Implementing, Auditing, & Certifying Aquaculture Biosecurity Plans & Programs

A. David Scarfe PhD, DVM, MRSSAf
(AVMA, Schaumburg, IL USA)

Flavio Corsin PhD
(WWF/FAO Advisor, Hanoi, Vietnam)
Cover general aspects of ...

- Why audit/certify biosecurity plans?
- What needs to be audited/certified?
- Critical elements of certification
- Model certification programs
- Who might audit/certify biosecurity?
- Supporting resources & workforce
- Seeking governmental (competent authority) endorsement
- Practical governmental & industry resources & workforce issues
Ultimate Objective

To ensure that an epidemiological unit (a farm) is not diseased and remains that way

From the perspective of the producer implementing a biosecurity program – rather than being mandated by government regulations.
Key Questions

Are procedures & processes in place to prevent (or control & eradicate) infectious & contagious diseases?

- What biosecurity procedures are in place?
- What is the disease status?
- What contingencies are planned?
- Is there adequate documentation?
- Can the disease status (freedom) and procedures be certified?
**General Biosecurity Components for Any Epidemiologic Unit (EU)**

- Establishment
- Compartment
- Zone
- Region
- Country

### Questions a Farmer Might Ask

<table>
<thead>
<tr>
<th>Questions</th>
<th>Formal Biosecurity Process/Step</th>
<th>Necessary Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which diseases are serious potential hazards?</td>
<td>Hazard Identification &amp; Prioritization</td>
<td>Prioritized Disease List</td>
</tr>
<tr>
<td>Is my farm at risk, if so, how much risk, what’s the impact?</td>
<td>Risk Assessment</td>
<td>Evaluation of Disease Impacts</td>
</tr>
<tr>
<td>Where can these hazardous diseases get in?</td>
<td>Critical Control Point (CCP) Evaluation &amp; Remediation</td>
<td>Correctable CCPs to Monitor</td>
</tr>
<tr>
<td>Are any of these diseases on the farm?</td>
<td>Clinical Evaluation &amp; Diagnostic Testing</td>
<td>Farm, Lab &amp; Vet Records</td>
</tr>
<tr>
<td>What can be done to prevent disease getting in or escaping?</td>
<td>Risk Mitigation/Management</td>
<td>CCP Corrective Actions</td>
</tr>
<tr>
<td>What do I do if disease gets in?</td>
<td>Contingency Planning</td>
<td>Isolation Treatment Depopulation</td>
</tr>
<tr>
<td>How do I continue to monitor disease absence/presence?</td>
<td>Surveillance/Monitoring</td>
<td>Farm, Lab &amp; Vet Records</td>
</tr>
<tr>
<td>How do I get third-party recognition of disease freedom?</td>
<td>Veterinarian Auditing &amp; Certification</td>
<td>Certificate of Veterinary Inspection</td>
</tr>
</tbody>
</table>

© IABC 2009. Do not duplicate or use material without written permission from the IABC Organizers or the senior author.
Why Audit/Certify Biosecurity Plans?

- Protect the producer’s investment & provide economic incentives & return for investment
  - Increased economic return for certified products
  - Enhanced access to markets
- Credibility that animals or products are not diseased
- Meet requirements
  - Producers
  - Government regulations
**What Needs to be Audited?**

**An iterative process**

**Primarily**
- Disease status monitoring (regular veterinary & record inspection; diagnostic laboratory results)

**Secondarily**
- Re-assess hazards, risks, critical points, contingencies, etc

<table>
<thead>
<tr>
<th>Questions a Farmer Might Ask</th>
<th>Formal Biosecurity Process/Step</th>
<th>Necessary Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which diseases are serious potential hazards?</td>
<td>Hazard Identification &amp; Prioritization</td>
<td>Prioritized Disease List</td>
</tr>
<tr>
<td>Is my farm at risk, if so, how much risk, what’s the impact?</td>
<td>Risk Assessment</td>
<td>Evaluation of Disease Impacts</td>
</tr>
<tr>
<td>Where can these hazardous diseases get in?</td>
<td>Critical Control Point (CCP) Evaluation &amp; Remediation</td>
<td>Correctable CCPs to Monitor</td>
</tr>
<tr>
<td>Are any of these diseases on the farm?</td>
<td>Clinical Evaluation &amp; Diagnostic Testing</td>
<td>CCP Corrective Actions</td>
</tr>
<tr>
<td>What can be done to prevent disease getting in or escaping?</td>
<td>Risk Mitigation/Management</td>
<td>Isolation Treatment Depopulation</td>
</tr>
<tr>
<td>What do I do if a disease gets in?</td>
<td>Contingency Planning</td>
<td></td>
</tr>
<tr>
<td>How do I continue to monitor disease status/epidemiology?</td>
<td>Surveillance/Monitoring</td>
<td>Farm, Lab &amp; Vet Records</td>
</tr>
<tr>
<td>How do I get third-party recognition and freedom?</td>
<td>Veterinarian Auditing &amp; Certification</td>
<td>Certificate of Veterinary Inspection</td>
</tr>
</tbody>
</table>

© IABC 2009. Do not duplicate or use material without written permission from the IABC Organizers or the senior author.
What needs to be Certified?

Primarily

- Disease status monitoring (regular veterinary & record inspection; diagnostic laboratory results)

Secondarily

- Re-assess hazards, risks, critical points, contingencies, etc

An iterative process
Auditing/Certifying Biosecurity Activities

**Personnel**
- Licensed/registered veterinarians
- Para-veterinary professionals – vet techs, nurses, fisheries biologists

**Multiple components**
- Veterinary medical (clinical evaluation, diagnostic report interpretation, etc)
- Records maintenance, procedures implementation

Veterinary workforce – all individual involved in activities
Training & credentialing needed
Adequate Levels of Biosecurity will require time to implement

- **ABC Level I** – Committed to developing site-specific plan
- **ABC Level II** – Completed hazard/risk analysis, CCP mitigation evaluation, contingency plan
- **ABC Level III** – Written plan completed, diagnostic testing in progress
- **ABC Level IV** – Disease-free status
- **ABC Level V** – Government Agency endorsement
Biosecurity Certificates

- Needs to be tailored specifically for biosecurity
Governmental (competent authority) Endorsement

- For “official” recognition (primarily for meeting regulatory requirements) non-governmental programs require government agency endorsement

- Voluntary NGO/industry programs must meet the same endpoints as government/regulatory programs

- Biosecurity endpoints – measures (prevention, control, eradication) are in place to ensure EU (e.g. farm) is SPF
Resources/Workforce Needs

- Licensed/registered veterinarians (legal & professional liability)
- Paraveterinary (techs/nurses/biologist) field service personnel
- Diagnostic laboratory system
- Product/equipment suppliers
- NGO systems & infrastructure
  - Education
  - Compliance registry
  - Competency credentialing
- Governmental (regulatory) personnel & infrastructure
Next Steps

- Producer & service provider training workshops
  - 1-day theory & process
  - 1-day table-to exercises & scenario modeling
  - 1-day on-farm exercise

- On-line recognition
  - Producers actively implementing a V-ABC program (& ABC Level)
  - Service providers credentialed as trainers & implementers
Intended to supplement government workforce to perform regulatory functions
1. Priority diseases
2. Biosecurity
3. Health/disease regulations & certification

Introduction
Welcome to the Aquatic Animal Health Certificates and Regulations module.

This module will provide information on the various agencies involved in regulating aquatic animal health and trade, with an emphasis on USDA and the role of accredited veterinarians. It will also address the proper completion of health certificates for farmed aquatic animals and provide resources for obtaining current regulations.

Upon completion of this module, you should be able to:
- List the regulatory agencies involved in aquatic animal health and trade
- Explain your role and responsibilities as an accredited veterinarian as they relate to aquatic animal health
- Find current health regulations for the international export and interstate movement of aquatic animals
- Accurately complete health certificates for farmed aquatic animals

Completion of this module is estimated to take 55-60 minutes, but will vary depending on your familiarity with the information presented.
Locating Aquatic Veterinarians & Diagnostic Laboratories

Web Portal that Provides

- Free Public Searches
  - Aquatic veterinarians
  - Disease Diagnostic Laboratories
  - Available 24/7/365

- Veterinarian & DX Lab access
  - New entries anytime
  - ID/Password protected
  - Global

Search Directories of Aquatic Veterinarians and Disease Diagnostic Laboratories

These directories assist veterinarians, veterinary allied professionals, aquatic animal owners, aquaculture industries, governments, and the general public.

The objective is to support global aquatic animal health and welfare, public health and seafood safety.

There is no cost to veterinarians or disease diagnostic laboratories for registering in these Directories.

This Project is a collaboration between the American Veterinary Medical Association
Voluntary “Industry-Driven” Certification Systems

Most are primarily focused on “sustainability”
WWF Conclusions

Analyzed standards have significant shortcomings and lack an effective and credible regulatory framework

Shortcomings include:

- **No performance-based metrics and indicators** [for effluent discharges and other key environmental factors, such as efficient use of energy, water, feed and land]

- **Insufficient coverage of key issues**, [such as sustainable sources for fishmeal used in the diet, use of GMO products, prevention of escapes, introduction of non-native species,] **bio-security measures, prevention of disease** [and protection of sensitive habitats and local wildlife]
WWF Shortcomings, contd.

- **Limited openness** [of standard governance] and **multi-stakeholder participation** [in standard development]
- **Lack of meaningful measurable and verifiable criteria** [addressing the key areas of concern]
- **Lack of independency of the standard creating, standard holding, inspection and certification bodies**
- **Lack of corrective measures and sanction procedures and lack of chain of custody certification**
- **Insufficient coverage of social issues**, [such as basic labor rights, community land rights] **and** [access to] **natural resources**
Implementation

Voluntary
- Individual producer/farm
- Industries

Compulsory
- Legislation/regulations

National/International standards
- National Strategies/OIE Code

Combinations
- Voluntary, compulsory & standards (requires government-industry, public-private collaboration, cost-sharing, etc)

Flexible
- Tailored to specific needs, resources & conditions

Large well-funded producers will adopt easily;
Small-scale resource-limited producers will need ownership, self motivation and explicit returns for investment
Summary

If biosecurity programs are to become viable

- Auditing & certification will be necessary
- Non-governmental (industry/stakeholder-driven) voluntary programs can meet regulatory requirements, but will need government endorsement, public-private partnerships & cost-sharing
- Training, credentialing and other recognition programs are needed.
Thank you for your attention

**bon appetit**

**may you and your fish**

**be very secure**