



# VHS management/prevention strategy in Ontario

December 10, 2007

Midwest Fish and Wildlife Conference  
VHS - Agency Roundtable

Elizabeth Wright  
Ontario Ministry of Natural Resources

# OMNR

- OMNR strategy is to slow the spread of VHS to our inland waterbodies
- Main actions have been to
  - limit live bait fish movement
  - promote best management practices
  - public education



# *VHS Monitoring and Surveillance*

Monitor die-offs potentially related to VHS via:

- assessment programs by field staff
- public 1-866-929-0994 to established 24 hour call centre

Investigate and collect fish for testing at University of Guelph Fish Health Lab



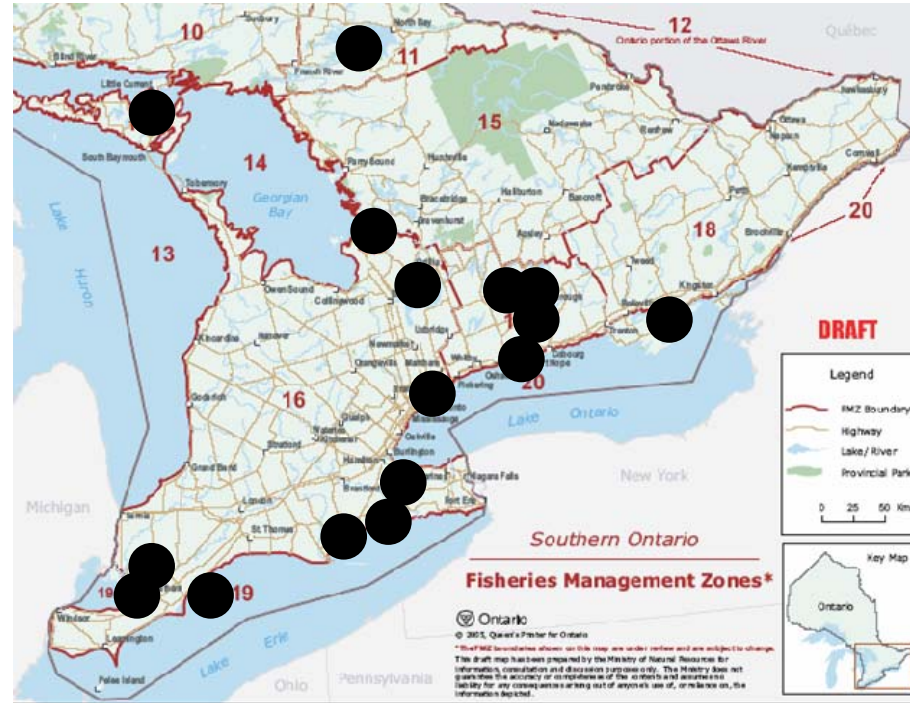
# *Mortalities*

Spring 2007

- Die-off in Hamilton Harbour, Lake Ontario
- Investigated by University of Guelph
- VHS confirmed in freshwater drum



# VHS Surveillance



- OMNR contributed to 2 programs in 2007
- Fish collected mainly in southern Ontario

# *VHS Surveillance - Federal*

- Federal Program led by Canadian Food Inspection Agency (CFIA)
- In partnership with Fisheries and Oceans Canada (DFO), Provincial Ministries in Quebec and Ontario
- 3 spring sites and 7 fall sites sampled in Ontario
- VHS not detected from spring samples
- Fall results expected in late December

# *VHS Surveillance - Provincial*

- OMNR Program funded by Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem
- In partnership with University of Guelph where fish were tested
- Collected fish from 6 spring sites and 6 fall sites



# *VHS Surveillance - Provincial Results*

- VHS was found in Thames River in spring
  - Detected in largemouth bass that showed no signs of disease
- Fall test results are expected in late December

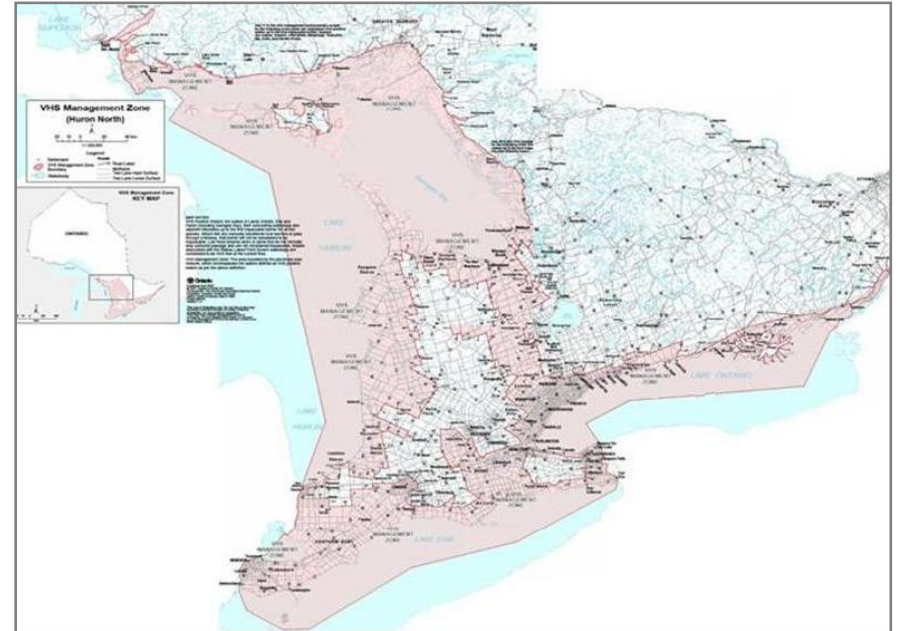


# *Actions Taken - Regulations*

- March 29/07 announced strategy to slow spread

- Legally defined VHS-positive waters

Lakes (Huron, St. Clair,  
Erie, Ontario)  
+ tributaries to first  
impassable barrier



- VHS Management Zone = VHS-positive waters bounded with road network
- Surveillance results will help identify zone

# *Regulations*

- Live bait fish harvested inside VHS Management Zone is not permitted to be transported out
  - Where risk of VHS spread is low, a risk assessment may enable some transport of bait (through zone)

Already have laws prohibiting

- anglers from dumping bait buckets
- import of live bait into Ontario

# *Restrictions*

- New scientific collection permits must address disposal of fish and water if collected inside Zone
- Existing fishways are permitted to operate, new activities subject to risk assessment
- Possible future conditions on aquaculture licences to address where fish originate/use of live feed



# *VHS Changes in Stocking Eggs from VHS-positive waters*

## Wild Spawn Collection - Salmon and Trout Species

- Eggs disinfected and reared outside Zone can be stocked anywhere
- All other collections must be reared inside Zone and stocked back into VHS-positive waters

# *VHS Changes in Stocking Eggs from VHS-positive waters*

## Wild Spawn Collection - *Non-salmonids*

- Eggs must be reared inside Zone and stocked back into VHS-positive waters
- A risk assessment and fish health testing on adults and progeny may enable progeny to be stocked outside Zone
- OMNR supplied walleye eggs collected outside Zone to some partner hatcheries inside Zone

# *VHS Changes in Field Operations*

- Recommended increased biosecurity for programs

## Provincial hatcheries

- Increased biosecurity
- Adopt new procedure for disinfecting salmonid eggs during water hardening stage
- Already monitor fish health
  - annual hatchery fish monitoring
  - adults during wild egg collections



# VHS Research

- Egg disinfection experiments conducted at hatcheries to determine walleye egg survival
- Iodine concentration used did not impact egg survival in trials



- Contribute hatchery-reared fish to VHS research projects at University of Guelph

# Public Information/Outreach

- 5 VHS Fact Sheets on the OMNR website
  - anglers, bait harvesters, fish farmers, aquarists, property owners

- Provide information on VHS
- Suggestions to slow the spread
- Phone number to report die-offs

- VHS section on OMNR website

**Fact Sheet**  
**Feuille de Renseignements**

Ministry of Natural Resources / Ministère des Richesses naturelles

Ontario

May 2007

**HELP PREVENT THE SPREAD OF FISH DISEASE**  
**Viral Hemorrhagic Septicemia (VHS)**

**What is VHS?**

- VHS is an infectious disease of fish.
- There are several strains of VHS that affect fresh and saltwater fish species.
- VHS disease outbreaks may happen at any time, but are most likely during the spring as temperatures fluctuate and fish are reproducing.
- The Great Lakes strain of the virus is new and appears to be affecting many species of fish including:

**Game fish**

- Walleye
- Yellow perch
- Muskellunge
- Smallmouth bass
- Rock bass
- Chinook salmon
- Black crappie
- White bass

**Bait fish**

- Emerald shiners
- Bluntnose minnows
- Spottail shiners

**Other species**

- Freshwater drum
- Round goby
- Gizzard shad


**Can VHS infect people?**

- No, the virus does not affect humans.
- Fish carrying the VHS virus are safe to eat and to handle.


**Where has VHS been found?**

- Lake Huron
- Lake Erie
- Detroit River
- St. Lawrence River
- Lake St. Clair
- Lake Ontario
- Niagara River

**What does a fish with VHS look like?**



*A fish can look healthy, showing no signs at all.*



*Or a fish can look sick, showing signs of disease.*

**Some fish show the following signs:**

- Pale gills and organs
- Bloating abdomens
- Bulging eyes
- Hemorrhages (bleeding) on body and organs
- Darker body colour

# *Public Information/Outreach*

- Bait bucket sticker developed with Ontario Federation of Anglers and Hunters >300,000 distributed to anglers



# *VHS Public Information/Outreach*

- Information presentations given at agency meetings, stakeholder meetings, conferences, etc
- OMNR hosted a VHS Workshop in February 2007
- Aquatic invasive species section in Ontario fishing regulations 2008 -2009 includes VHS

## WHAT YOU SHOULD KNOW ABOUT VHS

### Help Slow the Spread of VHS

Viral Hemorrhagic Septicemia (VHS) is an infectious disease of fish. VHS is not a threat to human health. Fish carrying the VHS virus are safe to eat and handle.

You can help slow the spread of this virus and other invasive species by following the laws outlined above (Laws to Help Stop the Spread of Invasive Species) and the guidelines on page 57 (Keep All Our Lakes Clear).

More information is available at: <http://www.mnr.gov.on.ca/MNR/fishing/VHS.html> or call: Natural Resources Information Centre 1-800-667-1940.

# Future Plans

- OMNR strategy is to slow the spread of VHS to our inland waterbodies
- Main actions have been to limit live bait fish movement and promote best management practices for other sectors
- Work continues on longer term strategy
- Efforts underway to share science and identify research gaps including:
  - Workshop proposal to discuss VHS research
  - Proposal to host VHS symposium at AFS Conference

