

## **Wild Sampling in Support of the National Aquatic Animal Health Program (NAAHP): Proposed Department of Fisheries and Oceans Activities for 2007-08**

### Introduction

The National Aquatic Animal Health Program (NAAHP) is a program administered and co-delivered by two departments: the Canadian Food Inspection Agency (CFIA) and the Department of Fisheries and Oceans (DFO). The Aquatic Animal Health Division (AAHD) of the CFIA is responsible for survey design, review, analysis of the data and reporting to stakeholders. Fisheries and Oceans Canada (DFO) is responsible for assisting with the collection of wild finfish and shellfish samples, laboratory testing to international standards (OIE and ISO 17025), and reporting of results and collected epidemiological information to AAHD.

With the on-going challenges of simultaneously developing and delivering the NAAHP, various constraints become apparent, including sampling capacity, laboratory capacity, and consultation with provincial authorities in geographic areas where specific diseases are not thought to be present. Recognizing these constraints, opportunities for collaboration continue to present themselves. The opportunity for wild aquatic animal sample collection as a research initiative in support of the NAAHP is one such example.

The following outlines AAHD's proposed plan for surveillance of wild populations for 4 priority diseases for NAAHP: VHSV, ISAV, IHNV and MSX, from summer 2007 to spring 2008 inclusive, and is submitted to DFO's Ecosystem Science Directorate for review and resourcing analysis. It is recognised that the late submission of this outline may impact early summer surveillance or placement of field technicians for optimal collections. The design is intended to be flexible to address constraints due to biological windows; e.g., VHSV surveillance has to be limited to water temperatures < 18°C hence sampling for this disease will not be expected before fall 2007.

In addition, AAHD is expecting that many samples will be stored for future analysis, recognising the current logistic constraints on DFO's National Aquatic Animal Health Laboratory System (NAAHLS) due to ongoing renovations and implementation of ISO 17025 accreditation. The storage techniques used for delayed analysis should be consistent with those applied by the NAAHLS reference laboratories for VHSV, ISAV, IHNV and MSX.

Lastly, use of specific DFO resources and activities (sampling enhancement facilities; wild fishery assessment activities; research missions; habitat research; etc.) best suited to access the samples required are left to the discretion of DFO Science. However, the samples collected must meet the goals and objectives of the surveillance and research designs.

## Proposed Diseases Surveillance Activities by DFO Region

The following statement of work assumes that (1) field coordination for the proposed work will be housed within DFO and (2) samples for MSX and ISA PCR test validation studies have been completed.

### *Newfoundland and Labrador*

MSX – 170 each of wild shellfish populations (oysters, mussels, scallops) to be screened by PCR (estimated total = 510). Any suspect positives to be shipped for confirmatory testing by the NAAHLS Reference Laboratory for MSX at the Gulf Fisheries Centre (Attention: Anne-Margaret MacKinnon).

### *Gulf/Maritimes*

ISAV – 170 wild fish to be collected from the Bay of Fundy during late summer/fall 2007 (estimated total = 170 fish); and tested using the procedures used by the ISA Technical Committee (DFO and NBDFAFA). Any suspect positives to be sent to the NAAHLS Reference Laboratory for ISA at the Gulf Fisheries Centre (Attention: Anne-Margaret MacKinnon). The needed wild species are to be defined by the AAHD.

MSX – 170 of wild shellfish populations (comprised of oysters, mussels, scallops) from each of NB, NS (buffer area and outside buffer area) and PEI to be screened by PCR (total = 2040). Any suspect positives to be shipped for confirmatory testing by the NAAHLS Reference Laboratory for MSX at the Gulf Fisheries Centre (Attention: Anne-Margaret MacKinnon). This effort must be coordinated with the current sampling effort for MSX planned by Mary Stephenson, Shellfish Health, Gulf Fisheries Centre.

### *Québec*

VHSV – 170 wild fish (freshwater and marine) from sites to be determined by AAHD in conjunction with the Ministère des Ressources Naturelles et de la Faune (MRNF) in the late summer/fall 2007 and spring 2008 (estimated total = 1020 fish). Sites will be located in the Atlantic Ocean watershed. Sampling protocols are already established for VHSV surveillance. Resources should be made available to support collection and testing of samples for VHSV during disease outbreak investigations. Any suspect positives to be shipped for confirmatory testing by the NAAHLS Reference Laboratory for VHSV at the Pacific Biological Station (Attention: Dr. Kyle Garver).

### *Ontario*

VHSV – 170 wild freshwater fish from sites to be determined by AAHD in conjunction with the Ontario Ministry of Natural Resources (OMNR), in the late summer/fall 2007 and in spring 2008. Sites will be in the Atlantic Ocean watershed (estimated total = 2550 fish). Sampling protocols are already established for VHSV surveillance. Any suspect positives to be shipped for confirmatory testing by the NAAHLS Reference Laboratory

for VHSV at the Pacific Biological Station (Attention: Dr. Kyle Garver). Resources should also be made available for support collection and testing of samples for VHSV from disease outbreak investigations.

*Alberta, Saskatchewan and Manitoba*

VHS – 170 wild freshwater fish from sites to be determined by AAHD, in conjunction with the appropriate provincial authorities in Alberta, Saskatchewan and Manitoba, in the late summer/fall 2007 and in spring 2008. Species and sites to be considered include whitefish in Northern Alberta, and fish from the Gulf of Mexico watershed (southern Alberta and Saskatchewan – Milk River, Battle Creek, Frenchman River, etc with headwaters to the Missouri River) and Lake Winnipeg (estimated total = 680 fish). Sampling protocols are already established for VHSV surveillance. Any suspect positives to be shipped for confirmatory testing by the NAAHLS Reference Laboratory for VHS at the Pacific Biological Station (Attention: Dr. Kyle Garver).

*Pacific*

IHNV - samples from 3 populations for PCR test validation (estimated total = 500 fish). Populations to be identified by PBS and AAHD.

MSX – wild population collection of oysters and clams in support of the CFIA British Columbia Shellfish Program (estimated total = 1000 shellfish). Sampling protocols are already established for sampling of shellfish in BC to support disease freedom. Samples are to be sent to PBS-DFO (Attention: Dr. Susan Bower).

Additional area of investigation

Establish sample storage techniques for isolation of VHSV. Study design is to be established by the national reference lab for VHSV (estimated total = 500 fish).

Table 1. Summary of samples requested per region. These figures are estimates and are subject to change as surveillance and research methods are finalized.

<b>Region</b>	<b>Finfish</b>	<b>Shellfish</b>
NL	0	510
G/M	170	2040
QC	1020	0
ON	2550	0
AB/SK/MB	680	0
PAC	1000	1000
Total	<b>5420</b>	<b>3550</b>

### **Field Collection Crews**

For specimen necropsy in the field, DFO field crews will need training from DFO experts or CFIA NAAHP Area Veterinarians (Victoria Pedersen [Atlantic]; Andrea Osborn [Pacific and Prairies] and Pascale Nerette [Québec & ON]).

### **Documents**

The CFIA's AAHD will provide DFO with their field sampling protocols and disease investigation documents, in order to ensure consistency with NAAHP surveillance design.