

Country reports

Aquatic alien species in Thailand (Part 2): aquatic animal diseases

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The awareness of aquatic animal diseases spread through international trade has been increasing since the first edition of the OIE Aquatic Animal Health Code in 1995

Trans-boundary issues concerning aquatic animal pathogens

The international trade in aquatic animals has resulted in the spread of aquatic animal diseases to many countries (Hastein, 2000). Thailand has experience with such problems, starting with introduction of Chinese carps (*Hypophthalmichthys molitrix*, *Ctenopharyngodon idellus*, *Aristichthys nobilis*) for food fish culture that introduced Lerneae parasites to the aquatic ecosystem some years ago. Importation of ornamental fishes has also introduced many new pathogens such as Hexamita, Tetrahymena and iridoviruses. Epizootic ulcerative syndrome caused great losses during the 1980s and more recently, introduction of shrimp viruses has led to severe economic damage in coastal aquaculture.

Trans-boundary pathogens and management strategies

The movement of aquatic animals is generally recognized as a high risk activity for transferring diseases and pathogens from one area to another. The awareness of aquatic animal diseases spread through international trade has been increasing since the first edition of the OIE Aquatic Animal Health Code in 1995. Methods to control diseases through international trade and a development of national strategies for addressing disease problems have been discussed in great detail among representative from 21 Asian governments during a three years (1998-2000) technical assistance program of FAO and NACA. Results of this program were a guideline called "Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals" and



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a Manual of Procedures for the Implementation of the guidelines. All 21 Asian countries had accepted the guideline and agreed to implement the guidelines as part of a regional strategy to control spread of serious pathogens.

As part of this regional program, each country has prepared national aquatic animal health strategies. In Thailand, this plan has been discussed during a seminar and workshop among staff from the Department of Fisheries (DoF), Department of Livestock Development, University, Private Sectors and Farmers in Bangkok in May 2001. Nine strategic plans of the “National Strategy for Control of Aquatic Animal Diseases” have been developed from this seminar and were accepted by the DoF. The plan titles are listed as follows:

1. Law and legislation
2. Import/export regulation
3. Disease surveillance, monitoring and control systems
4. Aquatic Animal Diseases; research & development
5. Diagnosis units; capability building
6. Technology/knowledge transfer
7. Public awareness
8. Contingency plan to control disease outbreak
9. Funding support

In Thailand, aquaculture and fisheries are under the responsibility of the Department of Fisheries (DoF). The existing Fisheries Act B.E. 2490 (1947) 3rd revision in B.E. 2528 (1985), Wildlife Conservation and Protection Act B.E. 2535 (1992) and Control of Importation and Exportation of Goods Act B.E. 2522 (1979) were not developed for control of aquatic animal diseases. These three Acts have small sections about movement regulations of the imported and exported aquatic animals. However Thailand has a law to control terrestrial animal diseases called the Animal Epidemic Act B.E. 2499 (1956), which is used by the Department of Livestock Development (DLD). However this Act originally did not cover aquatic animals and their diseases.

The strategic plan for law and legislation development for controlling aquatic animal diseases has been aiming to use the existing Animal Epidemic Act. There was an agreement at the Lawyer Consultation of the Parliament in September 2002 that the diseases of aquatic





animals will be controlled by using the Animal Epidemic Act. Aquatic animals are in control by this Act under Ministerial Regulation dated on June 2, 2003. A joint working group between DoF and DLD has been appointed and this group is working on the details of how to apply the law to control aquatic animals and their diseases.

A list of aquatic animal diseases proposed to be controlled under this Act should be processed in early 2004 before passed as a Ministerial Regulation are as follows:

1. Epizootic haematopoietic necrosis
2. Infectious haematopoietic necrosis
3. *Oncorhynchus masou* virus disease
4. Spring viraemia of carp
5. Viral haemorrhagic septicaemia
6. Epizootic ulcerative syndrome
7. Viral encephalopathy and retinopathy
8. Red sea bream iridoviral disease
9. Bacterial kidney disease
10. Bonamiosis
11. MSX disease
12. Marteiliiosis
13. Mikrocytosis
14. Perkinsosis
15. Taura Syndrome
16. White spot disease
17. Yellowhead disease
18. Infectious hypodermal and haematopoietic necrosis virus
19. Tetrahedral baculovirosis
20. Crayfish plague
21. *Monodon baculovirus*
22. Hepatopancreatic parvovirus
23. Iridovirus disease
24. Koi herpesvirus
25. Poxvirus

NATIONAL BODIES RESPONSIBLE FOR MANAGING THE USE OF ALIEN SPECIES

Thailand has two National Bodies, the Minister of Agriculture and Cooperatives and Minister of National resources and Environment, which are responsible for managing the use of alien species. Two Acts have been drafted to protect diversity of indigenous animals, to protect against the establishment of alien species in the ecosystem and to protect the ownership of the animal type or strain. Summaries of the two drafted Acts are as follows:

ANIMAL DIVERSITY PROTECTION ACT

Board of Animal Diversity Protection

Chairperson: Permanent Secretariat of the Ministry of Agriculture and Cooperatives.

Committee: nine Director Generals of related Departments, 12 committees from the scientific, private sector, farming and NGO sector who are nominated by the Minister.

Responsibilities

1. Drafts Royal decrees and Ministerial Notices
2. Consideration and justification of all major conflicts between private sector and official authorization/competent authority
3. Gives suggestions to the Minister related to implementation issues
4. Gives rules for research on Animal Genetics
5. Gives rules for management of an Animal Diversity Protection Fund
6. Gives rules for promotion of Scientists who have developed new strains of cultured animals
7. Designates an Institution to inspect and evaluate any impacts on bio-security and environment
8. Board work will cover other assignments given by the Minister and Government

ANIMAL FARMING EXTENSION AND CONSERVATION ACT*

Board of Animal Farming Extension and Conservation

Chairperson: Permanent Secretariat of the Ministry of Agriculture and Cooperatives

Committee: three Director Generals; Department of Fisheries, Department of Royal Forestry and Department of Livestock Development
5-9 knowledgeable persons

Responsibilities

1. Drafts Royal Decrees and Ministerial Notices
2. Give suggestions to the Minister related to the implementation Issues
3. Give rules for researches on animal farming extension and animal conservation based on Code of Conduct and Animal Welfare
4. Give rules for management of Animal Farming Extension and Conservation Fund
5. Give a name list of the animals to be controlled under this Act
6. Designate an Institution to access any impacts on bio-security and environment
7. Board work will cover other assignments given by the Minister and Government

* There are no English names of these two drafted Acts at time of writing. The English names of the drafted Acts appeared here are translated from the Thai by the author.

References

Håstein, T. 2000. Principals of prevention and control of aquatic animal diseases. 68th General Session of the International Committee May 22-26, 2000, Paris. Office International Des Epizooties, Paris. 31pp.