 70%) 6). Economic loss: high losses 7). Names of infected areas : Tanjung Raya, Maninjau Lake, Agam District; Kecamatan Rao, Pasaman, Kecamatan Koto Singkarak, Solok district, West Sumatra Province; Cirata Reservoir, Cianjur, Sukabumi, Subang district, West Java and Banjar, Hulu Sungai Utara, Balangan and Tabalong district, South Kalimantan 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by PCR in Freshwater Aquaculture Development Center Laboratory in Jambi, Sumatra; Freshwater Aquaculture Development Center Laboratory in Sukabumi, West Java; Freshwater Aquaculture Development Center Laboratory in Mandiangin, South Kalimantan. 10) Publications : Unpublished
2	1). Reported in Central and East Java province in January until March 2006; 2). Species affected to humpback grouper (*Cromileptes altivelis*) and tiger grouper (*Ephinephelus fuscoguttatus*), 3). All samples have been detected by PCR analyze, 4). Pathogen : betanodavirus, 5). Mortality rate: 50 – 67.74 % 6). Economic loss: – 7). Names of infected areas : grouper hatchery in Brackishwater Development Center Laboratory in Jepara, Central Java and in Brackishwater Development Center Laboratory in Situbondo, East Java, 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by PCR in Development Center Laboratory in Jepara, Central Java and Development Center Laboratory in Situbondo, East

	Java. 10) Publications : Unpublished
3	1). Reported in Central and East Java, South Sulawesi province in January until March 2006; 2). Species affected to nauplius, post larvae, juvenile and broodstock *L. vaname* 3). All samples have been detected by PCR analyze, 4). Pathogen : Taura Syndrome Virus 5). Mortality rate: 14.29 – 59.43% 6). Economic loss: – 7). Names of infected areas : grouper hatchery in Brackishwater Development Center Laboratory in Jepara, Central Java; Brackishwater Development Center Laboratory in Situbondo, East Java, Barru and in hatchery in Brackishwater Development Center Takalar, South Sulawesi province. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by PCR in Development Center Laboratory in Jepara, Central Java; Development Center Laboratory in Situbondo, East Java and Brackishwater Development Center Takalar, South Sulawesi province. 10) Publications : Unpublished
4	1). Reported in Central and East Java, South Sulawesi province in January until March 2006; 2). Species affected to *P. monodon*, *L. vannamei* and *L. rostris* with size 1- 3 month post stock 3). All samples have been detected by PCR analyze, 4). Pathogen : White Spot Syndrome Virus 5). Mortality rate: 40 % 6). Economic loss: – 7). Names of infected areas : Jepara, Demak , Pati district,Central Java province, and East Kalimantan; Sampang district in East Java province; Bulukumba district in South Sulawesi.province; Timika district in Papua province and Gorontalo district in North Sulawesi province 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by PCR in Brackishwater Development Center Laboratory in Jepara, Central Java; Brackishwater Development Center Laboratory in Situbondo, East Java and Brackishwater Development Center Takalar, South Sulawesi province. 10) Publications : Unpublished
5	1). Reported in East Java and South Kalimantan province in January until March 2006; 2). Species affected to post larvae, juvenile and broodstock of *L. vannamei* 3). All samples have been detected by PCR analyze, 4). Pathogen : family *Parvoviridae* 5). Mortality rate: 3.85 - 41.6% 6). Economic loss: – 7). Names of infected areas : some district in East Java province, and Tanah Laut district South Kalimantan province. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by PCR in Brackishwater Development Center Laboratory in Situbondo, East Java and Freshwater Aquaculture Development Center Mandiangin Laboratory, South Kalimantan. 10) Publications : Unpublished.
6	1). Reported in Jambi province, Sumatera and West Java on January and March 2006; 2). Species affected to fingerling (2 – 3,5 inch) until 500-600 gr of Patin siam (*Pangasius hypopthalmus* (infected by *Edwardsiella ichtaluri)* and *Tilapia, Osphronemus gouramy* 3). Clinical sign on Patin siam: hemorrhage on anus of intestine organ, swollen of liver and hyperemic

	spleen with pustule node and also found swollen of anterior and posterior kidney with some pustule node. Clinical sign on Tilapia : melanosis, opaque eyes, tail irritation, fin irritation and hemorrhage and on *Osphronemus gouramy :* hemorrhage on part of body, gill fade, exopthalmia and liver damage. 4). Pathogen : bacteriae *Edwardsiella ichtaluri* 5). Mortality rate: 25 % to fingerling (2 – 3,5 inch), 25 % to size 250-350 gr and less than 50% to size 500-600 gr. 6). Economic loss: – 7). Names of infected areas : Tankit area in Jambi province and Bogor and Sukabumi district in West Java province. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Laboratory in Jambi, Sumatera and Freshwater Aquaculture Development Center Laboratory in Sukabumi,West Java. 10) Publications : Unpublished.
7	1). Reported in Jambi province and South Kalimantan. Province in January until March 2006; 2). Species affected to Tilapia in Sukabumi, West Java, *Oreochromis sp* and common carp in size 150-1000 gram in Minahasa Utara district, North Sulawesi province. 3). The clinical signs are popeye and haemorrhages on spleen. Clinical sign : melanosis, opaque eyes, tail irritation, fin irritation, hemorrhage and no clinical sign on some samples 4). Pathogen : bacteriae 5). Mortality rate: 30% to 60%. 6). Economic loss: – 7). Names of infected areas : Sungai Gelam area in Jambi province and Banjar area, Hulu sungai Utara, Balangan and Tanah Bumbu in South Kalimantan (*Oreochromis sp)*. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Laboratory in Jambi, Sumatera and Freshwater Aquaculture Development Center Laboratory in in Mandiangin, South Kalimantan; Freshwater Aquaculture Development Center in Tatelu, North Sulawesi and Freshwater Aquaculture Development Center Laboratory Sukabumi,West Java. 10) Publications : Unpublished.
8	1). Reported in Jambi province, West Java on February and March 2006; 2). Species affected to *Cyprinus carpio* size 1-2 kg and *Osphronemus gouramy* (seed and broodstock) Tilapia, *Clarias gariepinus,* and ell. 3). Clinical sign : • C carpio: abscess on the body, gillfade,reddening of large areaof the body; • Tilapia: melanosis, opaque eyes, tail irritation, fin irritation, hemorrhage and no clinical sign on some samples; • C gariepinus: hemorrhage on part of body and tail and liver fade, gill fade, exopthalmia, liver damage, nodule on gill and liver, abscess; • O gouramy: hemorrhage on part of body, gill fade, exopthalmia, liver damage, nodule on gill and liver, abscess on the body; • Eel: hemorrhage and white apot part of body and low activity 4). Pathogen : bacteriae *Aeromonas sp* 5). Mortality rate: low to high 6). Economic loss: – 7). Names of infected areas : Sungai Gelam area in Jambi province, Kecamatan Mungo, Lima Puluh Kota district, West Sumatra Province and Bogor, Sukabumi and Subang district in West Java province. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Laboratory in Jambi, Sumatera and Freshwater Aquaculture Development Center Laboratory in Sukabumi,West

	Java. 10) Publications : Unpublished.
9	1). Reported in West Java.province in February and March 2006; 2). Species affected to *Osphronemus gouramy* 3). The clinical sign: hemorrhage on part of body, gill fade, exopthalmia, liver damage, nodule on gill and liver, abscess on the body 4). Pathogen : bacteriae *Mycobacterium sp* 5). Mortality rate: high. 6). Economic loss: – 7). Names of infected areas : Sukabumi district in West Java 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Laboratory in Sukabumi,West Java. 10) Publications : Unpublished.
10	1). Reported in West Java.province in January 2006; 2). Species affected to *Osphronemus gouramy* 3). The clinical sign: hemorrhage on part of body, gill fade, exopthalmia, liver damage 4). Pathogen : bacteriae *Flavobacterium sp* 5). Mortality rate: medium 6). Economic loss: – 7). Names of infected areas : Bogor district in West Java 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Laboratory in Sukabumi,West Java. 10) Publications : Unpublished.
11	1). Reported in West Java.province in January 2006; 2). Species affected to *Osphronemus gouramy* 3). The clinical sign: on Tilapia : melanosis, opaqueeyes, tail irritation, fin irritation and hemorrhage and on *O gouramy*: hemorrhage on part of body, gill fade, exopthalmia, liver damage 4). Pathogen : bacteriae *Pseudomonas sp* 5). Mortality rate: low to high 6). Economic loss: – 7). Names of infected areas : Bogor and Sukabumi district in West Java 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Laboratory in Sukabumi, West Java. 10) Publications : Unpublished.
12	1). Reported in South Sulawesi province in January until March 2006; 2). Species affected to *L. vannamae* and *P. monodon* 3). The clinical sign: - 4). Pathogen : bacteriae *Vibrio sp* 5). Mortality rate: - 6). Economic loss: – 7). Names of infected area : Pare-pare district in South Sulawesi 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Brackishwater Development Center in Takalar, South Sulawesi. 10) Publications : Unpublished.

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

Country: **JAPAN** Period: **January to March 2006**

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. Spring viraemia of carp	0000	0000	0000	I	
4. Viral haemorrhagic septicaemia	+	+	+	III	
5. Infectious pancreatic necrosis	+	-	+	III	
6. Epizootic ulcerative syndrome (EUS)	-	-	-	III	
7. Bacterial kidney disease	+	+	+	III	
8. Red seabream iridoviral disease	-	-	-	III	
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	+	-	+	III	
10. Viral encephalopathy and retinopathy	-	-	-	I	
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis	-	+	+	II	
13. Grouper iridoviral disease	0000	0000	0000	I	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	I	
2. Infection with *Perkinsus olseni*	0000	0000	0000	I	
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000	I	
4. Infection with *Marteilioides chungmuensis*	+	+	+	III	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000	I	
2. White spot disease	-	-	-	I	
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. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000	I	
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	0000	0000	0000	I	
8. Baculoviral midgut gland necrosis	0000	0000	0000	I	
9. White tail disease (MrNV and XSV)	0000	0000	0000	I	
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	+	-	-	II	
2. Abalone viral mortality	0000	0000	0000	I	
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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.)

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

Country: **LAO PDR** Period: **January to March 2006**

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. Spring viraemia of carp	***	***	***		
4. Viral haemorrhagic septicaemia	***	***	***		
5. Infectious pancreatic necrosis	***	***	***		
6. Epizootic ulcerative syndrome (EUS)	-	-	-		
7. Bacterial kidney disease	***	***	***		
8. Red seabream iridoviral disease	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	***	***	***		
10. Viral encephalopathy and retinopathy	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*					
2. Infection with *Perkinsus olseni*					
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*					
4. 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. Tetrahedral baculovirosis (*Baculovirus penaei*)					
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis					
8. Baculoviral midgut gland necrosis					
9. White tail disease (MrNV and XSV)					
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease					
2. Abalone viral mortality					
ANY OTHER DISEASES OF IMPORTANCE					
1. *Oodinium* sp	+	+		I, II	1
2. *Trichodina* sp		+		I, II	2

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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	1. Oodinium 2.Disease observed during January to February 3. Catfish, silver barb are affected 4. Hemmorrhages on the body, grayish discoloration 5. Confirmed by microscopy 6.Mortality not much 7.Data on size of infected area not available 8.Treatment by formalin solution 30-40 PPM 9.Sample sent to National laboratory 10. National Animal Health Centre, Vientiane
2	1.Trochodina sp 2.Catfish and silver barb 3.Lesion on the body and gill 4.disease confirmed by direct microscopy 5.mortality not much 6. size of infected area not available Treatment by formalin solution 30-40 PPM 9.Sample sent to National laboratory 10. National Animal Health Centre, Vientiane

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

Country: **MYANMAR** Period: **January to March 2006**

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. Spring viraemia of carp	***	***	***		
4. Viral haemorrhagic septicaemia	***	***	***		
5. Infectious pancreatic necrosis	***	***	***		
6. Epizootic ulcerative syndrome (EUS)					
7. Bacterial kidney disease	***	***	***		
8. Red seabream iridoviral disease	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	***	***	***		
10. Viral encephalopathy and retinopathy	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*					
2. Infection with *Perkinsus olseni*					
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*					
4. Infection with *Marteilioides chungmuensis*					
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	-	+	-	III	1
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	-	+()	-	III	3
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	***	***	***		
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
2. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. Marine leech infestations	-	-	+	I	4
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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	A total of 58 samples of P.monodon have been tested at PCR lab of Department of Fisheries (DOF) of which 3 samples (5.17%) were recorded as TSV positive
2	A total of 58 samples of P.monodon have been tested at PCR lab of Department of Fisheries (DOF) of which 18 samples (31.03%) were recorded as WSSV positive
3	A total of 58 samples of P.monodon have been tested at PCR lab of Department of Fisheries (DOF) of which 4 samples (8.9%) were recorded as IHHNV positive
4	In Myanmar seabass were sent from Rakhine state. Testing was done by visual examination. Species of *Zeylanicobdella arugamensis* was found on the surface of the whole body of seabass.

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

Country: **NEPAL** Period: **January to March 2006**

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. Spring viraemia of carp	***	***	***		
4. Viral haemorrhagic septicaemia	***	***	***		
5. Infectious pancreatic necrosis	***	***	***		
6. Epizootic ulcerative syndrome (EUS)	+	+	+	I	1
7. Bacterial kidney disease	***	***	***		
8. Red seabream iridoviral disease	***	***	***		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	***	***	***		
10. Viral encephalopathy and retinopathy	***	***	***		
11. Enteric septicaemia of catfish	***	***	***		
12. Epitheliocystis	***	***	***		
13. Grouper iridoviral disease	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000		
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
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		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
2. Abalone viral mortality	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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	EUS was reported from Nawalparasi, Kailali, Rupandhehi, Dhanusha, Moranhg and Parsa Districts. The affected species included Rohu (Labeo rohita), Naini (Cirrhinus mrigala) and puntius (Punitus sp). The affected total pond water surface area was 16 ha and the economic loss has been reported to be not significant.

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

Country: **PHILIPPINES** Period: **January to March 2006**

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. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	-	-	-		
7. Bacterial kidney disease	0000	0000	0000		
8. Red seabream iridoviral disease	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	0000	0000	0000	I, III	1
10. Viral encephalopathy and retinopathy	+	-	-	III	2
11. Enteric septicaemia of catfish	***	***	***		
12. Epitheliocystis	0000	0000	0000		
13. Grouper iridoviral disease	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000		
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+	+	+	III	3
3. Yellowhead disease (YH virus, gill-associated virus)	-	-	-		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	+	+	+		4
5. Infectious hypodermal and haematopoietic necrosis	-	-	+	III	5
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
2. Abalone viral mortality	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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	Koi carp fingerlings and juveniles (65 pieces) taken from five koi farms in Cebu, Visayas and Laguna, Luzon in January and February 2006 showed negative results for KHV by cell culture isolation and pathogenicity assay. All the samples examined showed no gross abnormal manifestations and lesions. Examinations/tests conducted by SEAFDEC-AQD Fish Health Lab.
2	*E. coiodes* broodstock from Aklan, Visayas showed positive results for VER by RT-PCR.
3	*P. monodon* (post larva, juvenile/grow-out stage, broodstock) from the provinces of Pampanga, Masbate, Cavite, Bohol, Iloilo showed positive results for White spot virus by PCR. Examinations conducted by SEAFDEC-AQD and BFAR-C.O Fish Health laboratories.
4	*P. monodon* post larva wet mounts of squash preparation of hepatopancreas (stained with malachite green) examined under light microscope showed the presence of occlusion bodies. Examinations conducted by NPPMCI and BFAR Fish Health Laboratories.
5	*P. vannamei* post larva from Zambales showed positive results by one-step PCR. Examination conducted by SEAFDEC-AQD Fish Health Lab.

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

Country: **REPUBLIC OF KOREA** Period: **January to March 2006**

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	-	-	-	III	
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	+	+	+	III	
5. Infectious pancreatic necrosis	-	-	-	III	
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
7. Bacterial kidney disease	0000	0000	0000		
8. Red seabream iridoviral disease	+	+	+	III	
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	-(1998)	-(1998)	-(1998)		
10. Viral encephalopathy and retinopathy	+	+	+	III	
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis	0000	0000	0000		
13. Grouper iridoviral disease	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	+	+	+	III	
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000		
4. Infection with *Marteilioides chungmuensis*	+	+	+	III	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	?	?	?		
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. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
2. Abalone viral mortality	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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.)

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

Nil

Country: **SINGAPORE** Period: **January to March 2006**

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. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
7. Bacterial kidney disease	0000	0000	0000		
8. Red seabream iridoviral disease	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	(2005)	+	(2006)	III	1
10. Viral encephalopathy and retinopathy	-	-	-		
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis	-	-	-		
13. Grouper iridoviral disease	-	-	-		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	***	***	***		
4. 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. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	***	***	***		
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
2. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. Mullet systemic iridoviral disease	-	-	+	III	2
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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	Samples from two batches totaling 2,900 koi imported from Thailand were tested positive for KHV by nested PCR and tissue culture on a koi fin, KF-1 cells. These two batches of KHV positive Thai koi were subsequently culled and the premise disinfected. Inspection, sampling and testing of seven other koi consignments imported from Thailand within a 2-month period showed no further KHV positive batches. The most consistent clinical sign in the KHV positive kois was lethargy. A small percentage of koi were emaciated with sunken eyes or showed abnormal swimming behaviour. Generalized vascular congestion resulting in reddening of skin, skin ulcerations, abdominal fibrinous adhesions and ascites were also observed. Histopathological examinations showed pathology in brain and gills consistent with a viral aetiology.
2	Systemic iridoviral disease was observed in two batches of 4-month-old mullet, *Mugil cephalus* fingerlings. These mullet fingerlings were originally imported from Taiwan, and mortalities were reported approximately 3 months post-stocking. Viral isolates were tested negative by PCR using the RSIV primer set 4 recommended in the OIE diagnostic manual, but tested positive using the RSIV primer set 3 (Kurita, Nakajima, Hirono and Aoki, 1998). Affected mullet had darkened bodies, reddening of mouths and enlarged spleens. Further investigations showed a concurrent Vibriosis and infection by *Tenacibaculum maritimum*. Histopathological observations of cytoplasmic inclusion bodies in all major organs are consistent with a systemic iridoviral disease.

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

Country: **SRI LANKA** Period: **January to March 2006**

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. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	-	-	-		
7. Bacterial kidney disease	0000	0000	0000		
8. Red seabream iridoviral disease	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	0000	0000	0000		
10. Viral encephalopathy and retinopathy	0000	0000	0000		
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis	0000	0000	0000		
13. Grouper iridoviral disease	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000		
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+	+	+	III	
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
2. Abalone viral mortality	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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.)

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

Country: **THAILAND** Period: **January to March 2006**

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. Spring viraemia of carp	0000	0000	0000	III	
4. Viral haemorrhagic septicaemia	0000	0000	0000	III	
5. Infectious pancreatic necrosis	(1985)	(1985)	(1985)	III	
6. Epizootic ulcerative syndrome (EUS)	?	-	-	II	
7. Bacterial kidney disease	***	***	***		
8. Red seabream iridoviral disease	0000	0000	0000	III	
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	+	+	+	III	1
10. Viral encephalopathy and retinopathy	-	-	-	III	
11. Enteric septicaemia of catfish	***	***	***		
12. Epitheliocystis	-	+	-	II	2
13. Grouper iridoviral disease	-	-	-	III	
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000	II	
2. Infection with *Perkinsus olseni*	0000	0000	0000	II	
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000	II	
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000	II	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	+	+	+	III	3
2. White spot disease	+	+	+	III	4
3. Yellowhead disease (YH virus, gill-associated virus)	-	-	-	III	5
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)					
5. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	6
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	***	***	***		
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	+	+	+	III	7
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
2. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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	0000	Never reported
	but no clinical diseases	-	Not reported (but disease is known to occur)
?	Suspected by reporting officer but presence not confirmed	(year)	Year of last occurrence

b/ 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 koi herpesvirus (KHV) genes were detected by nested PCR but no occurrence of the koi herpesvurs disease (KHVD). 37 koi farms/companies had been surveyed using nested PCR for this reporting period with 5% prevalence sampling plan. Some kois (*Cyprinus carpio*, fancy carps or colored carps) from 7/37 koi farms/companies found to be positive or carry herpesviral gene. However these kois did not exhibit disease clinical signs, no mortality and no occurrence of KHVD. The kois in these farms/companies were quarantined then re-sampled at 10% prevalence. The kois were further tested with nested PCR, virus isolation and histology technique. Under KHVD controlling criteria, if the viral genes still present and viruses can be isolated or fish exhibits KHVD histopathological signs, the affected kois will be destroyed. No cases had met the criteria and no kois had been destroyed during the reporting period.
2	There was a case of the epitheliocystis signs found in gills of the diseased kois in a hobbyist house in Bangkok in February. The affected kois were lethargic and stay near water surface with normal appearance body. There was no attempt to isolate the bacterium. Fish mortality was low (6 out of 120 kois were death) and no significant to economic loss. Fish were quickly recovered after antibiotic treatment. The disease was identified at the Inland Aquatic Animal Health Research Institute (AAHRI), Department of Fisheries (DOF)
3	A total of 1281 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 8 specimens or 0.6% were recorded as RT-PCR positive or carrying TSV genes that advised to be destroyed.
4	A total of 2,653 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 21 specimens or 0.8% were recorded as PCR positive or carrying SEMBV genes that advised to be destroyed.
5	A total of 286 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. The RT-PCR detections showed negative.

6	A total of 1,164 shrimp PL samples had been tested at PCR Laboratories of the DOF before stocking in culture ponds under the health management and disease control strategies. 204 specimens or 17.5% were recorded as PCR positive or carrying IHHNV genes that advised to be destroyed. The tested specimens did not show disease clinical signs and there was no outbreak due to IHHNV infection in the hatcheries.
7	Findings of the MrNV and XSV viral genes in larvae in prawn hatcheries were usually associated with mortality. However the affected larvae did not exhibit whitetail clinical signs. 43 prawn larvae specimens from hatcheries were RT-PCR-tested for the present of both viral genes. 13 of the specimens showed positive results. Findings of the viral genes in prawn brooders and prawns in grow-out farms did not associated with diseases. 11/41 prawn brooders specimens from hatcheries were also RT-PCR-tested during this reporting period and found positive results. All 33 young prawn specimens sampled from grow-out farms showed negative RT-PCR results. Concepts in bio-security for disease prevention had been advised to hatchery owners or operators and farmers. The Department of Fisheries has initiated a program to produce MrNV-XSV-free prawn larvae (prawn seeds). The disease was identified at the AAHRI, DOF.

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

Rule of Department of Fisheries for importation of giant freshwater prawns, *Macrobrachium rosenbergii*, B.E.2549 (2006)

Effective Date 23rd March B.E. 2549 (2006)

In brief; steps of live giant freshwater prawns importation into Thailand;

1. Pre-arrival of the prawns; The importer or hatchery must have a certificate indicated that the hatchery and quarantine facility have been inspected and passed the Good Aquaculture Practice (GAP) and quarantine requirements.
2. Animals arrive at the port; Prawns shipment must accompany with health certificate. Prawns will be inspected and examined for any possible pathogens. The quarantine officer will check all documents and check prawns health using Level I. Prawns will be sampled and sent to the DOF's Laboratories for Level III prawn viral diseases diagnosis.
3. Post-arrival of the aquatic animals; Shrimp will be quarantined for at least 20 days. If the serious viral diseases are found such as MrNV or XSV, the prawns will be destroyed. If no viral diseases found, the prawns can be removed from the quarantine zone and start the aquaculture plan.

The DOF uses Animal Epidemic Act and Fisheries Act to regulate the importation.

Country: **VIETNAM** Period: **January to March 2006**

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. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	+()	+()	+()	I	
7. Bacterial kidney disease	0000	0000	0000		
8. Red seabream iridoviral disease	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	***	***	***		
10. Viral encephalopathy and retinopathy	0000	0000	0000		
11. Enteric septicaemia of catfish	+()	+()	+()	I	1
12. Epitheliocystis	0000	0000	0000		
13. Grouper iridoviral disease	***	***	***		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000		
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	+	+	+	I, II, III	
3. Yellowhead disease (YH virus, gill-associated virus)	+	+	+	I, II, III	
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	+	+	+	I, II, III	
5. Infectious hypodermal and haematopoietic necrosis	-	-	-	III	
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	+()	+()	+()	II	2
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
2. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

DISEASES PRESUMED EXOTIC TO THE REGION[b]
LISTED BY THE OIE
Finfish: Infectious salmon anaemia; Gyrodactylosis (*Gyrodactylus salaris*).
Molluscs: Infection with *Bonamia ostreae*; *Marteilia refringens*; *Mikrocytos mackini* ; *Perkinsus marinus*; *Xenohaliotis californiensis*;
Crustaceans: Crayfish plague (*Aphanomyces astaci*);
NOT LISTED BY THE OIE, BUT OF POTENTIAL RELEVANCE
Finfish: Channel catfish virus disease; Piscirickettsiosis.
Crustaceans: Infectious myonecrosis**.**

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/ 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	- Infection occurred in catfish (*Pangasius micronema, Pangasius hypophthalmus*) - Disease characteristic : haemorrhages on fin, tail, latex – bearing in liver and kidney. - Mortality rate: low, scattered - The disease happened in limited areas in Vinh Long, Dong Thap, An Giang and Can Tho Provinces.
2	Reported in Khanh Hoa, Hue, Quang Binh province

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

List of diseases in the 8th edition of the 2005 *Aquatic Code*

The following diseases of fish are listed by the OIE: Article 1.1.3.1

- Epizootic haematopoietic necrosis
- Infectious haematopoietic necrosis
- Spring viraemia of carp
- Viral haemorrhagic septicaemia
- Infectious pancreatic necrosis[1]
- Infectious salmon anaemia
- Epizootic ulcerative syndrome
- Bacterial kidney disease (*Renibacterium salmoninarum*)[1]
- Gyrodactylosis (*Gyrodactylus salaris*)
- Red sea bream iridoviral disease
- Koi herpesvirus disease[2]

The following diseases of molluscs are listed by the OIE: Article 1.1.3.2.

- Infection with *Bonamia ostreae*
- Infection with *Bonamia exitiosa*
- Infection with *Marteilia refringens*
- Infection with *Mikrocytos mackini*[1]
- Infection with *Perkinsus marinus*
- Infection with *Perkinsus olseni*[1]
- Infection with *Xenohaliotis californiensis*.

The following diseases of crustaceans are listed by the OIE: Article 1.1.3.3.

- Taura syndrome
- White spot disease
- Yellowhead disease
- Tetrahedral baculovirosis (*Baculovirus penaei*)
- Spherical baculovirosis (*Penaeus monodon*-type baculovirus)
- Infectious hypodermal and haematopoietic necrosis
- Crayfish plague (*Aphanomyces astaci*)
- Necrotising hepatopancreatitis[2]
- Infectious myonecrosis[2]

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[1] Delisting of this disease is under study.

[2] Listing of this disease is under study.

List of Diseases in the Asia-Pacific
Quarterly Aquatic Animal Disease Reports (Beginning 2006)

1. DISEASES PREVALENT IN THE REGION	
1.1 FINFISH DISEASES	
OIE-listed diseases	**Non OIE-listed diseases relevant to the region**
1. Epizootic haematopoietic necrosis	9. Infection with koi herpesvirus
2. Infectious haematopoietic necrosis	10. Viral encephalopathy and retinopathy
3. Spring viraemia of carp	11. Enteric septicaemia of catfish
4. Viral haemorrhagic septicaemia	12. Epitheliocystis
5. Infectious pancreatic necrosis	13. Grouper iridoviral disease
6. Epizootic ulcerative syndrome (EUS)	
7. Bacterial kidney disease	
8. Red seabream iridoviral disease	
1.2 MOLLUSC DISEASES	
OIE-listed diseases	**Non OIE-listed diseases relevant to the region**
1. Infection with *Bonamia exitiosa*	3. Infection with *Marteilia sydneyi*
2. Infection with *Perkinsus olseni*	4. Infection with *Marteilioides chungmuensis*
1.3 CRUSTACEAN DISEASES	
OIE-listed diseases	**Non OIE-listed diseases relevant to the region**
1. Taura syndrome	7. Necrotising hepatopancreatitis
2. White spot disease	8. Baculoviral midgut gland necrosis
3. Yellowhead disease (YH Virus,gill-associated virus)	9. White tail disease (MrNV and XSV)
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	
5. Infectious hypodermal and haematopoietic necrosis	
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	
1.4 UNKNOWN DISEASES OF A SERIOUS NATURE	
OIE-listed diseases	**Non OIE-listed diseases relevant to the region**
	1. Akoya oyster disease
	2. Abalone viral mortality
2. DISEASES PRESUMED EXOTIC TO THE REGION	
2.1 Finfish	
OIE-listed diseases	**Non OIE-listed diseases relevant to the region**
1. Infectious salmon anaemia	3. Channel catfish virus disease
2. Gyrodactylosis (*Gyrodactylus salaris*)	4. Piscirickettsiosis
2.2 Molluscs	
OIE-listed diseases	**Non OIE-listed diseases relevant to the region**
1. Infection with *Bonamia ostreae*	
2. Infection with *Marteilia refringens*	
3. Infection with *Mikrocytos mackini*	
4. Infection with *Perkinsus marinus*	
5. Infection with *Xenohaliotis californiensis*	
2.3 Crustaceans	
OIE-listed diseases	**Non OIE-listed diseases relevant to the region**
1. Crayfish plague (*Aphanomyces astaci*);	2. Infectious myonecrosis

Recent Aquatic Animal Health Related Publications

OIE Aquatic Animal Health Code, 9th Edition, 2006 (expected in August 2006)
OIE Manual of Diagnostic Tests for Aquatic Animals, 5th Edition, 2006 (expected in September 2006)
http://www.oie.int/eng/publicat/en_aqua.htm

OIE Aquatic Animal Health Code, 8th Edition, 2005
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 http://www.oie.int/eng/normes/fcode/A_00003.htm. The book may be ordered from pub.sales@oie.int

Way Forward: Building capacity to combat impacts of aquatic invasive alien species and associated trans-boundary pathogens in ASEAN countries: NACA 2005. The Final report of the regional workshop, hosted by the Department of Fisheries, Government of Malaysia, on 12th-16th July 2004. Network of Aquaculture Centres in Asia-Pacific, Bangkok, Thailand. 358pp. www.enaca.org (free download)

Diseases in Asian Aquaculture V. 2005. Walker, P.J., R.G. Lester and M.G. Bondad-Reantaso (editors). Proceedings of the 5th Symposium on Diseases in Asian Aquaculture. Fish Health Section, Asian Fisheries Society, Manila. 635 pp. Contact: suppalap@fisheries.go.th

Aquaculture Biosecurity: Prevention, Control and Eradication of Aquatic Animal Disease. 2006. A. David Scarfe, Cheng-Sheng Lee and Patricia O'Bryen (editors). Blackwell Publishing. 182 pp.

Regional Workshop on Preparedness and Response to Aquatic Animal Health Emergencies in Asia, Jakarta, Indonesia, 21-23 September 2004. Subasinghe, RP. and JR Arthur (editors). FAO Fisheries Proceedings No. 4, Rome, FAO. 2005. 178p.

Preparedness and response to aquatic animal health emergencies in Asia: guidelines. Arthur, J.R., Baldock, F.C., Subasinghe, R.P., & McGladdery, S.E. (editors). 2005. FAO Fisheries Technical Paper. No. 486. Rome, FAO. 2005. 40p.

Responsible use of antibiotics in aquaculture. Hernandez Serrano, P. 2005. FAO Fisheries Technical Paper. No. 469. Rome, FAO. 2005. 97p.

Pathogen and ecological risk analysis for the introduction of blue shrimp, *Litopenaeus stylirostris*, from Brunei Darussalam to Fiji. Bondad-Reantaso, M.G., Lovell, E.R., Arthur, J.R., Hurwood, D. & Mather, P.B. 2005. Secretariat of the Pacific Community, New Caledonia. 80 pp.
http://www.spc.org.nc/aquaculture/site/publications/documents/Stylirostris_BruneiFiji.pdf

Pathogen and ecological risk analysis for the introduction of giant river prawn, *Macrobrachium rosenbergii* from Fiji to the Cooks Islands. Arthur, J.R., Hurwood, D., Lovell, E.R., Bondad-Reantaso, M.G., & Mather, P.B. 2005. Secretariat of the Pacific Community, New Caledonia.
http://www.biosecurity.govt.nz/files/pests-diseases/plants/risk/prawns-ra.pdf

Australian Aquatic Animal Disease Identification Field Guide: The second, revised edition – Aquatic Animal Diseases Significant to Australia: Identification Field Guide – has recently been released by Australia's Department of Agriculture, Fisheries and Forestry (DAFF). It is very informative and user friendly. The field guide can be downloaded from http://www.disease-watch.com. For further information and copies of the field guide, please contact Alistair Herfort at Alistair.Herfort@daff.gov.au. The field guide provides key field identification tips and differential diagnostic features for all the OIE listed diseases and therefore has considerable regional relevance. Dissemination of the information contained in the field guide to the right stakeholders could contribute significantly to improved surveillance and reporting in the region. DAFF has kindly provided NACA with copies of the field

guide for wider dissemination in the region. Those interested to receive copies, please write to NACA at mohan@enaca.org

A Colour Atlas of Diseases of Yellowtail (Seriola) Fish: Written by Dr. Mark Sheppard, Canadian veterinarian, a new publication (in Japanese and originally in English) "A Colour Atlas of Diseases of Yellowtail (Seriola) Fish" is now available. A useful diagnostic field guide for fish farmers, fish health professionals, laboratory technicians and students, this book contains 30 pages of high resolution, detailed pathology photomicrographs of most commonly found diseases of yellowtail. More details can be found at http://oberon.ark.com/~svs/index_files/svsindexfile5.html

Histological Techniques for Marine Bivalve Molluscs and Crustaceans: A new publication by DW Howard, EJ Lewis, BJ Keller and CS Smith of the Cooperative Oxford Laboratory, Center for Coastal Environmental Health and Biomolecular Research, National Centers for Coastal Ocean Science, National Ocean Service, NOAA. This is an invaluable guide to histological techniques of shellfish, principally molluscs and crustaceans which every aquatic animal health researcher should have. Those interested to receive copies, please write to the Librarian, Ms Susie Hines at Susie.Hines@noaa.gov

OIE Handbook on Import Risk Analysis for Animals and Animal Products: Vol. I Introduction and qualitative risk analysis, 2004; Vol. II Quantitative risk analysis, 2004.
Volume I of this handbook introduces the concepts of import risk analysis and discusses qualitative risk analysis while Volume II addresses quantitative risk analysis. The key issues in the discipline are explained within the frameworks provided by the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures and the chapters in both *Codes* on risk analysis. The handbook will provide practical guidance to Veterinary Services confronted with the need to analyse the risks posed by imports, to ensure that stakeholders, risk analysts and decision-makers can be confident that the disease risks posed have been identified and can be managed effectively. The handbook will also be useful as a training aid to address the critical need for capacity building in this discipline.

Surveillance and Zoning for Aquatic Animal Diseases.
Subasinghe, R.P., McGladdery, S.E. and Hill, B.J. (eds.). FAO Fisheries Technical Paper. No. 451. Rome, FAO. 2004. 73p. This document contains the recommendations and conclusions of an Expert Consultation on Surveillance and Zoning for Aquatic Animal Diseases' jointly organized by FAO, the Federal Department of Fisheries and Oceans Canada (DFO-Canada) and OIE held in October 2002 at the FAO Headquarters in Rome, Italy. The objective of the consultation was to determine what surveillance options can best support scientifically valid zonation frameworks. Contact: Rohana.Subasinghe@fao.org

The introduction of *Penaeus vannamei* and *P. stylirostris* into the Asia-Pacific Region.
Briggs M., S. Funge-Smith, R. Subasinghe and M. Phillips. 2004. Food and Agriculture Organization of the United Nations, Regional Office for Asia and the Pacific, Bangkok. RAP Publication 2004/10.99p.

This report has attempted to gather all of the currently available data on the extent of *P. vannamei* and *P. stylirostris* importation and culture in Asia, its potential problems and benefits, and in this way serve as a source document from which to investigate further the means by which control over this issue might be re-established. Recommendations aimed at controlling the importation, testing and culture of these species have been made for all levels and are included in this report.

Capacity and Awareness Building on Import Risk Analysis for Aquatic Animals.
J.R.Arthur and M.G. Bondad-Reantaso. (eds.). 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

Manual on risk analysis for the safe movement of aquatic animals (FWG/01/2002)
Arthur, J.R., M.G.Bondad-Reantaso, F.C.Baldock, C.J.Rodgers and B.F.Edgerton. 2004. 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

List of National Coordinators*

Country	Name and Address
Australia	Dr. Eva -Maria Bernoth 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 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 Director General, Bangladesh Fisheries Research Institute (BFRI) Mymensingh 2201, Bangladesh Fax: 880-2-55259, Tel: 880-2-54874 E-mail: dgbfri@bdonline.com
Cambodia	Mr Hav Viseth 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 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
DPR Korea	Mr. Chong Yong Ho 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
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

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

India	Mr Ajay Bhattacharya Joint Secretary (Fisheries) Department of Animal Husbandry and Dairying Ministry of Agriculture Krishi Bhawan, New Delhi 110001 Tel: 91 11 2338 1994; Fax: 91 11 2307 0370 E-Mail: a.bhattacharya@nic.in
Indonesia	Dr Darnas Dana Director for Fish Health and Environment Ministry of Marine affairs and Fisheries Jl. Harsono RM No. 3, Ragunan Pasar Minggu Tromol Pos No.: 1794/JKS Jakarta – 12550 Indonesia Tel: 7804116-119; Fax: 62 21 78835853; 7803196 E-mail: dfhe@indosat.net.id
Iran	Dr. A.E. Maghsodi Fard Manager Director of Aquatic Animal Diseases Department 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 E-mail: amaghsodifard@yahoo.com
Japan	Mr. Mahito Masuda Fish and Fishery Products Safety Office Food Safety and Consumer Affairs Bureau Ministry of Agriculture, Forestry and Fisheries 1-2-1, Kasumigaseki Chiyoda-ku, Tokyo 100-8950, Japan Fax: 813-3502-8275; Tel: 813-3502-8098 E-mail: mahito_masuda@nm.maff.go.jp
Lao PDR	Mr. Bounma Luang Amath 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 Mrs Thongphoun Theungphachanh Quality Control Animal Product Department of Livestock and Fisheries DLF PO Box 811, Lao PDR Telephone + 856 21 216380 or Mobile: 856 20 772 1115 Fax. + 856 21 216380 Email: theungphachan@yahoo.com

Malaysia	Dr Siti Zahrah Abdullah National Fish Health Research Centre 11960 Batu Maung Penang, Malaysia Fax: 6-04-6263977; Tel: 6-04-6263922 E-mail: szahrah@fri.gov.my Dr. Ong Bee Lee 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 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 Mr. U.Than Win Assistant Director Export and Import Quality Control Laboratory and Aquatic Animal Health Section Department of Fisheries, Ministry of Livestock and Fisheries Sin Minn 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. Dharani Man Singh Senior Fisheries Development Officer, Chief of Central Fisheries Laboratory, Central Fisheries Building, Balaju, Kathmandu. Nepal. E-mail: dharanimsingh@gmail.com) Mr. Shankar Prasad Dahal 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 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 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 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 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 Head, Aquatic Animal Health Branch Animal and Plant Health Laboratories 6 Perahu Road, Singapore 718827 Tel: 63165140, Fax: 63161090 E-mail: Susan_KUEH@ava.gov.sg
Sri Lanka	Dr S.C.Jayamanne National Aquatic Research and Development Agency Crow Island, Mattakuliya Colombo 15, Sri Lanka Tel/Fax: 094-11-2521932 E-mail: sepalika@nara.ac.lk Mr Mahinda Kulathilaka National Aquaculture Development Authority 758 Baseline Road Colombo 9 Tel: 94 1 2521005; Fax: 94 1 2521932 E-mail: ardaip2@eol.lk
Thailand	Dr. Somkiat Kanchanakhan 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 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 Mrs. Bui Thi To Nga Officer, Aquatic veterinary unit NAFIQAVED Hanoi, Vietnam Telephone +84 04 8310983 Fax. +84 04 8317221 E-mail: tonga.nafi@mofi.gov.vn

New Instructions on how to fill in the
QUARTERLY AQUATIC ANIMAL DISEASE REPORT
(Revised during the Provisional Meeting of the AG[1], Bangkok, Thailand, November 7-9, 2001)

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

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

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

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

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

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

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

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

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

Please use the following symbols to fill in the forms.

A. Symbols used for negative occurrence are as follows:

*** This symbol means that no information on a disease in question is available due to reasons such as lack of surveillance systems or expertise.

- This symbol is used when a disease is not reported during a reporting period. However the disease is known to be present in the country (date of last outbreak is not always known).

0000 This symbol is used when disease surveillance is in place and a disease has never been reported.

(year) Year of last occurrence (a disease has been absent since then).

B. Symbols used for positive occurrence are shown below.

+ This symbol means that the disease in question is reported or known to be present.

+? This symbol is used when the presence of a disease is suspected but there is no recognised occurrence of clinical signs of the disease in the country. Serological evidence and isolation of the causal agent may indicate the presence of the disease, but no confirmed report is available. **It is important that the species of animals to which it applies is indicated in the "Comments" on page 2 of the form if you use this symbol**.

+( ) These symbols mean that a disease is present in a very limited zone or zones as exceptional cases. It may also include the occurrence of a disease in a quarantine area.

? This symbol is used only when a disease is suspected by the reporting officer, but the presence of the disease has not been confirmed.

[1] Regional Advisory Group on Aquatic Animal Health (AG)

C. Levels of Diagnosis

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

D. Subjects to be covered in the Epidemiological Comments

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

IMPORTANT

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

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

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

Notes

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Website: **http://www.enaca.org**

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