VIRAL HEMORRHAGIC SEPTICEMIA

What is VHS?
Viral hemorrhagic septicaemia (VHS) is an extremely serious viral disease of fresh and saltwater fish. It has recently spread into the Great Lakes region of the United States and Canada. VHS virus has been found in Lakes Huron, St. Clair, Lake Erie, Lake Ontario, Lake Michigan, and the St. Lawrence River in New York. The virus also has infected several inland lakes in New York, Michigan, and Wisconsin. The disease can cause large-scale fish kills and have severe economic consequences.

What are the symptoms?
At a low level of infection, fish might not display any noticeable symptoms. As the infection intensifies, fish will display widespread hemorrhages (bleeding) throughout body surface (eye, skin and fins) and within the internal organs (swim bladder, intestine, kidney, etc.). Because of the bleeding, gills and liver might appear pale. Sick fish often will be listless, swim in circles, and frequently are observed at the surface of the water.

What happens at high levels of VHS infection?
• Sick fish will be listless and die within 24 to 72 hours. At a high level of infection, large-scale fish kills can occur.
• The natural movement of infected fish from one body of water to another.
• Stocking or releasing VHS-infected hatchery fish into other bodies of water.
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How does the disease spread between waters?
1. Movement of infected water and fish from ships, wells on fishing boats, and discharge of infected water and fish parts in containers before leaving the access site.
2. Moving infected water from one body of water to another.
3. Stocking or releasing VHS-infected fish or water from infected fish or water bodies.
4. The natural movement of infected fish from one body of water to another.

Prevention
• Keep live baitfish that are certified disease-free.
• Learn to identify the species of baitfish.
• Purchase and use only baitfish that are
• Susceptible to VHS and typically used as live bait include emerald shiners, bluntnose minnows, trout perch, gizzard shad, freshwater drum, and round gobies. • The following fish species are known to be susceptible to VHS and are • Maintained at www.michigan.gov/vhs.
• The most up-to-date information is • Fish Disease Control Order FO-245.
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What about other waters?
VHS has not been found in Michigan because it dies at human body temperatures.

Where has VHS been found in Michigan?
To date, we have found VHS in the following waters: Lake Huron including Lake St. Clair, the Detroit River, Lake Erie, Lake Ontario, Lake Michigan, and the St. Lawrence River in New York.

Will the virus affect humans?
Yes, the virus affects humans because it dies at human body temperatures. The virus is not a threat to humans.

Prohibited fish species
It is illegal to import baitfish into Michigan unless they have been certified disease-free.

The following fish species are known to be susceptible to VHS and are subject to the restrictions imposed by Fish Disease Control Order FO-245. The most up-to-date information is maintained at www.michigan.gov/vhs.

• Black Crappie
• Bluegill
• Bluntnose Minnow
• Brown Bullhead
• Brown Trout
• Burbot
• Channel Catfish
• Chinook Salmon
• Coho Salmon
• Emerald Shiner
• Freshwater Drum
• Gizzard Shad
• Lake Whitefish
• Largemouth Bass
• Muskie
• Northern Pike
• Pacific Herring
• Pink Salmon
• Pumkinedose
• Rainbow Trout
• Rock Bass
• Round Goby
• Shorthead Redhorse
• Silver Redhorse
• Smallmouth Bass
• Spottail Shiner
• Trout Perch
• Walleye
• White Bass
• White Perch
• White Sucker
• Yellow Perch

STOP AQUATIC HITCHHIKERS!
Prevent the transport of nuisance species.
Check all recreational equipment.

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