2006/2

QUARTERLY AQUATIC ANIMAL DISEASE REPORT (Asia and Pacific Region)

April-June 2006

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Foreword

Regional Cooperation for promoting aquatic animal health management

The spirit of NACA is cooperation and collaboration with the intention of sharing regional resources amongst network members - governments, institutions and individuals - for the ultimate benefit of primary producers. Investment made in fostering specific collaborations with well defined practical long term objectives can be very rewarding. Two examples under the regional health programme illustrate the enormous benefits and hold promise for further strengthening of such regional cooperation to benefit the rural aquaculture farmers, who are the focus of the present NACA five year (2006-2010) work programme.

The first example concerns the running of a voluntary PCR ring testing exercise in India. It is well established and widely accepted that PCR screening of broodstock and/or seed for white spot syndrome virus (WSSV) can be effective in reducing the risk of disease outbreaks. However, in many cases, disease on farms continues to impact very significantly on production, even when PCR-screened seed is used prior to stocking. Of the several reasons cited for the continued occurrence of disease on farms, lack of harmonization and inter-calibration of PCR testing capabilities of different service providing laboratories is one of the important. Responding to this, the NACA under the ACIAR funded regional shrimp health project facilitated the project partners from India, Australia and Thailand to set up and run the first voluntary PCR ring testing exercise in India, which was participated by 49 service providing laboratories. Each of the participating labs were provided with 10 samples which were prepared, re-tested and validated very meticulously by scientists from CSIRO, Australia and CIBA, India. This exercise provided several useful lessons, noteworthy amongst them include (1) the spirit of voluntary participation by the private sector (2) the sense of confidence the industry has on such regional processes; (3) The ownership and commitment of the national government through its institutions like MPEDA; (4) Technical support by project partners under the regional NACA umbrella; and (5) The efficiency and cost-effectiveness of the whole process. Investments such as this can have long lasting impacts and it is expected that MPEDA is likely to use the ring testing experience for setting up of a laboratory accreditation programme in the near future.

The second example is to do with small-scale shrimp farmers in India. The shrimp consortium partners-NACA, FAO, WWF, WB, UNEP-through wide ranging stakeholders consultations have succeeded in building consensus on international principles for responsible shrimp farming. Developing better management practices and assisting shrimp farmers to implement them so that improved compliance to international principles can be accomplished is not an easy task. The investment through the MPEDA/NACA/ACIAR project in India is another good example of long

term benefits of meaningful and practical regional collaboration. The five year old project has been highly successful in bringing together shrimp farmers (organized into aquaclubs/clusters) to collectively implement better management practices to reduce disease-related losses, improve yields and produce quality and traceable antibiotic-free shrimp. The crop results in 2005 from 930 demonstration ponds spread over 484 hectares of area in 15 aquaclubs of Andhra Pradesh showed an increase in production by two-fold, 34% increase in size of shrimp, 15% increase in crop duration, 68% improvement in survival and 65% reduction in disease prevalence when compared to surrounding non-demonstration ponds. As a result, for every 1000 rupees ($ 22) invested, demonstration farmers made a profit of 128 rupees ($2.9), while non-demonstration farmers made a profit of only 38 rupees ($ 0.86). The biggest success is the visible change in the attitude of shrimp farmers that the project has brought about in the last 5 years. Economic rewards could be short lived, but attitudinal changes in farmers is a long term reward for a modest investment.

Reports Received by the NACA Secretariat

Country: **AUSTRALIA** 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	-(2004)	-(2004)	-(2004)		1
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	-(2005)	-(2005)	-(2005)		2
7. Bacterial kidney disease	0000	0000	0000		
8. Red seabream iridoviral disease	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	0000	0000	0000		
10. Viral encephalopathy and retinopathy	-(2006)	-(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/ -(2005)		7
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-(2005)	-(2005)	-(2005)		8
5. Infectious hypodermal and haematopoietic necrosis	-(2004)	-(2004)	-(2004)		9
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
2. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. 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 was not reported during this period despite passive surveillance, but is known to have previously occurred in New South Wales and Queensland (last year reported 2005), Northern Territory (last year reported 2004) and Victoria (last year reported 2002). Passive surveillance and never reported in South Australia and Tasmania. Not reported this quarter but considered to be endemic in Western Australia. No information available in the Australian Capital Territory.
3	Viral encephalopathy and retinopathy was not reported this period despite targeted surveillance from South Australia (last year reported 2004). Not reported this period despite active surveillance from Northern Territory (last year reported 2005). Not reported this period despite passive surveillance from Queensland (last reported first quarter 2006), 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 April, May and June 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 April, May and June 2006. Targeted surveillance: 2. **In** Sydney rock oysters (*Saccostrea glomerata*); 3. **Clinical signs-** not reported*;* 4. **Pathogen-** *Marteilia sydneyi;* 5. **Mortality rate-** approximately 5%; 6. **Economic loss-** negligible; 7. **Geographic extent-** Wooli River at low prevalence; 8. **Containment measures-** Not applicable; 9. **Laboratory confirmation-** Diagnosis made by PCR and cytology; 10. **Publications-** Unpublished. Not reported this period despite passive surveillance but known to have previously occurred in Queensland (last year reported 2004) and Western Australia (last year reported 1994). Active surveillance and never reported in Tasmania. Passive surveillance and never reported in the Northern Territory, South Australia or Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
7	**Yellowhead virus:** Active surveillance and never reported in the Northern Territory. Passive surveillance and never reported in New South Wales, Queensland, South Australia, Victoria and Western Australia. No information available from the Australian Capital Territory (no marine water responsibility) and Tasmania (susceptible species not present). **Gill-associated virus** Not reported this period despite active surveillance but known to have occurred previously in the Northern Territory and Western Australia (last year reported 2005). Not reported this period despite passive surveillance but known to have occurred previously in New South Wales (last year reported 2003). Gill-associated virus is considered endemic in Queensland where the lack of a clear case definition, of readily available detection tests and an apparent role for mixed virus infections make any conclusion about the incidence of GAV-related epizootics impossible. Passive surveillance and never reported in South Australia and Victoria. No information available in Australian Capital Territory (no marine water responsibility) and Tasmania (susceptible species not present).
8	Spherical baculovirosis was not reported this period despite passive surveillance, but is known to have occurred previously in Queensland (last year reported 2005), New South Wales and Western Australia (last year reported 2002). Never reported despite passive surveillance in the Northern Territory, South Australia and Victoria. No information available in the 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 farmed and wild abalone (*Haliotis* spp.) in small localised western parts of the Victorian coast line. The Victorian government has set up a control zone extending between 200m and 700m offshore along 10km of coast near Port Fairy. 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 licence 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 abalone.

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

Country: **CAMBODIA** Period: **January-March 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis					
2. Infectious haematopoietic necrosis					
3. Spring viraemia of carp	0000	0000	0000		
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	0000	0000	0000		
10. Viral encephalopathy and retinopathy	0000	0000	0000		
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis					
13. Grouper iridoviral disease	0000	0000	0000		
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	0000	0000	0000		
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)	0000	0000	0000		
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: **CAMBODIA** 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	0000	0000	0000		
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	0000	0000	0000		
10. Viral encephalopathy and retinopathy	0000	0000	0000		
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis					
13. Grouper iridoviral disease	0000	0000	0000		
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	0000	0000	0000		
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)	0000	0000	0000		
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: **HONG KONG SAR CHINA** 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	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	
11. Enteric septicaemia of catfish	0000	0000	0000	III	
12. Epitheliocystis	(2002)				
13. Grouper iridoviral disease	+	-	+	III	2
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	Two cases of severe disease with heavy mortalities caused by RSIV in mariculture fish were identified in June. Both occurred in fingerlings, after heavy rainfalls and have significant loadings of external parasites. The species involved were gold-lines seabream and sweetlips
2	Three cases, one in April and 2 in June, associated with grouper iridovirus were detected in fingerlings of green grouper. Mortalities were 10-20% and were associated with transport stress of importation

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

Country: **INDIA** Period: **January-March 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	-	-	-		
7. Bacterial kidney disease	0000	0000	0000		
8. Red seabream iridoviral disease	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	0000	0000	0000		
10. Viral encephalopathy and retinopathy	0000	0000	0000		
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis	0000	0000	0000		
13. Grouper iridoviral disease	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000		
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	-	+()	+()	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 Tamil Nadu only during February-March 2006

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

Country: **INDIA** 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	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	
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.	

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

Country: **INDONESIA** 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	0000	0000	0000		
2. Infectious haematopoietic necrosis	0000	0000	0000		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	0000	0000	0000		
5. Infectious pancreatic necrosis	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	-	-	-		
7. Bacterial kidney disease	0000	0000	0000		
8. Red seabream iridoviral disease	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	+	+	+	I,III	1
10. Viral encephalopathy and retinopathy	+	+	+	III	2
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis	0000	0000	0000		
13. Grouper iridoviral disease	-	-	-		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000		
4. Infection with *Marteilioides chungmuensis*	0000	0000	0000		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	+	+	+	III	3
2. White spot disease	+	+	+	I,II,III	4
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	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. Infection with Streptococcus sp	+	+	+	I,II	6
2. Infection with Aeromonas sp	+	+	+	I,II	7
3. Infection with A.hydrophila	+	+	+	III	8
4. Infection with Vibrio sp.	+	-	-	II	9
5. Infectious myonecrosis (IMNV)	-	+	-	I, III	10

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

a/ Please use the following symbols:

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

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

1. Epidemiological comments:

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

Comment No.	
1	1). Reported in West Java province in April and June 2006; North Sulawesi province in June 2006; Jambi province, South & Central Kalimantan province and West Nusa Tenggara province in April until June 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 and fin. 4). All samples have been detected by PCR analyze, 5). Pathogen : Koi Herpesvirus 6). Mortality rate: low to high 7). Economic loss: low to high losses 8). Names of infected areas : Cirata Reservoar-Cianjur and Subang with clinical sign : hemorrhage on part of Body and gill damage; no clinical signd on some samples; in Maninjau lake, Agam distict, Pasaman district and Solok district, West Sumatera Provine; North Bengkulu district, Bengkulu province; Bungo district and Kerinci lake, Jambi province. In Floating net in Tondano lake, North Minahasa district in North Sulawesi, in Gorontalo district, North Sulawesi in area of Freshwater Aquaculture Development Center Tatelu. In South Kalimantan province are Tanah Bumbu district (in April 2006 on fingerling to consumable size), Banjar district, Hulu Sungai Tengah district, Tabalong district, Tapin district, Tanah Laut district and in Central Kalimantan province are Katingan and Palangkaraya district. In West Nusa Tenggara province are Mataram district, Rembige district, West Lombok district. 9). Preventive/control measures : - 10). Laboratory confirmation diagnosed by PCR in Freshwater Aquaculture Development Center Laboratory in Sukabumi, West Java; Freshwater Aquaculture Development Center Laboratory in Jambi, Sumatera; Freshwater Aquaculture Development Center Mandiangin Laboratory in South Kalimantan; 11). Publications : Unpublished
2	1). Reported in East Java province in April until June 2006; 2). Species affected to humpback grouper (*Cromileptes altivelis*) and tiger grouper (*Ephinephelus fuscoguttatus*) reared in hatchery at Situbondo, East Java province,

	3). All samples have been detected by PCR analyze, 4). Pathogen : betanodavirus, 5). Mortality rate: low 6). Economic loss: – 7). Names of infected areas : grouper hatchery in Brackishwater Development Center Laboratory in Situbondo, East Java 8). Preventive/control measures : - 9).Laboratory confirmation diagnosed by PCR in Development Center Laboratory in Situbondo, East Java. 10) Publications : Unpublished
3	1). Reported in South Sulawesi province in May 2006; East Java province in April until June 2006 2). Species affected to nauplius, post larvae, juvenile and brood stock of *L. vanamei* 3). All samples have been detected by PCR analyze, 4). Pathogen : Taura Syndrome Virus 5). Mortality rate: low 6). Economic loss: – 7). Names of infected areas : in Barru district, South Sulawesi province; East Java province 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by PCR in Brackishwater Development Center Takalar, South Sulawesi province; Brackishwater Development Center Situbondo district, East Java province. 10) Publications : Unpublished
4	1). Reported in South Sulawesi province in April and May 2006; East Java province in April until June 2006; South Kalimantan province in April 2006; in Lampung province in April 2006; in Central Java province in April until June 2006. 2). Species affected to post larvae of *P. monodon*, *L. vannamei* (juvenile, postlarvae and nauplius) and *L. rostris* with size 1- 3 month 3). All samples have been detected by PCR analyze, 4). Pathogen : White Spot Syndrome Virus 5). Mortality rate: low to high 6). Economic loss: medium 7). Names of infected areas : hatchery in Brackishwater Development Center Takalar, South Sulawesi province; Situbondo district, East Java; Kotabaru district, South Kalimantan ; Lampung province; Jepara, Demak, Pati, Kendal, Brebes district in Central Java. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by PCR in; Brackishwater Development Center Laboratory in Takalar, South Sulawesi province, Brackishwater Development Center Situbondo Laboratory in East Java; Freshwater Aquaculture Development Center Mandiangin Laboratory in South Kalimantan; Marine culture Development Center Lampung Laboratory in Lampung; Brackishwater Development Center Jepara Laboratory in Central Java 10) Publications : Unpublished
5	1). Reported in East Java in April until June 2006; in Lampung province in April 2006 2). Species affected to post larvae, juvenile and broodstock of *L. vannamei* 3). All samples have been detected by PCR analyze, 4). Pathogen : family *Parvoviridae* 5). Mortality rate: low 6). Economic loss: – 7). Names of infected areas : some district in East Java province and Lampung province 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by PCR in Brackishwater Development Center Laboratory in Situbondo, East Java; Marine culture Development Center Lampung Laboratory in Lampung; 10) Publications : Unpublished.

6	1). Report in Jambi Province in April 2006; South Kalimantan Province in April until June 2006 2). Species affected to Tilapia, *Oreochromis sp* (South Kalimantan) 3). The clinical signs are pop eye, hemorrhage on spleen, exopthalmos, color of skin surface and gill changes to be more pale 4). Pathogen : Bacteriae 5). Mortality Rate : 25-40 % 6). Economic loss : - 7). Names of infected areas : Batanghari district, Jambi Province, North Bengkulu district, Bengkulu province, Tanah bumbu and Hulu Sungai Tengah district, South Kalimantan Province. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by freshwater Aquaculture Development Center Laboratory in Jambi, Sumatera; Freshwater Aquaculture Development Center Mandiangin Laboratory in South Kalimantan. 10). Publications : Unpublished
7	1). Reported in Jambi and West Sumatera province in April until June 2006; South Kalimantan province in May and June 2006. 2). Species affected to *Osphronemus gouramy* (seed and broodstock) in Lima puluh Kota district; Tilapia (*Oreochromis sp*) size 80 – 120 gram in Agam district; Pangasius sp in South Kalimantan province. 3). Clinical sign : hemorrhage and ulcer on part of body and gill damage; fish are weak and disoriented whirling motion, to be more pale of the body fish and stomach enlarged. 4). Pathogen : bacteriae *Aeromonas sp* 5). Mortality rate: low to high 6). Economic loss: – 7). Names of infected areas : at kecamatan Lubuk Basung, Agam district, West Sumatera province; Pamenang village, Merangin district, Batanghari district in Jambi province; Banjar district in South Kalimantan province. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Freshwater Aquaculture Development Center Sungai Gelam Laboratory in Jambi, Sumatera; Freshwater Aquaculture Development Center Mandiangin Laboratory in South Kalimantan. 10) Publications : Unpublished
8	1). Reported in West Java province in April until June 2006; 2). Species affected to *Cyprinus carpio,* Tilapia, *Clarias gariepinus, Osphronemus gouramy* and ell. 3). Clinical sign : • C carpio : abscess on the body, gill fade • Tilapia: opaque eyes, tail irritation, fin irritation, gill damage, body fade • C *gariepinus:* irritation on botton part of body, dropsy, abnormally swim • O *gouramy:* exopthalmia, tail irritation, fin irritation, hemorrhage • Eel: white spot on body 4). Mortality rate : low to high 5). Samples were analyzed at FADC Sukabumi Laboratory 8). Infected areas : Pandeglang, Sukabumi and Subang 9). Publications : Unpublished.
9	1). Reported in East Java province; South Sulawesi province in April 2006; 2). Species affected to pufferfish (Situbondo district in East Java) *P. monodon and* humpack grouper 3). The clinical sign: - 4). Pathogen : bacteriae *Vibrio sp* 5). Sample have been detected by Bacterilogy and histopathology 5). Mortality rate: low 6). Economic loss: – 7). Names of infected area : in hatchery Brackishwater Development Center in Takalar, South Sulawesi; Situbondo district in East Java province. 8). Preventive/control measures : - 9). Laboratory confirmation diagnosed by Brackishwater Development Center in Takalar, South Sulawesi; Brackishwater Development Center in Situbondo, East Java.

	10) Publications : Unpublished.
10	1). Reported in East Java province in last May 2006; 2). Species affected to juvenile of (*L. vanamei)* in 60 – 80 days (subadult) 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: Very low (7-15 pieces per day) 6). Economic loss: – 7). Names of infected area : 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 Aquaculture Pathology Lab (Dr. Lightner, USA) and PCR analyze in Brackishwater Development Center Situbondo laboratory, East Java. 10) Publications : Unpublished.

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

Country: **IRAN** Period: **January-March 2006**

Item	Disease status [a/]			Level of diagnosis	Epidemiological comment numbers
DISEASES PREVALENT IN THE REGION	Month				
FINFISH DISEASES	January	February	March		
OIE-listed diseases					
1. Epizootic haematopoietic necrosis	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	?	-		
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	-(2005)	-	-		1
5. Infectious pancreatic necrosis	-	-	+	III	2
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	0000	0000	0000		
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	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	Not reported during this period but known to have previously occurred in a limited area in Saveh (Markazi Province)
2	a. Infectious pancreatic necrosis was detected in rainbow trot in one farm in Gillan province (Mr.Rahimi) by nested PCR in CVL of IVO during surveillance, but it's serotype was unknown b. the origin of disease was unknown c. Mortality rate was nearly 20% d. Economic loss was low

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

Country: **IRAN** 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	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	?	-	I	1
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	-(2005)	-	-		2
5. Infectious pancreatic necrosis	+	-	-	III	3
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	0000	0000	0000		
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.)

Comment No.	
1	
2	
3	

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

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

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

a/ Please use the following symbols:

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

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

1. Epidemiological comments:

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

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

Country: **LAO PDR** Period: **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	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					

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: **MALAYSIA** 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	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	+?	+?		1 and 2
10. Viral encephalopathy and retinopathy	+	-	-	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	0000	0000	0000		
2. White spot disease	-	-	-		
3. Yellowhead disease (YH virus, gill-associated virus)	0000	0000	0000		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	0000	0000	0000		
5. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	0000	0000	0000		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	0000	0000	0000		
8. Baculoviral midgut gland necrosis	0000	0000	0000		
9. White tail disease (MrNV and XSV)	0000	0000	0000		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	0000	0000	0000		
2. Abalone viral mortality	0000	0000	0000		
ANY OTHER DISEASES OF IMPORTANCE					
1.					
2.					

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

a/ Please use the following symbols:

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

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

1. Epidemiological comments:

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

Comment No.	
1	Koi fish (*Cyprinus sp*.) bound for export have been detected to have KHV by the importing country. Fish were rejected and returned to its original farm. Reconfirmation result by DOF using PCR technique was negative and the fish showed no clinical signs. No quarantine measures taken.
2	a) 2 koi farms in Perak were found negative during first KHV screening in May 06. However, extra fish under observation gave positive results after 1 month showing clinical signs of necrotic gill, high mucus production and mortality in 4 out of 8 fish. b) One (I) Koi hybrids in Penang was found dead with opaque eyes and haemorrhages at the tail line. All the fish were kept together in one aquarium tank containing 3 koi hybrids and 6 koi sp. PCR revealed positive KHV on all samples taken from this tank. Second visit 2 weeks later also gave positive results including water samples. Other 2 hybrids fish showed same clinical signs. Hobbyist was advised to treat the fish with vitamins, anti stress and changing water. Possibly positive due to introduction of newly bought koi from 1 aquarium shop in Penang.
3	60% of 10,000 pieces golden pompano fry from Taiwan meant for cage culture, died in April 2006. Laboratory observation on the fish showed dark body discolouration and abnormal swimming pattern, as reported by farm operator. PCR test was positive for VNN infection. The survived fish were now being kept in deep sea cages in Langkawi and will be examined periodically.

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

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

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

a/ Please use the following symbols:

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

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

1. Epidemiological comments:

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

Comment No.	
1	EUS was reported from Morang district in April. The species affected reported to be Naini (Cirrhinus mrigala). The affected total pond water surface area was very small (0.1ha). Application of hydrated lime @ 500 kg/ha was reported to be effective and the economic loss was not significant.

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

Country: **PHILIPPINES** 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	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 894 samples (post larva, juvenile/adult) from hatchery and grow-out shrimp (*P. monodon*) farms examined, 77 samples showed positive results for White spot virus by PCR. Examinations conducted by NPPMCI and BFAR Fish Health Laboratories.
2	Out 554 samples (*P. monodon* post larva), 14 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 and BFAR Fish Health Lab.
3	*P. monodon,* adult (1 sample) from Antique showed positive results by one-step PCR. Examination conducted by SEAFDEC-AQD Fish Health Lab.

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

Country: **REPUBLIC OF KOREA** Period: **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	0000	0000	0000		
2. Infectious haematopoietic necrosis	-	-	-	III	
3. Spring viraemia of carp	0000	0000	0000		
4. Viral haemorrhagic septicaemia	+	+	+	III	
5. Infectious pancreatic necrosis	-	-	-	III	
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
7. Bacterial kidney disease	0000	0000	0000		
8. Red seabream iridoviral disease	+	+	+	III	
Non OIE-listed diseases relevant to the region					
9. Infection with koi herpesvirus	-(1998)	-(1998)	-(1998)		
10. Viral encephalopathy and retinopathy	+	+	+	III	
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis	0000	0000	0000		
13. Grouper iridoviral disease	0000	0000	0000		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	0000	0000	0000		
2. Infection with *Perkinsus olseni*	+	+	+	III	
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	0000	0000	0000		
4. Infection with *Marteilioides chungmuensis*	+	+	+	III	
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	0000	0000	0000		
2. White spot disease	+	+	+	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.)

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

Nil

Country: **SINGAPORE** 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	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	+	+	+	III	1
10. Viral encephalopathy and retinopathy	-	-	-		
11. Enteric septicaemia of catfish	0000	0000	0000		
12. Epitheliocystis	-	-	-		
13. Grouper iridoviral disease	-	-	-		
MOLLUSC DISEASES					
OIE-listed diseases					
1. Infection with *Bonamia exitiosa*	***	***	***		
2. Infection with *Perkinsus olseni*	***	***	***		
Non OIE-listed diseases relevant to the region					
3. Infection with *Marteilia sydneyi*	***	***	***		
4. Infection with *Marteilioides chungmuensis*	***	***	***		
CRUSTACEAN DISEASES					
OIE-listed diseases					
1. Taura syndrome	***	***	***		
2. White spot disease	-	-	-		
3. Yellowhead disease (YH virus, gill-associated virus)	***	***	***		
4. Spherical baculovirosis (*Penaeus monodon*-type baculovirus)	-	-	-		
5. Infectious hypodermal and haematopoietic necrosis	***	***	***		
6. Tetrahedral baculovirosis (*Baculovirus penaei*)	***	***	***		
Non OIE-listed diseases relevant to the region					
7. Necrotising hepatopancreatitis	***	***	***		
8. Baculoviral midgut gland necrosis	***	***	***		
9. White tail disease (MrNV and XSV)	***	***	***		
UNKNOWN DISEASES OF A SERIOUS NATURE					
1. Akoya oyster disease	***	***	***		
2. Abalone viral mortality	***	***	***		
ANY OTHER DISEASES OF IMPORTANCE					
1. Mullet systemic iridoviral disease	-	-	-		
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 one export premise in April, two exporter premises in May and two exporter premises in June tested positive by nested PCR. All five cases involved ornamental koi carp imported from Malaysia. The most consistent clinical signs observed in the KHV positive kois was lethargy and emaciation The five KHV positive cases involved 15,000 koi in the first premise, 2,500 koi in the second and 1,000 koi in the third, 500 koi in the fourth and 2,700 koi in the fifth premise. Most of the cases involved koi measuring 6-8 cm in body lengths. Mortality of up to 30-80% were observed, and all KHV positive koi at these infected premises have been culled and the area disinfected. Premises with positive KHV detections are placed under quarantine, samples taken for laboratory investigations and quarantine lifted only after all KHV poisitve kois are destroyed and the area appropriately disinfected. In this quarter, KHV was not detected in 16 batches of koi imported from Japan under compulsory inspection and quarantine. Voluntary samples from 10 batches of Malaysian koi tested KHV negative

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

Country: **SRI LANKA** 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	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: **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	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 but no occurrence of the koi herpesvirus disease (KHVD). 29 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 4/29 koi farms/companies found to be positive or carry herpesviral gene. However these kois did not exhibit disease clinical signs, no mortality and no occurrence of KHVD. The kois in these farms/companies were quarantined then re-sampled at 10% prevalence. The kois were further tested with nested PCR, virus isolation and histology technique. Under KHVD controlling criteria, if the viral genes still present and viruses can be isolated or fish exhibits KHVD histopathological signs, the affected kois will be destroyed. No cases had met the criteria and no kois had been destroyed during the reporting period.
2	A total of 902 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. 3 specimens or 0.3% were recorded as RT-PCR positive or carrying TSV genes that advised to be destroyed.
3	A total of 1,812 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 SEMBV showed negative.
4	A total of 158 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 0.6% was recorded as RT-PCR positive or carrying YHV genes that advised to be destroyed.
5	A total of 947 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. 183 specimens or 19.3% 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. 41 prawn larvae specimens from hatcheries were RT-PCR-tested for the

	present of both viral genes. 19 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. 14/20 prawn brooders specimens from hatcheries were also RT-PCR-tested during this reporting period and found positive results. Two normal prawn specimens sampled from grow-out farms showed positive only RT-PCR for MrNV. Concepts in bio-security for disease prevention had been advised to hatchery owners or operators and farmers. The Department of Fisheries has started a 3-year program to produce MrNV-XSV-free prawn larvae (prawn seeds). The disease was identified at the AAHRI, DOF.

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

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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