National Aquatic Animal Health Management System of South Korea

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I. General Information
Aquaculture of Korea

- Fleshy prawn
- Manila clam
- Olive flounder
- Black rockfish
- Abalone
- Laver
- Sea mustard
- Scallop
- Surf clam
- Olive flounder
- Sea squirt
- Manila clam
- Oyster
- Red seabream
- Olive flounder
Current Status of Fish Diseases

- Frequency: 5% (1990’s) → 20~25% (present)
- Diseases: bacterial diseases → combined diseases
- Season: summer (high temperature) → whole year
- Amount of damage: about US 208 million

1996:
- Single bacteria: 70.7%
- Parasite: 21.9%
- Bacteria complex: 1%
- Virus: 4.6%

2005:
- Single bacteria: 41.6%
- Parasite: 19.6%
- Bacteria complex: 11.7%
- Virus complex: 10.8%
- Bacteria + parasite + virus: 16.2%
- Etc.: 5.1%
Aquatic Life Disease Control Act
Aquatic Life Disease Control Act

Aquatic Animal Disease Control Act
[Act No. 8789, 21 Dec. 2007]

Aquatic Life Disease Control Act
[Act No. 10888, 22 July 2012, Partial Amendment]

**Goals**

- Develop the National Strategic Plan for Aquatic Animal Health
- Prevent the Introduction and Spread of designated Diseases
- Enhance and Improve the aquatic animal health
- Conserve the aquatic ecosystem and Improve the National Health

**Key Areas**

- Quarantine
- Disease Control
- Drug Management
1. The aim of act is to assure the prevention of outbreak and spread of aquatic animal diseases in Korea.

2. Control measure of diseases are notification of aquatic animal diseases, surveillance, disinfection or destruction, risk analysis and quarantine.

3. Nationally, 20 infectious diseases are classified as notifiable in Korea (8 kinds in fishes, 5 kinds in shellfish and 7 kinds in crustacean).

4. The confirmed disease by qualified diagnostic laboratories would be in forced monitoring, surveillance, movement control or stamping out.

5. All live aquatic animals, eggs or gametes have to be declared free from listed diseases for importation into Korea.
### Notifiable Diseases of Aquatic animals

<table>
<thead>
<tr>
<th>Fish (8)</th>
<th>Shellfish (5)</th>
<th>Crustacea (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Spring viraemia of carp</td>
<td>• <em>Bonamia exitiosa</em> &amp; <em>B. ostreae</em></td>
<td>• Yellowhead disease</td>
</tr>
<tr>
<td>• Koi herpesvirus disease</td>
<td>• <em>Marteilia refringens</em></td>
<td>• Taura syndrome virus</td>
</tr>
<tr>
<td>• Red sea bream iridoviral disease</td>
<td>• <em>Perkinsus marinus</em></td>
<td>• White spot disease</td>
</tr>
<tr>
<td>• Viral haemorrhagic septicaemia</td>
<td>• <em>Xenohaliotis californiensis</em></td>
<td>• <em>Aphanomyces astaci</em></td>
</tr>
<tr>
<td>• <em>Aphanomyces invadans</em> (EUS)</td>
<td>• Abalone herpesvirus</td>
<td>• Infectious hypodermal and haematopoietic necrosis</td>
</tr>
<tr>
<td>• Epizootic haematopoietic necrosis</td>
<td></td>
<td>• Infectious myonecrosis</td>
</tr>
<tr>
<td>• Infectious salmon anaemia virus</td>
<td></td>
<td>• White tail disease</td>
</tr>
<tr>
<td>• <em>Gyrodactylus salaris</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Fish (8)
- Shellfish (5)
- Crustacea (7)
Ⅲ. Organization and Major duties of Official Control System
Constitutions for Disease Control

- Fish inspector, Veterinarian
- Fish farms
- NFQS
- Ministry of Ocean and Fisheries
- NFRDI
- Local governments
- Authorized diagnosis Lab
Sea, the Future. Sea, the Hope
National disease control institutes

NFRDI

Aquatic Life Disease Control Division (headquarters)

Pathology Division (Busan)

East Sea Fisheries Research Institute (Gangneung)

West Sea Fisheries Research Institute (Incheon)

Southwest Sea Fisheries Research Institute (Yeosu)

Southeast Sea Fisheries Research Institute (Tongyeong)

Inland Fisheries Research Institute (Jinhae)

Future Aquaculture Research Center (Jeju)
Aquatic Life Disease Control Division (Headquarter)
Main Functions of NFRDI

**NFRDI**
Aquatic life disease control division

### Headquarter
- Leads and coordinates the national management of aquatic life health (research, consultancy and management of disease control)
- Implement and manage the monitoring programmes and develop the diagnostic standard
- Develop the National Plan for Aquatic Life Health and coordinates the national response to aquatic animal disease emergencies
- Educate and appoint the aquatic life disease control officers and audit the authorized diagnostic lab.
- Undertake the global responsibilities, notably acting as the national reference laboratory, a member of the OIE for notifiable diseases

### Branches
- Disease monitoring in the region under their jurisdiction
- Survey aquaculture farms
- Cooperate with Local Government
- Inspection of broodstock for release to Korean coast
Cooperation for Aquatic animal Diseases Diagnosis

Authorized Diagnostic Lab.
Local Government, University

Private Clinic Specialist

NFRDI
Aquatic life disease control division

Surveillance, Education
Standard Manual, Auditing, Education and Training
Support, Consultation
Authorized Diagnostic Lab.

Basis: Article 10 of Aquatic Life Disease Control Act.

- Pukyong National University
- Chonnam National University
- Gyeongsangnam-do Fisheries Resources Research Institute
- Gyeongsangbuk-do Fisheries Technology Center
- Yeosu Branch, JFRDI
- Aquatic Disease Center, Jeollabuk-do Fisheries Resources Research Institute
- Seosan Office, Chungcheongnam-do Fisheries Management Center
- Busan Marine Fisheries Resources Research Institute
- Gyeonggi Province Freshwater Fisheries Research Institute
- Jeju Ocean and Fisheries Research Institute
- Jeollanam-do Fisheries Research and Development Institute

9 Local governments  2 Universities
Reliable quarantine and inspection, Seafood you can trust.

National Fishery Products Quality Management Service (NFQS)
**Organization and Employees**

- **Employees**
  - Total: 202
  - Senior Executive: 1
  - 4th grade: 3
  - 4.5th grade: 2
  - 5th grade: 23
  - 6th grade: 60
  - Researcher: 9
  - 7th grade: 54
  - 8th or lower: 34
  - Technical post: 16

- **Budget**
  - 24.457 billion won
  - Business expense: 10.883b won
  - Payroll cost: 13.574b won
Main Functions of NFQS

Aquatic Life Quarantine
(Aquatic Life Disease Control Act)

Registration & management of fisheries business
(Act on Fostering and Supporting Agricultural and Fisheries Enterprises)

Inspection of fish and fishery products (export & government-held) and management of registered establishments
(Agricultural and Fishery Products Quality Management Law)

Safety investigation of domestic fishery products
(Agricultural and Marine Products Quality Control Act)

Quality certification, GI, traceability
(Agricultural and Fishery Products Quality Management Law)

Traditional seafood quality certification
(Food Industry Promotion Act)

Domestic and imported salt inspection
(Salt Industry Promotion Act)

Supervision and guidance on country of origin labeling
(Act on Origin Labeling of Agricultural and Fishery Products)

Cooperation on preventing IUU fishing and implementing conservation measures by international fisheries bodies
(Ocean Industry Development Act)
Flowchart of fisheries safety & quality control

- **Quarantine and Inspection for Export (FIQ)**
- **Domestic**
  - Pelagic / Coastal & Cultured
  - Investigation into Safety (FIQ)
  - Cold storage
  - Country of Origin labeling (FIQ)
  - Safety (KFDA) Distribution step
- **Import**
  - Joint market, Cold storage
  - Safety (KFDA) Distribution step
  - Quarantine Facility
  - Quarantine (FIQ)
  - KFDA
  - Surveillance for Aquatic Life Diseases (NFRDI)
- **Consumer**

- **Authentication**
- **COOL**
- **Safety for domestic Import inspection**
- **Import Quarantine Export Inspection**

- **FIQ**
- **KFDA**

Flowchart includes steps related to safety and quality control in fisheries, including inspection, labeling, and surveillance.
Aquatic Life Quarantine

- Legal basis
  - Aquatic Life Disease Control Act

- Designated quarantine items for import and export
  - fish and fishery products for farming, human consumption, ornamental, and research & investigation

- Aquatic infectious diseases subject to quarantine
  - 20 diseases (virus 13, parasite 4, fungi 2, bacteria 1)

- Quarantine method
  - Document review, Clinical test, Laboratory test
Thank You!