Photo: Colleen Burge

WASHINGTON STATE RECREATION AND CONSERVATION OFFICE
Washington Invasive Species Council

Infectious Shellfish Diseases

Pacific oyster dead from OsHV-1 infection. Photo: Colleen Burge

Washington Department of Fish and Wildlife (WDFW) staff inspecting an oyster farm. Photo: WDFW

What Are They?

Just like humans, shellfish can be infected with bacteria or viruses that cause disease. When these diseases spread, they may cause significant ecological and economic harm. One group of concerning viruses for Washington shellfish are those belonging to the ostreid herpes viruses (OsHV-1), including the California variant and the related OsHV-1 microvariant.

OsHV-1 is present in three California bays, where it annually kills many of juvenile Pacific oysters and is responsible for significant losses to the local shellfish industry. Disease linked to the California strain of the virus has been called Seed Oyster Mortality Syndrome (SOMS). The disease linked to the Australian and New Zealand strain is referred to as Pacific Oyster Mortality Syndrome (POMS). Variants of this virus also occur in shellfish in Asia, Europe, and Mexico.

The more harmful OsHV-1 microvariant has severely damaged Pacific oyster beds and production in Australia, France, New Zealand, the United Kingdom, and several other European countries.

OsHV-1 microvariant-related deaths can approach 100 percent and can affect both young and adult oysters.

OsHV-1 and its microvariants are a serious threat to Washington's oysters and other bivalves but do not affect vertebrate animals and humans.

Are They Here Yet?

No. The original strain of OsHV-1 has been kept isolated to a narrow area in California for nearly two decades. Regulatory actions in California and

other West Coast states, including Washington, along with shellfish industry best practices, have limited its spread to date.

The microvariant, first reported in Europe in 2008 and more recently POMS in Australia and New Zealand, has spread rapidly and in some cases appears to have replaced OsHV-1 as the dominant and more virulent strain. Washington regulators, shellfish growers, and other are working to prevent the introduction of either OsHV-1 microvariant.

Why Should I Care?

The OsHV-1 microvariant and POMS have badly damaged shellfish industries in other countries, and OsHV-1 has had impacts in California. There is potential for spread and damaging consequences in new locations. Washington is home to the nation's largest shellfish aquaculture industry. Recreational shellfishing, enjoyed by more than two hundred thousand Washingtonians, is a significant part of the state's outdoor way of life. Treaty Tribes also depend on shellfish for important economic and sociocultural resources. In addition, shellfish serve important roles in the marine environment from providing habitat and food to contributing to water quality.

The introduction or spread of shellfish diseases could have substantial ecological, economic, and cultural impacts.

How Can We Stop Them?

When Harvesting

When harvesting oysters recreationally, remember to shuck oysters on the beach and leave the shells at the tide height where they were harvested. It's the law and this practice prevents the accidental transfer of invasive species between beaches.

Discarding Shells

Shells from a shellfish harvest or from seafood bought at a market should be thrown in the garbage, not on the beach or in the water, to prevent the spread of micro-invaders that kill shellfish.

Storing Live Seafood

The best option is to store live seafood in the refrigerator or in a cooler or bucket with seawater. Use an aerator and storage bags filled with ice to keep the seawater cold and the seafood at a safe

temperature. When done, dump the seawater in the yard so it does not go back into the marine environment. Storing shellfish in state waters may be allowed with a permit from the Washington Department of Fish and Wildlife.

Never release live or dead seafood, such as lobsters, crabs, or other shellfish, into Washington waters for any reason. While well-intentioned, this activity can introduce species or their associated micro-invaders to new environments all over the world.

Never bring prohibited, live seafood products, such as Louisiana crawfish, to Washington. These animals can multiply and become invasive and may introduce harmful diseases.

What Should I Do If I Find Them?

Report immediately via the WA Invasives mobile app or reporting web form at https://invasivespecies.wa.gov/report-a-sighting/.