OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-10 01:26:17

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
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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	
Indirect diagnostic tests		Nationally	Internationally
NA	NA	NA	NA
Direct diagnostic tests		Nationally	Internationally
RT-qPCR	Yes	1174	NA
Cell Culture	Yes	538	NA

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 - kidney homogenate spiked with artificial RNA transcript containing primer/probe binding sites	IHNV RT-qPCR (Purcell et al. 2013)	Produced	20 aliquots (1.5g)	0	1	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
RT controls - Artificial RNA transcript containing primer/probe binding sites	IHNV RT-qPCR (Purcell et al. 2013)	Produced	25 aliquots (300uL)	0	1	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
qPCR controls - cDNA generate from artificial RNA transcript containing primer/probe binding sites	IHNV RT-qPCR (Purcell et al. 2013)	Produced	160 aliquots (2mL)	0	1	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐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
PERU	Advice on appropriate diagnostic tests	email communication
INDIA	Advice on appropriate diagnostic tests	email communication
NORWAY	Information on pathogenicity and host susceptibilities	In person and email communication
BRAZIL	Advice on appropriate diagnostic tests	email communication
VIETNAM	Advice on appropriate diagnostic tests	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 salmon stocks for presence 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:
Surveillance of wild salmon stocks for presence of IHNV

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: 2
Papers:
1. Polinski MP, Bradshaw JC, Rise ML, Johnson SC, Garver KA. (2019) Sockeye salmon demonstrate robust yet distinct transcriptomic kidney responses to rhabdovirus (IHNV) exposure and infection. Fish Shellfish Immunol. 2019 Nov;94:525-538. doi: 10.1016/j.fsi.2019.09.042. Epub 2019 Sep 17.
2. Long, A., Garver, K.A., Jones, S.R.M (2019) Synergistic osmoregulatory dysfunction during salmon lice (Lepeophtheirus salmonis) and infectious hematopoietic necrosis virus co-infection in sockeye salmon (Oncorhynchus nerka) smolts. Journal of Fish Diseases 10.1111/jfd.12989

b) International conferences: 1
Zhange, Y., Polinski, M.P., Morrison, P.R., Brauner, C.J., Farrell, A.P., Garver, K.A. (2019) Assessing the impact of viral infections on salmonids using respiratory performance. International Symposium of Comparative Physiology and Biochemistry. August 5-9, 2019 Ottawa Canada

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

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
Certifying the performance of individual operators	2	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
Assess competency for diagnosis of fish disease including IHN (Paticipate to inter-laboratory PT test from EURL fish)	45	☐Africa ☒Americas ☒Asia and Pacific ☒Europe ☒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)
Revision of IHNV Chapter in the OIE Manual of Diagnostic Tests For Aquatic Animals	Remote	Update chapter to conform to new template/format of Manual Chapters.

25. Additional comments regarding your report: