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AQUATIC ANIMAL DISEASE REPORT
(Asia and Pacific Region)

July-September 2006

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Foreword

Emerging Diseases in the Region

The fifth meeting of the Asia Regional Advisory Group (AG) on Aquatic Animal Health (AGM-5) was held on 22-24 November 2006 at NACA Secretariat in Bangkok, Thailand. The meeting attended by 10 Advisory Group and 3 co-opted members, addressed key aquatic animal health issues in Asia, including spread of emerging aquatic animal diseases in the region, regional quarterly aquatic animal disease reporting system, implementation of the Asia Regional Technical Guidelines on Health Management and the Responsible Movement of live aquatic animals, functioning of the three tier regional resource base and ways to further strengthen regional and international cooperation in Asian aquatic animal health management. The AG constituted by NACA governing council in 2001, has been providing advice to Asian governments and NACA on aquatic animal health management matters in the region. Members are experts from government and the private sector with representatives from FAO, the Aquatic Animal Health Standards Commission of the OIE and the OIE Regional Representation for Asia and the Pacific. The final report has been circulated to the region's fisheries and veterinary authorities and made available to the general public through the NACA website (www.enaca.org). Some of the key points discussed on emerging disease problems in the region are summarized below.

Crustacean Diseases: The AG expressed concerns on the risks associated with live crustacean introductions and on the possibilities of pathogen exchange/movement between species. This is especially important owing to the poor information available on exotic pathogens and the impact of exotic pathogens on native crustacean species. Considering the possibilities of pathogen exchange/movement between species, AG strongly recommended that before importation, farmers/governments should make sure that none of the known pathogens are present and co-habitation tests must be included during quarantine to ensure that unknown viral pathogens will not cause disease in important local crustacean species. Some of the key issues concerning emerging crustacean diseases in the region include:

- The cryptic nature of crustacean viruses and their ability to cause multiple infections raises important issues to be addressed when considering the transboundary movement of crustaceans
- TSV is still an important problem of *P.vannamei* and it now appears to be increasingly affecting local species such as *P.monodon*, *M.rosenbergii*, *P.japonicus* although the effects are still poorly understood. Differences in TSV pathogenicity have been detected and in some cases are poorly understood. TSV outbreak would appear to originate from PL which are not SPF, although carriers such as wild crabs, which have been shown to be susceptible to long-term infection, may play an important role.
- IMNV was first reported in Brazil in 2002 and it was associated with gradual mortality reaching up to 70%. IMNV was reported for the first time in the region (Indonesia) in June 2006 and, for its close similarity (99.6%) with the Brazilian strain it would appear to have been associated with the movement of crustaceans from Brazil to the region. PCR kits are available although some issues with their accuracy are emerging.

- Monodon slow growth agent (MSGA) is the most significant problem of shrimp in Thailand, associated with production loss in the range of 40,000 million bhat in 2002 and responsible for the major switch to *P.vannamei* farming. MSGA was most likely a pathogen introduced into the region. An RNA virus, tentatively named Tegumental gland associated virus (TGAV), would appear to be a good candidate for MSGA. A program for screening shrimp seed for TGAV and assessing whether this approach contributes to the control of MSGS is being developed
- The RNA-virus Laem Singh virus (LSNV) was found in Thailand in both MSGS ponds and non-MSGS ponds, hence appearing not to be associated with MSGS. LSNV appears to be associated with retinopathy in *P.monodon* in ponds that had problem with MSGS. In Australia, retinopathy has been attributed to GAV but may need reexamination to check for evidence of LSNV.
- Although not affecting survival, the occurrence of bamboo shrimp syndrome in *P.vannamei* farms in Thailand and Indonesia is associated with deformities that lead to a reduction in market prices of about 10 baht/kg, therefore leading to significant financial losses. The syndrome is becoming more and more common in Thailand and it maybe associated with a local virus.
- Rickettsia and Rickettsia-like organisms seem to be a problem primarily in super-intensive farming systems
- NHP is still exotic to the region and considered a potential threat
- It would appear as if XSV does not play a major role in WTD occurrence and MrNV is the agent responsible for the disease.

Finfish Diseases The AG expressed serious concern about the spread of Koi Herpes Virus disease (KHVD) and its potential impact on common carp and koi carp industry in the region. KHVD is now an OIE listed disease. In addition, there are several underestimated and emerging finfish diseases in the region affecting the sustainability of aquaculture operations. The AG emphasized the need to increase awareness on emerging and underestimated diseases in the region. The "normal" mortality rate in Asian finfish farms remains relatively high (20 – 60%). A large number of health problems in finfish have been detected in several countries in the region and some of the important ones are as follows:

- *Edwardsiella tarda* identified as a problem in several countries and associated with outbreaks in red seabream, Japanese flounder, turbot and eel.
- "BB" or big belly is associated probably with a new *Vibrio* sp. causing high mortality in seabass fry. The syndrome can be easily diagnosed based on the occurrence of clinical signs
- *Streptococcus dysgalactiae* is an emerging disease of yellowtail in Japan, affecting primarily larger fish and detected also in China
- *Francisella* sp. is an emerging problem of cod and salmon, which is now causing emerging problems in tilapia in Indonesia. This is the first *Francisella* sp described in fish.
- Visceral toxicosis in catfish is a major problem in the US and now detected also in China. No agent has been identified with the disease
- LMSS (loss of mucus and septicemia syndrome) is a major problem of European eel in China. No agent has been identified with the disease although it would appear to be associated with a virus.

- *Streptococcus iniae* remains a major problem in the marine environment and is found also in FW environments. The disease is associated with an estimated annual impact on aquaculture of over US$ 100 million
- *Tenacibaculum maritimum* is a global problem affecting most aquaculture marine species with mortalities up to 90% in fingerlings. Its isolation is difficult, leading most likely to an underestimation of the problem
- *Nocardia seriolae* is a problem of increasing importance, being associated with higher mortality and showing an increasing geographical spread
- Streptococcal diseases (mainly *Streptococcus agalactiae*) are a major problem in freshwater environments and especially in tilapia culture
- *Edwardsiella ictaluri* is a major problem in catfish in the US. A vaccine is registered in the US.
- *Flavobacterium columnare* is a global problem in the freshwater environment and particularly important in tilapia culture.

Mollusk Diseases: Little attention has so far been given to molluscan diseases in the region, although serious losses are known to be occurring. The AG emphasized the need for further information on mollusk disease and called for increased efforts to better understand this problem and improve reporting of molluscan diseases**.** The following are some of the emerging problems in the region.

- Mass mortality in *Babylonia areolata* farms reported in Vietnam but does not appear to be a problem in other countries in the region
- Mass mortalities have been reported in scallop (*Chlamys farreri*) in China. A viral agent is suspected
- The viral disease of abalone, ganglioneuritis, has been reported in farmed and wild abalone (*Haliotis* spp) in small localized western parts of the Victorian coast line.

Reports Received by the NACA Secretariat

Country: **AUSTRALIA** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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)	+	II	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)	-(2006)	-(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/ +	III	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. Ganglioneuritis in 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** 1. **Reported in Northern Territory** in September 2006. Active surveillance: 2. **In** barramundi (*Lates calcarifer)*-multiple age classes. 3. **Clinical signs-** invasive mycosis morphologically considtent with *A. invadans*; 4. **Pathogen-** *Aphanomyces invadans*; 5. **Mortality rate-** unknown 6. **Economic loss-** unknown; 7. **Geographic extent-** unreported; 8. **Containment measures-** none. Open system; 9. **Laboratory confirmation-** Diagnosed by histopathology; 10. **Publications-** Unpublished. 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) 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 was not reported this period despite targeted surveillance from Queensland (last reported first quarter 2006) and South Australia (last year reported 2004). Not reported this period despite active surveillance from Northern Territory (last year reported 2005). Not reported this period despite passive surveillance from New South Wales (last year reported 2005), Western Australia (last year reported 2005) and Tasmania (last year reported 2000). 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 July, August and September 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. Passive surveillance and never reported in the Northern Territory, Queensland, Tasmania 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 July, August and September 2006. Passive surveillance: 2. **In** Sydney rock oysters (*Saccostrea glomerata*); 3. **Clinical signs-** not reported*;* 4. **Pathogen-** *Marteilia sydneyi;* 5. **Mortality rate-** approximately 30%; 6. **Economic loss-** negligible; 7. **Geographic extent-** Macleay River; 8. **Containment measures-** Not applicable; 9. **Laboratory confirmation-** Diagnosis made by PCR and cytology; 10. **Publications-** Unpublished. 1. **Reported in Queensland** in August 2006. Passive surveillance: 2. **In** Sydney rock oysters (*Saccostrea glomerata*); 3. **Clinical signs-** ceased growth, high mortality*;* 4. **Pathogen-** *Marteilia sydneyi;* 5. **Mortality rate-** estimated 50%; 6. **Economic loss-** unknown; 7. **Geographic extent-** single lease (65 trays) in Moreton Bay; 8. **Containment measures-** nil (endemic), de-stocking of affected site advised; 9. **Laboratory confirmation-** Diagnosis made by histopathology and Giemsa stained hepatopancreas smears; 10. **Publications-** Unpublished. Not reported this period despite passive surveillance but known to have previously occurred in 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** 1. **Reported in the Northern Territory** in September 2006. Active surveillance: 2. **In** *Penaeus monodon*; 3. **Clinical signs-** not reported*;* 4. **Pathogen-** gill associated virus*;* 5. **Mortality rate-** nil; 6. **Economic loss-** unknown; 7. **Geographic extent-** single commercial farm, in grow out ponds; 8. **Containment measures-** Not applicable (endemic in area); 9. **Laboratory confirmation-** Diagnosis made by PCR; 10. **Publications-** Unpublished. Not reported this period despite active surveillance but known to have occurred previously in 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 targeted surveillance but is known to have occurred previously in Queensland (last year reported 2005). Not reported this period despite passive surveillance, but known to have occurred previously in 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 Australian 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	The viral disease of abalone, ganglioneuritis, has been reported in wild stocks on reefs near Port Fairy, where the Victorian government has set up a control zone extending between 200m and 700m offshore along 10km of coast. The Victorian Government is working in close collaboration with industry sectors on the response to the disease. A reference group of animal biosecurity and fishery managers, farmers, wild-harvest license holders and operators, processors and scientists has been established. Priorities for immediate research and bio-security measures have been identified. Other States are also examining bio-security in recognition of the interstate exchange of live abalone.

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

AQUAVETPLAN Withering Syndrome of Abalone -Disease Strategy Manual released

In September 2006, the "Disease strategy: Infection with *Candidatus* Xenohaliotis californiensis (withering syndrome of abalone)*"* was released as the latest in a series of disease specific manuals developed under AQUAVETPLAN – Australia's Aquatic Veterinary Emergency Plan.
The manual sets out the disease control principles for use in response to a suspected or confirmed incursion of withering syndrome of abalone in Australia and has been endorsed by the industry and State, Territory and Australian Governments.

For further information or to download the manual go to: http://www.daff.gov.au/aquavetplan

Country: **BANGLADESH** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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. Diseases of *Hypopthalmus sutchi*	+	+	+	1	1
2. Diseases of *Anabas testudineus*	+	+	+	1	1

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	Diseases of *Hypothalmus sutchi* and *Anabas testudineus* (Thai koi) was observed in the Mymensingh region during the reported period. High stocking density and poor management practices were recorded from the fish farm detected as affected pond. *H. sutchi* showed distinct symptoms of bacterial infection having red mouth, operculum, jaws, base of all fins, red spot, sometimes haemorrhage, single or both the eyes were enlarged and swollen vent. Fingerlings to juvenile were affected. However, there were cases of *H. sutchi* mortalities without having any external clinical signs and symptoms. *Aeromonas* spp. observed from the diseased fish. *A. testudineus* showed infection at the fin base, exopthalmia, small to large deep lesion all over the body surface. *Aeromonas* spp. observed from the diseased *A. testudineus.* Sometimes there was report of mass mortality. Liming, application of salt, potassium permanganate, C-vit and antibiotics of tetracycline group along with some commercial drugs were being used as preventive measures.

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

Country: **CAMBODIA** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis					
2. Infectious haematopoietic necrosis					
3. Spring viraemia of carp	000	000	000		
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	000	000	000		
10. Viral encephalopathy and retinopathy	000	000	000		
11. Enteric septicaemia of catfish	000	000	000		
12. Epitheliocystis					
13. Grouper iridoviral disease	000	000	000		
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	000	000	000		
2. White spot disease	-	-	-		
3. Yellowhead disease (YH virus, gill-associated virus)	000	000	000		
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)	000	000	000		
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
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		-	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: **HONG KONG SAR CHINA** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	1.
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	-	-	-	III	
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 disease with significant mortalities caused by RSIV in mariculture fish was seen in giant grouper fingerlings in August. It occurred secondarily to poor water quality after a period of heavy rainfall, and the fish were also affected by parasitic disease and bacterial disease. Other species including green grouper were not affected by the RSIV disease.
2	Two cases of disease caused by Nervous Necrosis Virus were seen during the reporting period. Both cases were in small giant grouper fingerlings and cumulative mortalities reached about 15% in each case. The virus was detected in other batches of fish but was not associated with disease.

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

Country: **INDIA** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	+()	+()	+()	I	I
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
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	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	Reported only from very limited area in Karnataka and Tamil Nadu

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

Country: **INDONESIA** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	+	+	+	II, III	4
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	+	+	+	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. Infectious myonecrosis virus (IMNV)	+	-	+	III	6
2. Infection with *Streptococcus sp.*	+	+	+	II	7
3. Infection with *Aeromonas sp.*	+	+	+	II	8
4. Infection with *Aeromonas hydrophilla*	+	+	+	I, II	9
5. Infection with *Edwardsiella ictaluri*	-	+	-	I, II	10
6. Infection with *Vibrio sp* in P. monodon	+	+	+	III	11

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. KHV	1). Reported in South and East Kalimantan province in July until Sept 2006; West Java province in August and September 2006; North Sulawesi province in July until September 2006. West Sumatra Province, Bengkulu and Jambi province in July until Sept 2006; 2).Species affected : *Cyprinus carpio* 3). Clinical sign: on Common carp infected with KHV such as necrosis of gill tissue, lesion on the skin surface and fin, haemorrhage on part of body; 4). All samples have been detected by PCR analyze, 5). Pathogen : Koi Herpesvirus 6). Mortality rate: low until high (more than 70%); 7). Economic loss: high losses; 8). Names of infected areas : Banjarbaru district in South Kalimantan and Kutai Kartanegara district in East Kalimantan; South and East Jakarta, Sukabumi, Cianjur Tasikmalaya, West of Bekasi and Pandeglang in West Java; North Minahasa district in North Sulawesi. Tanjung Raya subdistrict, Maninjau lake, Agam district; Rao subdistrict and local hatchery in Pasaman district; Koto Singkarak subdistrict, Solok district, West Sumatra Province. Padang Jaya subdistrict, North Bengkulu district and running water in Freshwater Aquaculture Development Margasakti in Bengkulu province and Keliling Danau Kerinci Lake subdistrict, Kerinci district in Jambi province. 9). Preventive/control measures : - 10).Laboratory confirmation diagnosed by PCR in Freshwater Aquaculture Development Center Mandiangin Laboratory in South Kalimantan; Freshwater Aquaculture Development Center Laboratory in Sukabumi; Freshwater Aquaculture Development Center Tatelu Laboratory in North Sulawesi, Freshwater Aquaculture Development Center Jambi Laboratory Jambi province, Sumatera 11). Publications : Unpublished
2. VNN	1). Reported in East Java province in July until September 2006 and Batam province in July until September 2006; 2). Species affected to humpback grouper (*Cromileptes altivelis*) and tiger grouper (*Ephinephelus fuscoguttatus*) reared in hatchery at Situbondo, East Java and Batam province; Sea bass (*Lates calcarifer*) in Batam province. 3). All samples have been detected by PCR analyze; 4). Pathogen : Betanodavirus 5). Mortality rate: medium to high; 6). Economic loss: Medium to high; 7). Names of infected areas : grouper hatchery in Brackishwater Development Center Laboratory in Situbondo

	district, East Java. Batam island, Batu/Moro island and around Barelang island in Batam province; 8). Preventive/control measures : - 9).Laboratory confirmation diagnosed by PCR in Brackiswater Development Center Laboratory in Situbondo, East Java and Mariculture Development Center Laboratory in Batam 10) Publications : Unpublished
3. TSV	1). Reported in West and East Java province in July until September 2006; 2). Species affected to either nauplius, post larvae, juvenile and broodstock of *L. vanamei* 3). All samples have been detected by PCR analyze, 4). Pathogen : Taura Syndrome Virus 5). Mortality rate: low to high ; 6). Economic loss: – 7). Names of infected areas : hatchery in Brackishwater Development Center Laboratory in Situbondo district in East Java, Kerawang district in West Java. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by PCR in Brackishwater Development Center Situbondo district, East Java province.; Marine and Brackishwater Development Center Sungaibuntu, Kerawang in West Java province. 10) Publications : Unpublished
4. WSSV	1). Reported in West, Central and East Java province in July until September 2006; Aceh province in September 2006, South Sulawesi and Gorontalo province in August 2006 2). Species affected to *L. vannamei* (juvenile, post larvae and nauplius), post larvae of *P. monodon in West Java* . 3). All samples have been detected by PCR analyze and Histopatologi 4). Pathogen : White Spot Syndrome Virus 5). Mortality rate: very high 6). Economic loss: up to 10,000 $US in Aceh province and up to 25,000 $US in Central Java province. 7).Names of infected areas : hatchery in Brackishwater Development Center Laboratory in Situbondo district, East Java; Kerawang district in West Java Jepara and Demak district in Central Java; Palopo and Maros district in South Sulawesi province; Gorontalo province; 8). Preventive/control measures : - 9). Laboratory confirmation diagnose by PCR in Brackishwater Development Center Situbondo Laboratory in East Java; Brackishwater Development Center Jepara Laboratory in Central Java, Brackishwater Development Center Takalar, South Sulawesi province, Marine and Brackishwater Development Center Sungaibuntu, Kerawang in West Java province. 10) Publications : Unpublished.
5. IHHNV	1). Reported in East Java province in July until September 2006; 2). Species affected to post larvae, juvenile and broodstock of *L. vannamei* and grouper 3). All samples have been detected by PCR analyze, 4). Pathogen : family *Parvoviridae* 5). Mortality rate: low (0 – 2,27%) 6). Economic loss: – 7). Names of infected areas : hatchery in Brackishwater Development Center Laboratory in Situbondo district, East Java. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by PCR in Brackishwater Development Center Laboratory in Situbondo, East Java; 10) Publications : Unpublished.
6. *Infectious myonecrosis virus*	1). Reported in East Java province in July and September 2006; 2). Species affected to juvenile of *L. vanamei* in 30 – 32 days (were younger). 3). The clinical sign: red color on the abdominal segment end tail fan, myonecrosis with the white color aspect 4). Pathogen : IMNV 5). Sample have been detected by PCR analyze in BDC in Situbondo, East Java. 5). Mortality rate: low to high (0 – 45%). Very low (7-15 pieces per day) 6). Economic loss: – 7). Names of infected area : grouper hatchery in Brackishwater Development Center Laboratory in Situbondo district, East Java. in hatchery in Situbondo district surrounded, East Java Province. 8). Preventive/control measures : doing monitoring and surveillance activities in East Java, Bali and West Nusa Tenggara Province. 9). Laboratory confirmation diagnosed by PCR analyze in Brackishwater Development Center Situbondo

	Laboratory in East Java. Aquaculture Pathology Lab (Dr. Lightner, USA) and 10) Publications : Unpublished.
7. Steptococcus sp	1). Report in South and East Kalimantan in July until September 2006, Jambi Province in July and August 2006, ; North Sulawesi in July until September 2006, and West Sumatra province in July until September 2006; Batam province in August and September 2006; 2). Species affected to Tilapia, *Oreochromis sp* (South Kalimantan); Lates calcarifer, Bloch in Batam province; 3). The clinical signs are exopthalmus/ pop eye , lesions on the operculum and tin, haemorages on the part of body, color of skin surface and gill changes to be more dark, internal organ is pale, mass water in the intestine, coloration on the liver, white spot on the heart and hemorrhages on spleen. 4). Pathogen : *Streptococcus sp.* 5). Mortality Rate : 30-70% 6). Economic loss : - 7). Names of infected areas : Banjar district in South Kalimantan and Kutai Kartanegara district in East Kalimantan; North Minahasa district in North Sulawesi, Batanghari district, Jambi Province, Koto Singkarak and Tanjung Raya subdistrict, Maninjau Lake, West Sumatra province; in Batam island. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Mandiangin Laboratory in South Kalimantan. Freshwater Aquaculture Development Center Sungai Gelam Laboratory in Jambi province, Sumatera; 10). Publications : Unpublished
8. *Aeromonas sp*	1). Reported in South Kalimantan province July until September 2006; North Sulawesi province in July 2006. Jambi province in July and August 2006; 2). Species affected to Oxyleotris marmorata in Banjar and Barito Kuala district; *Cyprinus carpio*, *Oreochromis sp.* in Banjar district; Trichogaster sp., Ophiocephalus striatus, Anabas testudineus in Barito Kuala district; *Cyprinus carpio* in North Minahasa district in North Sulawesi province, Patin Jambal (Pangasius djambal) size 170 gram. 3). Clinical sign : necrosis of skin tissue, haemorage in stomach, fin and operculum, lesions on the skin surface, internal organ is pale and stomach enlarged, hemorrhage and ulcer on part of body and gill damage, coloration on the liver 4). Pathogen : bacteriae 5). Mortality rate: low (8,5%) to high 6). Economic loss: – 7). Names of infected areas : Banjar and Barito Kuala district; North Minahasa district in North Sulawesi, Batanghari district and Muaro Jambi district,in Jambi province 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Mandiangin Laboratory in South Kalimantan; Freshwater Aquaculture Development Center Tatelu Laboratory in North Sulawesi, . Freshwater Aquaculture Development Center Sungai Gelam Laboratory in Jambi province, Sumatra. 10) Publications : Unpublished.
9. *Aeromonas hydrophilla*	1). Reported in West Java province in July until September 2006, North Sulawesi in July 2006. 2). Species affected to *Cyprinus carpio,* Tilapia, *Clarias gariepinus, Osphronemus gouramy*. 3). Clinical sign : • C carpio : irritation on body and fin damaged; no clinical sign on some samples. • Tilapia: irritation on body and fin damage; no clinical sign on some samples. • C *gariepinus :* white spot on body, fin damaged, irritation on bottom part of body, dropsy, abnormally swim. • O *gouramy:* exopthalmia, tail irritation, fin irritation, hemorrhage 4). Mortality rate : low to high 5). Samples were analyzed at MCFADC Sukabumi Laboratory 6). Economic loss: – 7). Names of infected areas: South of Jakarta, Sukabumi, Tasikmalaya and Pandeglang; North Minahasa district in North Sulawesi. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Mandiangin Laboratory in South Kalimantan; Freshwater Aquaculture Development Center Tatelu Laboratory in North Sulawesi, . Freshwater Aquaculture Development Center Sungai Gelam Laboratory in Jambi province, Sumatra. 10) Publications : Unpublished.

10. *Edwardsiella ictaluri*	1). Reported in Jambi province in August 2006; 2). Species affected to Patin hybrid (Pasupati) size 3 – 4 inch in floating net 3). The clinical sign: haemorrhages around abdomen, mass water on intestine and white spot on the liver, limpha and the spleen. 4). Pathogen : bacteriae 5). Sample have been detected by Bacterilogy 5). Mortality rate: - 6). Economic loss: – 7). Names of infected area : in floating net at Batanghari River Desa Mendalo Laut Muaro Jambi District, Jambi Province. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Sungai Gelam Laboratory in Jambi province, 10) Publications : Unpublished.
11. *Vibrio sp*	1). Reported in South Sulawesi province in August 2006 and Batam province in July until September 2006; 2). Species affected to post larvae P. monodon; tiger grouper (*Ephinephelus fuscoguttatus*), *Lates calcarifer,* Bloch, Sand seabass *(Psammoperca waigegiensis)* and Simba kuning in Batam province; 3). The clinical sign: - 4). Pathogen : Vibrio sp 5). Sample have been detected by Bacterilogy analysis (TCBS medium) 5). Mortality rate: medium 6). Economic loss: – 7). Names of infected area : in hatchery CBAD Takalar in South Sulawesi province; in Batam island, Batu/Moro island in Batam province; 8). Preventive/control measures : - Laboratory confirmation diagnosed by Brackishwater Development Center Takalar Laboratory in South Sulawesi; Mariculture Development Center Laboratory in Batam. 10) Publications : Unpublished.

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

Country: **IRAN** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	-	-		
3. Spring viraemia of carp	-	-	-		
4. Viral haemorrhagic septicaemia	-	-	-		
5. Infectious pancreatic necrosis	-	-	-		
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	***	***	***		
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	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	-	-	-		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
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.					
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: **JAPAN** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	I	
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: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	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. *Oodinium* sp	-	-	+	I,II	1

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	1. *Oodinium* sp; 2. The disease observed in September; 3. silver barb are affected; 4. lesion hemorrhage, grayish in the gill and on the dorsal part until anus; 5. disease confirmed by direct microscopy; 6. mortality rate 20%; 7. data on size of infected area not available; 8. treatment by sodium chloride; 9. sample send to the National laboratory; 10. National Animal Health Centre, Vientiane.

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

Country: **MALAYSIA** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	+	+	***	III	1
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	?	?	?	I,II,III	2
10. Viral encephalopathy and retinopathy	+	+	-	1, II , III	3
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	-	-	-		
2. White spot disease	-	-	-		
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.)

Comment No.	
1	*Lutjanus erythropterus*, sized 4 – 5" were screened for iridovirus following a report of 'white head' appearance after culturing for about a month at cages in Tg. Dawai, Kedah. Mortality was reported to be more than 50% during visit in August. The same clinical sign was detected earlier, about 5-7 years ago. PCR done using RSIV primers were positive for iridovirus
2	A total of 338 koi sized 3-4" from 23 farms from total of 48, in Tronoh, Perak, has been monitored since July 2006. Nine (9) fish showed clinical signs of mild to severe gill necrosis with/without high mucus production, while 25 sample koi showed enlarged spleen and kidney. Diagnosis was done using KHV IQ detection kit. Results however, showed negative from all the samples (gill and kidney). Cell culture using newly developed koi fin cells were also negative for CPE. Similarly, no tissue changes were detected in histopathology.
3	a) Following mass mortality in Golden pompano in April 2006 at open sea cages, Langkawi, monthly screening of the survived fish was conducted. The samples were subjected to cell culture test using SB cells, RT-PCR and histopathology. All cell culture and histopathology tests did not show any obvious changes but RT-PCR was detected positive in August 2006. b) Monthly screening on the sea bass cultured at similar site, (Langkawi) showed positive RT-PCR but no clinical signs observed. c) VNN was detected positive by RT-PCR during routine screening of seed/juvenile of *Lates calcarifer* and *Lutjanus erythropterus*, of 3-4" cultured at sea cages in Pulau Bai, Sandakan,Sabah. The juveniles were from local hatchery in Sabah. However, clinical signs were not detected or reported either.

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

Country: **MYANMAR** Period: **April-June 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	April	May	June		
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	-	-	+()	III	1
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	-	-	+()	III	2
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.					
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 49 samples of *P.monodon* have been tesed at PCR lab of Department of Fisheries (DOF) of which 3 samples (6.12%) were recorded as WSSV positive.
2	A total of 49 samples of *P.monodon* have been tesed at PCR lab of Department of Fisheries (DOF) of which 3 sample (6.12%) were recorded as IHHNV positive

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

Country: **MYANMAR** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	-	+()	+()	III	1
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	***	***	***		
5. Infectious hypodermal and haematopoietic necrosis	-	-	+()	III	2
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.					
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 60 samples of *P.monodon* have been tesed at PCR lab of Department of Fisheries (DOF) of which 5 samples (8.33%) were recorded as WSSV positive.
2	A total of 60 samples of *P.monodon* have been tesed at PCR lab of Department of Fisheries (DOF) of which 1 sample (1.66%) was recorded as IHHNV positive

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

Country: **NEPAL** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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.)

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

Country: **PHILIPPINES** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	-	-	-		
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	1
3. Yellowhead disease (YH virus, gill-associated virus)	-	-	-		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	+	-		2
5. Infectious hypodermal and haematopoietic necrosis	-	+	-	III	3
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	Out of 1,029 samples (post larva, juvenile/adult) from hatchery and grow-out *P. monodon* farms examined, 77 samples showed positive results for White spot virus by PCR. Examinations conducted by NPPMCI and BFAR Fish Health Laboratories. Detected also in *P. vannamei* (August) from grow-out farm in Pangasinan experiencing mortalities by one -step PCR. Examination conducted by SEAFDEC-AQD, Fish Health Lab.
2	Out of 526 samples (*P. monodon* post larva), 3 samples showed the presence of spherical occlusion bodies by wet mounts of squash preparation of hepatopancreas (stained with malachite green) examined under light microscope. Examinations conducted by NPPMCI.
3	Detected in *P. monodon* broodstock from Capiz (during screening of broodstock) and *P. vannamei* broodstock in Cebu (confiscated) 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: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	-	-	III	1
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	-	-	-	III	2
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	3
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	-(1998)	-(1998)	-(1998)		
10. Viral encephalopathy and retinopathy	+	+	+	III	4
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	5
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	+	+	+	III	
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. 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	IHN was not detected in cultured rainbow trout (*O. mykiss*) in Gangwon-do by RT-PCR during the active surveillance. The active surveillance has been started since 2005.
2	Viral haemorrhagic septicaemia was not detected in flounder (*Paralichthys olivaeceus*) in Tongyoung, Ulsan, Wando, Jeju, Pohang and Goje area. by RT-PCR during the active surveillance.
3	RSIV was detected in flounder (*Paralichthys olivaeceus*) in Pohang by PCR during active surveillance. Not reported this period despite active surveillance in flounder in Tongyoung, Ulsan, Wando, Jeju and Goje area.
4	Viral encephalopathy and retinopathy was detected in flounder (*Paralichthys olivaeceus*) in Ulsan, Pohang, Wando and Goje by RT-PCR during active surveillance. Not reported this period despite active surveillance in flounder in Jeju area.
5	*Perkinsus olseni* was detected in manila clam (*Ruditapes philippinarum*) in Gochang and Boryong by PCR during active surveillance.

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

Country: **SINGAPORE** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	(2006)	+	(2006)	III	1
10. Viral encephalopathy and retinopathy	-	-	-		
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis	-	-	-		
13. Grouper iridoviral disease	-	-	+	II	2
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	-	-	-		
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 samples from a private collection were tested positive for KHV by nested PCR. Affected koi were 100g to 1000g in bodyweight, showed spiral swimming behaviour and suffered 40% mortality. All koi in affected pond have been culled and pond disinfected. In this quarter, KHV was not detected in 4 batches of koi imported from Japan under compulsory inspection and quarantine. Samples from 5 batches of koi under the Accredited Ornamental Fish Surveillance Scheme (AOFES) and voluntary submission of samples from 2 batches of Malaysian koi tested negative for KHV.
2	Histological observations were suggestive of a systemic iridoviral disease in a batch of tiger grouper 10g in bodyweight. The groupers were originally imported from Indonesia. Lethargy, fin & tail rot, pale gills and enlarged spleens with mortality of approximately 50% were observed in the affected batch of 2000 fish. The viral agent could not be isolated on a seabass (SB) or grunt fin (GF) cells.

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

Country: **SRI LANKA** Period: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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: **July-September 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	July	August	September		
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	
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	2
2. White spot disease	-	-	+	III	3
3. Yellowhead disease (YH virus, gill-associated virus)	-	-	-	III	4
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)					
5. Infectious hypodermal and haematopoietic necrosis	+	+	+	III	5
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	6
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 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	The koi herpesvirus (KHV) genes were detected by nested PCR developed at the AAHRI, DOF. 33 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 3/33 koi farms found to be positive or carry herpesviral gene. Two of three KHV positive farms experienced koi mortalities and ~2,500 affected kois (detected by nested-PCR) in the ponds were destroyed. The other KHV positive farm did not experience disease clinical signs, and no mortality. The kois in the third farm were quarantined then re-sampled. 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. The third koi farm did not meet the criteria and no koi was destroyed.
2	A total of 629 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. 1 specimen or 0.16% was recorded as RT-PCR positive or carrying TSV genes that advised to be destroyed.
3	A total of 1,501 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. 1 specimen or 0.07% was recorded PCR positive or carrying SEMBV genes that advised to be destroyed.
4	A total of 62 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 PCR detections for genes of YHV showed negative.
5	A total of 651 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. 65 specimens or 10% 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.

6	Findings of the MrNV and XSV viral genes in larvae in giant freshwater prawn hatcheries, *Macrobrachium rosenbergii*, were usually associated with mortality. However the affected larvae did not exhibit whitetail clinical signs. 87 prawn larvae specimens from hatcheries were RT-PCR-tested for the present of both viral genes. 33 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. 5/9 prawn brooders specimens from hatcheries were also RT-PCR-tested during this reporting period and found positive results. Concepts in bio-security for disease prevention had been advised to hatchery owners or operators and farmers. The disease was identified at the AAHRI, DOF.

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

Rule of the Department of Fisheries: **The requirements for the importation of live giant freshwater prawn into Thailand for culture purpose.**

Date of issue and effective on **23 March 2006.**

The Department of Fisheries (DOF) has established a strategy to control trans-boundary movement of viral diseases in giant freshwater prawn, MrNV and XSV, using quarantine measures on imports as follows:

- Pre-importation: Holding facilities for giant freshwater prawns in the farms have to achieve the quarantine standard of the DOF before receiving an import permit.

- Arrival of giant prawns at the port: The imported prawns must be accompanied with Certificate of Origin and Health. The prawns will be subjected to quarantine at the certified quarantine areas of the importing farms or companies.

- Post-importation: Giant prawns will be quarantined for 20 days. DOF health inspectors will examine the giant prawns for diseases listed in the OIE, MrNV, XSV and other contagious pathogens. If serious pathogens are found, the imported giant prawns will be destroyed without compensation.

List of diseases in the 9th edition of the 2006 *Aquatic Code*

The following diseases of fish are listed by the OIE: Article 1.2.3.1

1. Epizootic haematopoietic necrosis
2. Infectious haematopoietic necrosis
3. Spring viraemia of carp
4. Viral haemorrhagic septicaemia
5. Infectious salmon anaemia
6. Epizootic ulcerative syndrome
7. Gyrodactylosis (*Gyrodactylus salaris*)
8. Red sea bream iridoviral disease
9. Koi herpesvirus disease

The following diseases of molluscs are listed by the OIE: Article 1.2.3.2.

1. Infection with *Bonamia ostreae*
2. Infection with *Bonamia exitiosa*
3. Infection with *Marteilia refringens*
4. Infection with *Perkinsus marinus*
5. Infection with *Perkinsus olseni*
6. Infection with *Xenohaliotis californiensis*
7. Abalone viral mortality

The following diseases of crustaceans are listed by the OIE: Article 1.2.3.3.

1. Taura syndrome
2. White spot disease
3. Yellowhead disease
4. Tetrahedral baculovirosis (*Baculovirus penaei*)
5. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)
6. Infectious hypodermal and haematopoietic necrosis
7. Crayfish plague (*Aphanomyces astaci*)
8. Necrotising hepatopancreatitis[1]
9. Infectious myonecrosis[1]

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[1] 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 and OIE Manual of Diagnostic Tests for Aquatic Animals, 5th Edition, 2006 http://www.oie.int/eng/publicat/en_aqua.htm

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

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

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

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

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

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

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

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

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

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

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

Please use the following symbols to fill in the forms.

A. Symbols used for negative occurrence are as follows:

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

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

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

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

B. Symbols used for positive occurrence are shown below.

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

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

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

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

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

C. Levels of Diagnosis

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

D. Subjects to be covered in the Epidemiological Comments

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

IMPORTANT

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

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

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Notes

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