

OIE Reference Laboratory Reports Activities

Activities in 2020

This report has been submitted : 2021-01-30 00:13:23

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|--|--|
| Name of disease (or topic) for which you are a designated OIE Reference Laboratory: | Infectious haematopoietic necrosis |
| Address of laboratory: | Pacific Biological Station - Aquatic Animal Health Laboratory (PBS-AAHL) Fisheries & Oceans Canada 3190 Hammond Bay Road Nanaimo V9T 6N7 British Columbia CANADA |
| Tel.: | +1-250 756 73 40 |
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| E-mail address: | Kyle.Garver@dfo-mpo.gc.ca |
| Website: | https://profil-profiles.science.gc.ca/en/profile/kyle-garver |
| Name (including Title) of Head of Laboratory (Responsible Official): | Carmel Lowe, PhD Regional Director of Science |
| Name (including Title and Position) of OIE Reference Expert: | Kyle Garver, PhD Research Scientist |
| Which of the following defines your laboratory? Check all that apply: | Governmental |

ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

| Diagnostic Test | Indicated in OIE Manual (Yes/No) | Total number of test performed last year | |
|---------------------------|----------------------------------|--|-----------------|
| | | Nationally | Internationally |
| Indirect diagnostic tests | | Nationally | Internationally |
| - | - | - | - |
| Direct diagnostic tests | | Nationally | Internationally |
| RT-qPCR | Yes | 873 | |
| RT-PCR | Yes | 11 | |
| Virus Isolation | Yes | 10 | |

**ToR 2: To develop reference material in accordance with OIE requirements, and implement and promote the application of OIE Standards.
To store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens or disease.**

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by the OIE?

No

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

Yes

| Type of reagent available | Related diagnostic test | Produced/ provide | Amount supplied nationally (ml, mg) | Amount supplied internationally (ml, mg) | No. of recipient OIE Member Countries | Region of recipients |
|---|-------------------------------|-------------------|-------------------------------------|--|---------------------------------------|---|
| Extraction controls - Tissue homogenate spiked with artificial RNA transcript containing primer and probe binding sites | RT-qPCR (Purcell et al. 2013) | Produced | 15 aliquots (1.1g) | 0 | 1 | <input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East |

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No

ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?

No

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific and technical advice on disease control measures to OIE Member Countries

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?

No

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

Yes

| Name of the OIE Member Country receiving a technical consultancy | Purpose | How the advice was provided |
|--|-------------------------------------|-----------------------------|
| CANADA | Information concerning IHNV tropism | email communication |

ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?

Yes

| Title of the study | Duration | Purpose of the study | Partners (Institutions) | OIE Member Countries involved other than your country |
|-------------------------------|-----------|--|-----------------------------------|---|
| IHNV in Western North America | 2018-2025 | Characterize IHNV variants within Western North American waterways | Western Fisheries Research Center | UNITED STATES OF AMERICA |

ToR 6: To collect, process, analyse, publish and disseminate epizootiological data relevant to the designated pathogens or diseases

11. Did your Laboratory collect epizootiological data relevant to international disease control?

Yes

| If the answer is yes, please provide details of the data collected: |
|--|
| Surveillance of wild and farmed salmon stocks for prevalence of IHNV |

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

Yes

| If the answer is yes, please provide details of the data collected: |
|---|
| Nucleic acid detection of IHNV in wild and farmed salmon stocks of Canada |

**13. What method of dissemination of information is most often used by your laboratory?
(Indicate in the appropriate box the number by category)**

a) Articles published in peer-reviewed journals: 1

Laurin E, Bradshaw J, Hawley L, Gardner IA, Garver KA, Johnson SC, Thakur KK. (2020) Importance of sample size for estimating prevalence: A case example of infectious hematopoietic necrosis viral RNA detection in mixed-stock Fraser River Sockeye salmon (*Oncorhynchus nerka*), British Columbia, Canada. Canadian Journal of Fisheries and Aquatic Sciences • 19 December 2020 • <https://doi.org/10.1139/cjfas-2020-0279>

b) International conferences: 0

c) National conferences: 0

d) Other:

(Provide website address or link to appropriate information) 0

**ToR 7: To provide scientific and technical training for personnel from OIE Member Countries
To recommend the prescribed and alternative tests or vaccines as OIE Standards**

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

No

ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned

15. Does your laboratory have a Quality Management System?

Yes

| Quality management system adopted | Certificate scan (PDF, JPG, PNG format) |
|-----------------------------------|---|
| ISO/IEC 17025:2017 | 2019 ISO 17025 Certificate-resize.jpg |

16. Is your quality management system accredited?

Yes

| Test for which your laboratory is accredited | Accreditation body |
|--|-----------------------------|
| Reverse Transcription Quantitative PCR for Detection of Viral Hemorrhagic Septicemia Virus (VHSV) | Standards Council of Canada |
| Isolation of Viral Agents (IPNV, IHNV, EHN, SVCV, ISAV, SAV, & VHSV) from Finfish by Cell Culture | Standards Council of Canada |
| Reverse Transcription Quantitative PCR for Detection of Infectious Hematopoietic Necrosis Virus (IHNV) | Standards Council of Canada |
| Reverse transcription quantitative PCR assay for detection of infectious pancreatic necrosis virus (IPNV) | Standards Council of Canada |
| RT-qPCR Test Method Protocol using TaqMan Universal PCR Master Mix for the Detection of Infectious Salmon Anemia Virus | Standards Council of Canada |
| | |
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| | |
| | |
| | |
| Histological Detection and Identification of Bivalve Mollusc Pathogens | Standards Council of Canada |

17. Does your laboratory maintain a “biorisk management system” for the pathogen and the disease concerned?

Yes

(See Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 1.1.4)

ToR 9: To organise and participate in scientific meetings on behalf of the OIE

18. Did your laboratory organise scientific meetings on behalf of the OIE?

No

19. Did your laboratory participate in scientific meetings on behalf of the OIE?

No

ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results

20. Did your laboratory exchange information with other OIE Reference Laboratories designated for the same

pathogen or disease?

Yes

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?

No

22. Did your laboratory collaborate with other OIE Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

No

ToR 11: To organise inter-laboratory proficiency testing with laboratories other than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than OIE Reference Laboratories for the same disease?

Yes

Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at: <http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing> see point 1.3

| Purpose for inter-laboratory test comparisons ¹ | No. participating laboratories | Region(s) of participating OIE Member Countries |
|---|--------------------------------|--|
| Checking and certifying the performance of individual operators | 2 | <input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East |
| Assess competency for diagnosis of fish diseases including IHN (Participate in the inter-laboratory PT from EU Reference Laboratory for fish & crustacean diseases) | 45 | <input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input checked="" type="checkbox"/> Middle East |

ToR 12: To place expert consultants at the disposal of the OIE

24. Did your laboratory place expert consultants at the disposal of the OIE?

Yes

| Kind of consultancy | Location | Subject (facultative) |
|---|----------|---|
| responding to specific technical queries from OIE | Remote | IHNV Chapter in the OIE Manual of Diagnostic Tests for Aquatic Animals |
| responding to specific technical queries from OIE | Remote | Chapter 2.3.0 "General Intro" in the Manual of Diagnostic Tests for Aquatic Animals |

25. Additional comments regarding your report: