World Organisation for Animal Health

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WOAH Reference Laboratory Reports Activities 2025

This report has been submitted: 17 février 2026 17:00

LABORATORY INFORMATION

***Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:**	White spot syndrome
***Address of laboratory:**	Chinese Academy of Fishery Sciences 106 Nanjing Road, Qingdao Shandong 266071
***Tel:**	+86 532 858 230 62 ext 812
***E-mail address:**	zhangql@ysfri.ac.cn
Website:	
***Name (including Title) of Head of Laboratory (Responsible Official):**	Dr Qingli Zhang
***Name (including Title and Position) of WOAH Reference Expert:**	Dr Qingli Zhang
***Which of the following defines your laboratory? Check all that apply:**	Governmental Research agency Academic institution

TOR1: DIAGNOSTIC METHODS

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 WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
PCR	Yes	35	0
Direct diagnostic tests		Nationally	Internationally
Real-time PCR	Yes	428	0
LAMP	Yes	326	303
Histopathology	Yes	24	0

TOR2: REFERENCE MATERIAL

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

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOAH Members?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOAH Member Countries	Country of recipients
RT-qPCR	WSSV qPCR	300/67	62 kits	5 kits	1	MALAYSIA,

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOAH Members?

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
WSSV TAQman real-time PCR detect kit	Jointly developed a qPCR detection kit for WSSV with Qingdao Li Jian Biotechnology Co., Ltd.

7. Did your laboratory validate diagnostic methods according to WOAH Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

9. Did your laboratory validate vaccines according to WOAH Standards for the designated pathogen or disease?

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOAH Members?

No

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOAH Member?

Yes

Name of the WOAH Member Country receiving a technical consultancy	Purpose	How the advice was provided
AUSTRALIA CHILE SINGAPORE THAILAND UGANDA UNITED KINGDOM VIETNAM ZAMBIA	Define the farm-level EWS scope and functions for aquatic animal health (AAH), prioritizing WSS in shrimp and streptococcosis in tilapia as initial use cases. Form a multi-stakeholder Technical Working Group (TWG) spanning competent authorities, research institutes, industry and international organizations (e.g. WOAH, WorldFish, AU-IBAR, NACA) to steer development, piloting and uptake. Outline resourcing and collaboration mechanisms for sustained development, capacity building and country adoption.	Workshop on the Development of a Farm-Level Early Warning System (EWS) for Aquatic Animal Diseases 3-5 November 2025 Qingdao, China

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOAH Members other than the own?

No

13. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?

Yes

Research need : 1

Please type the Research need: Epidemiology and Surveillance

Relevance for WOAH Disease Control, Capacity Building, Standard Setting,

Relevance for the Code or Manual Code, Manual,

Field Epidemiology and Surveillance,

Animal Category Aquatic,

Disease:

Kind of disease (Zoonosis, Transboundary diseases) Transboundary diseases,

If any, please specify relevance for Codes or Manual, chapter and title

(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

Answer:

Notes:

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

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

Yes

If the answer is yes, please provide details of the data collected:
The major surveillance target species were shrimp in China. In total, WSSV was detected of samples with an average (within batch) positive rate of 42.3%.

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:
We submitted the data to Bureau of Fisheries, Ministry of Agriculture and Rural Affairs, P.R. China.

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

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1. Xu T, Zhao X, Loch T, Zhu J, Wang W, Wang X, Wang C, Fan G, Hao B, Zhang J, Zhao W. RNA virus diversity highlights the potential biosecurity threat posed by Antarctic krill. Marine Life Science & Technology. 2025 Feb;7(1):96-109.

2. Yao L, Jia Y, Xia J, Xu R, Bai C, Xu T, Zhang Q. Covert mortality nodavirus identified as a new causative agent in bivalves. Aquaculture. 2025 Nov 7:743405.

3. Zhang Y, Tan P, Liang X, Zhang Q, Yang M. Vibrio plasmids harboring vhv gene associated with shrimp translucent post-larvae disease: Coexistence of two types of T4SS and multiple transposons. Journal of Invertebrate Pathology. 2025 Jul 1;211:108324.

b) International conferences:

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1. Zhang Qingli, "Breeding Penaeus chinensis and Control of New Diseases", Southeast Asian Fisheries Cooperation Conference, China, Fuzhou, June 13, 2025

2. Qingli ZHANG, Review of existing EWS, Workshop on the Development of a Farm-Level Early Warning System (EWS) for Aquatic Animal Diseases, 3-5 November 2025 / Qingdao, China

3. Qingli ZHANG, Scene-setting: Outcomes from Qingdao & draft EWS roadmap (overview), Validation Workshop on the Technical Roadmap for the Early Warning System (EWS) for Aquatic Diseases, 9-11 December 2025 / FAO Headquarters, Rome

c) National conferences:

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1.Zhang Qingli. Epidemiology and Disease Control of Marine Shrimp. The Disease Discipline Conference of China Fisheries Research Institute, Beijing, April 27-28, 2025.

2. Zhang Qingli. The basic condition, prevention and control plan of the shrimp disease epidemic in 2025. 2025 annual meeting of the Shrimp Industrial Aquaculture Science and Technology Innovation Alliance. October 16-17, 2025; Rizhao, Shandong, China.

3. Qingli ZHANG,An overview of the biological and ecological security risks of marine viruses, The 6th International Conference on Veterinary Testing and Diagnosis. 9-11 September 2025 Nanjing, China

d) Other (Provide website address or link to appropriate information):

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1. Zhang Qingli, Liu Shuang, Yang Bing, Feng Dongyue, Wan Xiaoyuan, Zhang Xiang, Xu Tingting, Yu Xingtong, Wang Wei, Xie Guoshi. Diagnostic method for glass-matting vibrio disease in prawns. SC/T 7243-2025. Date of release: January 9, 2025

2. Dong Xuan, Pan Xiaoyi, Wang Guohao, Huang Ju, Zhang Qingli, Qiu Liang, Huang Xiao, Lin Lingyun, Shen Jinyu, Yang Guoliang. Diagnostic method for infectious precocious puberty virus in shrimp. SC/T 7244-2025. Date of release: January 9, 2025

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAH Members?

Yes

a) Technical visit : 1

b) Seminars : 1

c) Hands-on training courses: 0

d) Internships (>1 month) 0

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
A	ZAMBIA	40
B	ZAMBIA	40

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025	PDF	4. CNAS认可证书(中英文)(有效期:2024-03-05至2030-03-04).pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
White spot virus: Diagnostic protocols for white spot disease Part2: Nested PCR method GB/T 28630.2-2012; Manual of Diagnostic Tests for Aquatic Animals (WOAH , 2025) Chapter 2.2.9 White spot disease	China National Accreditation Service for Conformity Assessment, CNAS

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

Yes

P2 laboratory certification and laboratory related management system

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOAH?

Yes

National/ International	Title of event	Co-organiser	Date	location	No. Participants
International	Workshop on the Development of a Farm-Level Early Warning System (EWS) for Aquatic Animal Diseases	FAO, WOAH and China	2025-11-02	Qingdao, China	40

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAH?

No

TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOAH Reference Laboratories designated for the same pathogen or disease?

Yes

24. Are you a member of a network of WOAH Reference Laboratories designated for the same pathogen?

No

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen during the past 2 years?

No

None

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

No

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAH Reference Laboratories for the same pathogen during the past 2 years?

Yes

Purpose for inter-laboratory test comparisons1	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
To organize National Testing Programme for Aquatic Animal Disease Laboratories in Aquatic Animal Epidemic Prevention System	Organiser	197	WSSV qPCR	AUSTRALIA, AUSTRIA, THAILAND,