



MSX – Fact Sheet

What is MSX?

MSX (Multinucleated Sphere Unknown) is a disease caused by the organism *Haplosporidium nelsoni* and affects oysters.

Are there human health risks?

There are no known human health risks. Oysters are safe to eat.

What are the clinical signs associated with MSX?

MSX is usually detected from investigations due to unexplained die offs of oysters. Mortalities can reach 90-95% within 2-3 years of initial infection. Disease activity increases with high salinity and water temperature. Losses from the disease will occur throughout the summer, and peak in July-September.

Necropsy findings

Juvenile oysters may have pale digestive glands, appear emaciated, and can show no new shell growth. Raised yellow-brown protein deposits may be seen on internal valve surfaces. Mantle recession has been reported in heavy infections.

How is MSX transmitted?

Exact transmission methods are not known, but an intermediate host is suspected.

How is MSX diagnosed and treated?

H nelsoni can be diagnosed through a variety of laboratory methods including histology, histocytology, PCR, and DNA. A method of eradication or chemical treatment is not known at this time. Disease control measures are focused on preventing the spread of disease to other oysters by preventing the introduction of oysters or other carriers from a MSX endemic area.

For more information

MSX is a federally reportable disease under the *Health of Animals Act* and must be reported to the Canadian Food Inspection Agency ([Aquatic animal diseases - inspection.canada.ca](http://inspection.canada.ca))

See Fisheries and Oceans Canada: <http://www.dfo-mpo.gc.ca/science/aah-saa/diseases-maladies/hapneloy-eng.html>