SHELLFISH HEALTH LABORATORY REPORT

August 19, 2022 **Pacific oyster broodstock** **AQ22-78**
Histology (n=60) & PCR - OsHV-1 (n=60)

Business address:
Molluscan Broodstock Program
Hatfield Marine Science Center
2030 SE Marine Science Dr.
Newport, Oregon 97365

Specimen description:
Sample collection date: August 1, 2022
Species/stage examined: ***Crassostrea gigas*****, Pacific oyster broodstock stock**

HISTORY and examination: Molluscan Brood Stock Program (MBP) Pacific oyster broodstock held at Hatfield Marine Science Center, Newport, Oregon. Maximum shell dimension 50 to 125 mm. Histological examination performed on 60+ shellfish. Presumed 95% confidence of 5% detection level. PCR examination as described below.

RESULTS-histology: No significant known or certifiable infectious diseases of shellfish were found using histological methods. No histological evidence of the following diseases was observed:

- *Bonamia spp.*
- *Haplosporidium spp.* plasmodia or spores
- *Perkinsus spp.* including *P. marinus and P. atlanticus*
- *Marteilia spp.*
- *Marteilioides chungmuensis*
- *Mikrocytos mackini*
- Intracytoplasmic inclusion bodies and lesions consistent with bivalve iridovirus infections including hemocyte viruses (HIVD), gill viruses (GNVD) or OVVD

Note: Histological analysis may detect active cases of oyster herpes virus (OsHV-1 or variants) in larval stage Pacific oysters only, but will not detect sub-clinical infections or any infections in juveniles or adults of any species. Histological examination can detect moderate to heavy infections of *Bonamia* spp. but is not a recommended sensitive method for light infections or complete exclusion of *Bonamia* spp. in larvae, seed or adults.

One oyster of 60 (1.7%) had heavy diffuse hemocytosis in the interstitial connective tissue of the digestive gland and adjacent connective tissue. Digestive gland tubules appeared to be reduced in diameter with flattened epithelium. No definitive infectious agent was identified, but the condition is consistent with opportunistic fungal infections seen occasionally in Pacific oysters.

Five of 60 oysters (8.3%) had mild to heavy infestations of *Ancistrocoma* spp. ciliates in the digestive gland. These are observed in Pacific oysters occasionally from locations on the west coast of N. America and are not considered pathogenic.

No other indications of known infectious disease agents were observed.

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Evaluation of samples by polymerase chain reaction (PCR) technique for the presence of ostreid herpes virus (OsHV) DNA: Herpes virus qPCR was conducted using the procedures cited in the OIE Manual, Chapter 2.4.5, Infection with Ostreid herpesvirus 1 microvariants using a probe-based assay as described initially by Martenot et al. (2010) (www.oie.int/index.php?id=2439&L=0&htmfile=chapitre_ostreid_herpesvirus_1.htm). Sample pools were digested and extracted using the Qiagen DNeasy kit following manufacturer recommendations. We have determined that this test detects OsHV-1 microvariant strains as well as the Tomales Bay, California strain.

RESULTS – PCR:

Test name & protocol used	Number of individuals tested	Sample consolidation, if any	Number of positive results	Number of negative results
qPCR test for oyster herpes virus, OsHV-1, and OsHV-1 microvariant. AQ51-qPCR-Ostreid Herpesvirus 1 v01-2020	60	15 pools of 4	0	15

Individual responsible for examination:

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Certification No. 5
Fish Health Section
American Fisheries Society

Ralph Elston, PhD
August 19, 2022

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