

# Refinement and Use of Certificates of Veterinary Inspection (Health Certificates) for Optimal Assurance of Disease Freedom in Aquatic Animals

David E. Starling<sup>1</sup>, Dušan Palić<sup>2</sup>, and A. David Scarfe<sup>3\*</sup>

<sup>1</sup>Aqueterinary Services P.C.; <sup>2</sup>Center for Food Security and Public Health, The College of Veterinary Medicine, Iowa State University; <sup>3</sup>American Veterinary Medical Association; \*Corresponding Author

## Introduction

Certificates of Veterinary Inspection (CVI), generally termed "Health Certificates", are pivotal for ensuring translocated animals are not diseased or harbour significant pathogens (3,4). With modifications tailored to specific purposes, CVIs are also extremely useful for other disease-related purposes requiring evaluation of animal health including specific pathogen-free (SPF) assurance for premises, risk-mitigating (biosecurity practices) assurance necessary for insurance policies, and the assurance of broodstock breeding soundness.

While used very successfully with terrestrial animal movement for decades, CVIs for aquatic animals are not well refined, understood or used, despite the availability of several aquatic animal 'certification processes', 'permits' and 'health certificates', including the OIE model health certificates.

Correctly designed CVIs provide the single most economical and effective assurance of the disease status (generally freedom from specific diseases or pathogens) for individuals or lots of animals, at any point in time. When issued by a qualified independent third-party (typically a licensed veterinarian, and in some case government accredited) they provide the official level of assurance necessary for intrastate, interstate and international trade.

## Necessary detailed information captured in a CVI for these purposes include (Fig 1):

- ✓ The veterinarian, purpose of the CVI, and the types of animals involved
  - ✓ The source and destination (ownership), transportation (if moved) and possible permits needed
  - ✓ The identity of animals involved
  - ✓ The results of specific validated/ standardized diagnostic tests required by the destination authority, including laboratory test information to determine protocols used, their validity, and to calculate the probability of disease/ pathogen freedom (1,4)
  - ✓ Declarations by the veterinarian and owner attesting to inspection, tests performed and biosecurity procedures being implemented
- ❖ In addition, for CVIs to be official government documents that meet an importing country's requirements according to OIE standards(3), endorsement by the official veterinary authority (or other competent authority with jurisdiction over aquatic animal health) is required.

## Future Progress for Increasing Efficiency – Electronic CVI (e-CVI)

Secured electronic collection and transfer of data between the attending veterinarian, diagnostic laboratories, competent authorities and the source and destination, and for issuing e-CVIs would increase the utility of any CVI system (Fig 2). E-data transfer and e-CVIs would also be in accord with OIE standards(3).

A preliminary trial of an e-CVI system was successfully tested by GlobalVetLink (Ames, Iowa, USA) for moving 15-20 shipments of ornamental (aquarium) finfish per week (7-10K per shipment), from Florida wholesale sources to Virginia pet stores during 2001-2002(5).

Currently no system for issuing e-CVIs for aquatic animals is fully operational.

However, several systems in development (GlobalVetLink e-OCVI; USDA's VSPPS – Fig 3) would be extremely useful for aquatic e-CVIs. A similar approach would be feasible in the European Union by integrating TRACES (TRAde Control and Expert System), CENTAUR (database for export health certificates and transboundary animal disease e-communication) and ANIMO (computerized network for linking veterinary authorities)(6) or in Australia/New Zealand using a modified e-CERTS system (Fig 4).

Identifies Veterinarian, CVI, Animals, Types and Purpose

Identifies Source and Destination

Identifies Animal Species

Identifies Diagnostics Specifics

Legal Declarations

Additional Diagnostics

Veterinary Authority Endorsement

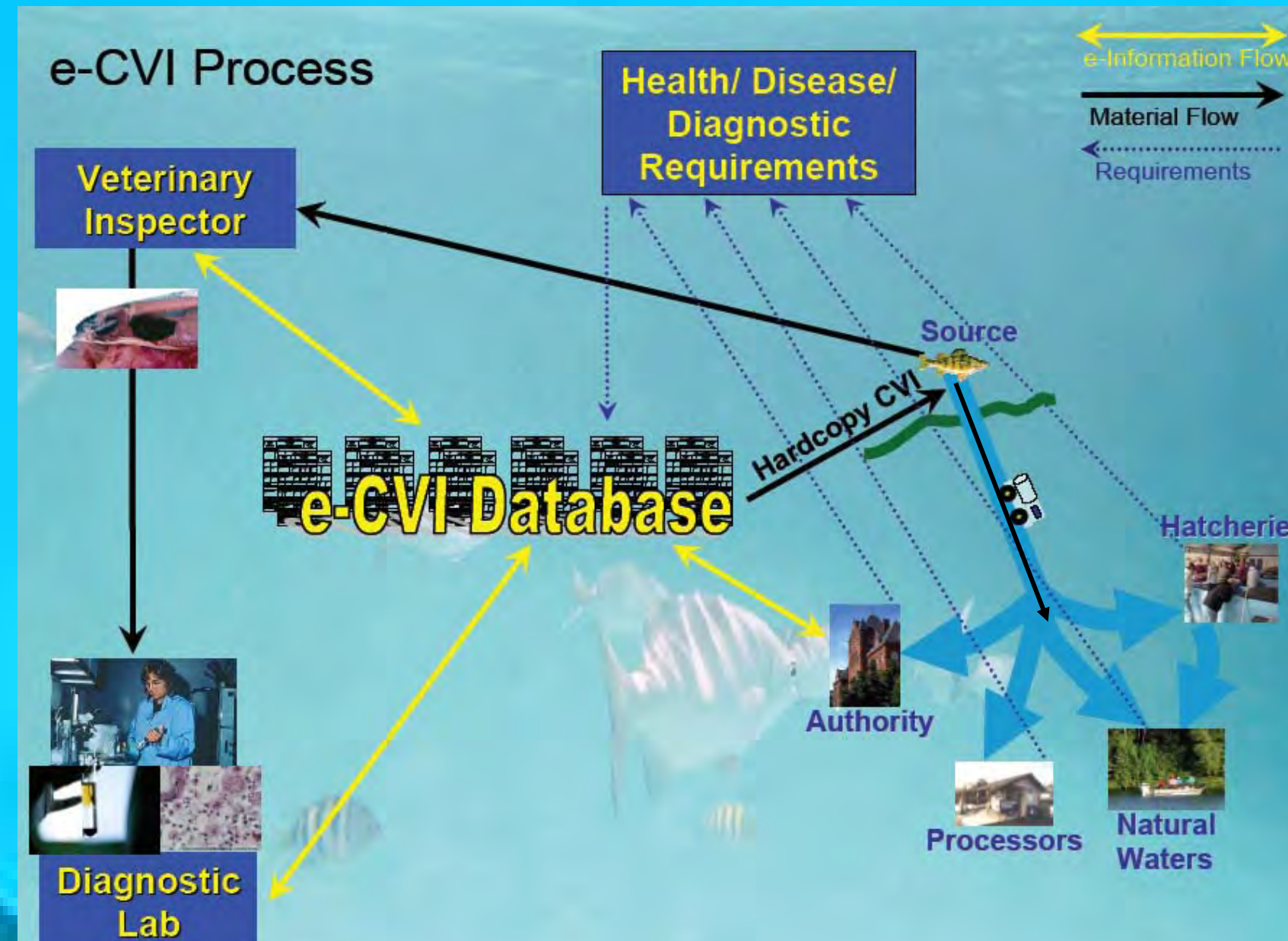


Figure 2. e-CVI process. A stylized example of how electronic information can be conveyed between individuals and entities (veterinarian, diagnostic laboratory, source and destination owners, and authorities, in developing an electronic Certificate of Veterinary Inspection.

Figure 3. USDA-APHIS "Veterinary Services Process Streamlining" (VSPPS) concept. Under an "e-Government Initiative" (also developing in many other countries) the USDA Animal and Plant Health Inspection Service (APHIS) has proposed integrating multiple electronic data tracking and recording systems, including e-CVIs(2).

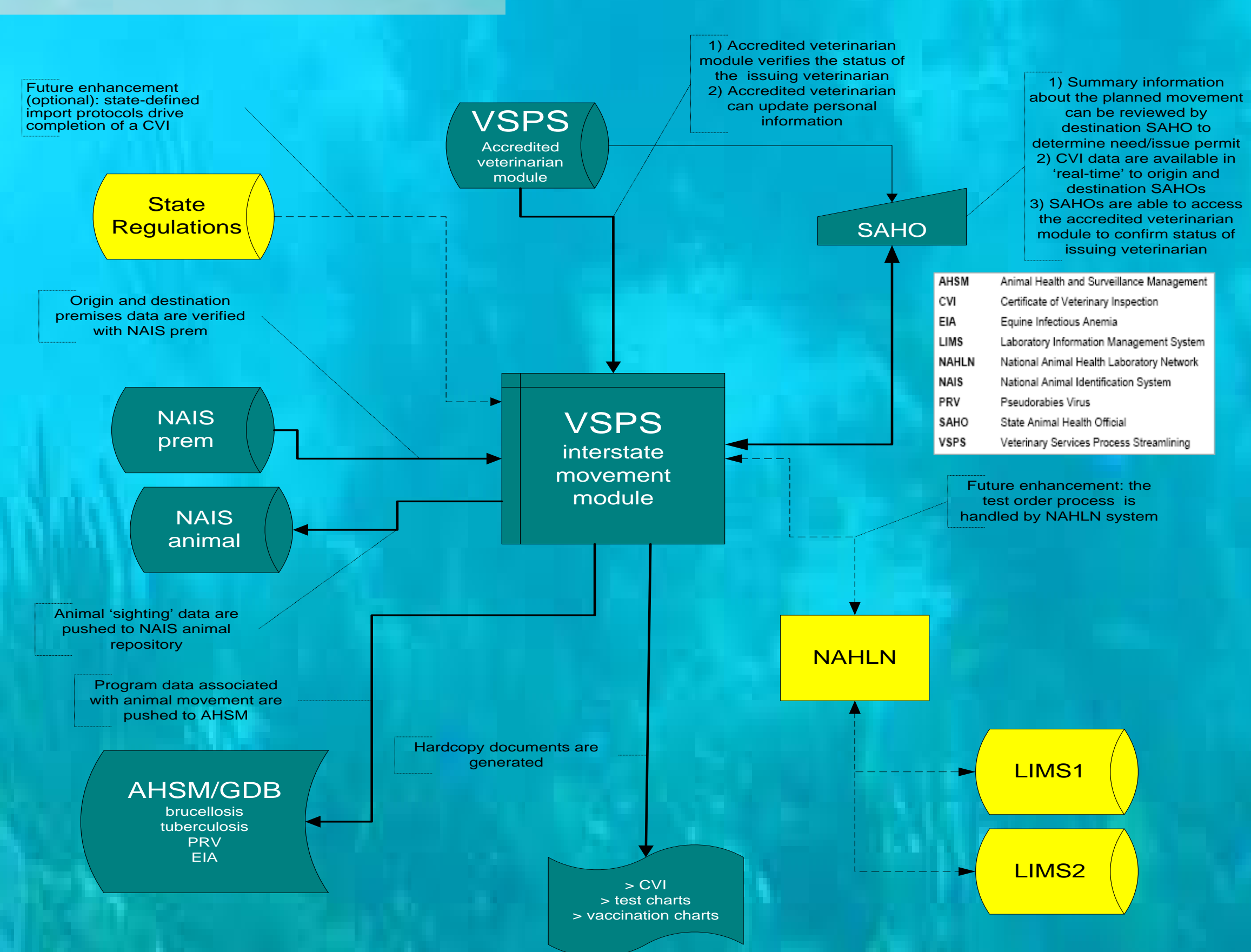



Figure 4. e-CVI incorporation into "e-Government Initiatives". Schematic illustration of how systems may work to incorporate e-CVI.



**Acknowledgements**  
The authors thank many individual from several organization that have contributed to the development of concepts outlined here including: American Veterinary Medical Association; California Department of Fish and Game, University of Florida, Florida Tropical Aquaculture Laboratory, and Florida Department of Agriculture and Consumer Services; GlobalVetLink, L.C.; Maine Departments of Agriculture and Inland Fisheries and Wildlife; National Association of State Aquaculture Coordinators; Wisconsin Department of Agriculture, Trade & Consumer Protection; USDA, Center for Epidemiology and Animal Health.

- References**
1. Cameron, A. (2002). Survey Toolbox for Aquatic Animal Diseases. A Practical Manual and Software Package. ACIAR Monograph No. 94, 375p. Australian Centre for International Research, Canberra.
  2. Cummings, D. (2005). VSPPS Interstate Module: e-CVI Setting the Gold Standard. Presentation, U.S. Animal Health Association Annual Meeting, Greensboro, SC, USA, October 21-27.
  3. OIE (2006 a). Aquatic Animal Code – Certification Procedures, Electronic Certification (Chpt. 1.3.2, Article 1.3.2.4). World Organization for Animal Health (OIE), Paris.
  4. OIE (2006 b). Manual of Diagnostic Tests for Aquatic Animals – Requirements for Surveillance for International Recognition of Freedom from Infection (Chpt. 1.1.4). World Organization for Animal Health (OIE), Paris.
  5. Scarfe, A.D. (2004). Electronic Certificates of Veterinary Inspection (e-CVI) – A Model Health Assurance Program for U.S. Aquaculture Industries. Proceedings of the International Association for Aquatic Animal Medicine, Galveston, Texas, April 4-8.
  6. TRACES, CENTAUR, ANIMO and are currently being examined in response to several EU Council Directives (e.g. 89/662/EEC, 90/425/EEC, 91/496/EEC, 97/78/EC, and others). Accessible at <http://europa.eu.int/eur-lex/>

