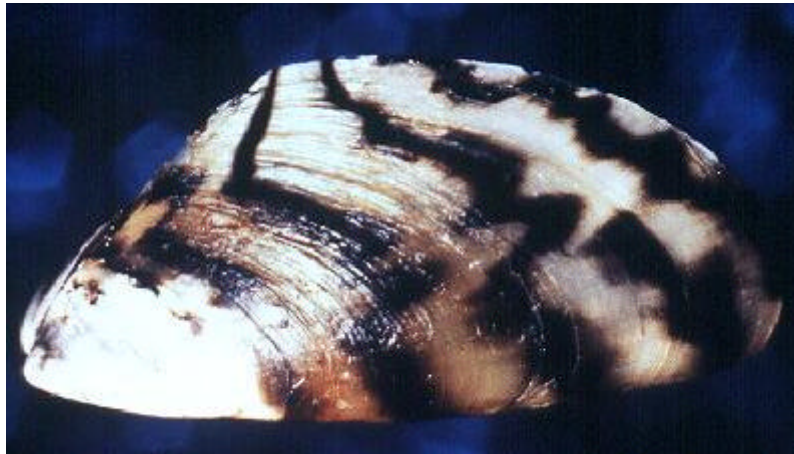


Hamilton County Zebra Mussel Sampling 1999



**Prepared by:
The Hamilton County Soil & Water Conservation District
PO Box 166
Lake Pleasant, NY 12108
(518) 548-3991
hcswcd@telenet.net**

**Funded by:
The Water Resources Board
of the
Finger Lakes - Lake Ontario Watershed Protection Alliance
(An Affiliate of the Finger Lake Association, Inc.)
309 Lake Street
Penn Yan, NY 14527
(315) 536-7488**

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INTRODUCTION

The Hamilton County Soil and Water Conservation District recently confirmed that there is no trace of the exotic Zebra Mussel in 20 sampled lakes in Hamilton County. The Zebra Mussel (*Dreissena polymorpha*) is a small (< 2 inches) bivalve mollusk marked typically with alternating black and white stripes.

HISTORY

The Zebra Mussel, native to the Black, Caspian, and Aral Seas is regarded as a rapidly spreading exotic species here in the United States. The Zebra Mussel first appeared in the U.S. in Lake St. Clair in the Great Lakes Basin in June 1988, and by 1991 the mussel was found in all five Great Lakes and their connecting waterways. By 1998 they had rapidly spread across much of the eastern United States and Canada.

The most visible impact of the zebra mussels is their tendency to stick to hard surfaces in flowing waters by means of tough elastic fibers (byssal threads). Once attached, zebra mussels reproduce and colonize extensively, even piling up layer upon layer on top of each other. A major impact of this colonizing is the fouling of raw water intakes at drinking water, electric power generation, and industrial facilities, resulting in lost pumping ability, clogged pipes, and obstructed valves. Zebra mussels are also capable of clogging the small intake pipes in private homes and cottages with their colonizing abilities. Zebra Mussels can attach themselves to boat hulls, which increases drag and fuel consumption, or they can clog the engine's cool water intake, leading to overheating and damage to the engine.

In addition to these socio-economic impacts, there are ecological concerns also associated with the Zebra Mussel. Phytoplankton and detritus are major food sources of the Zebra Mussel, and they are also important food sources in the aquatic food web. Presence of Zebra Mussels could cause a decline in these food sources, lowering zooplankton levels. This alteration in the natural food web may

eventually result in a fish population decline, particularly predatory sportfish such as trout, salmon, and bass. In addition, the Zebra Mussel may take away habitat from other animals, including native mussels.

METHODOLOGY

During the summer of 1999 the Hamilton County Soil and Water Conservation District completed a study to determine if there is a presence of zebra mussels in any of twenty selected lakes in Hamilton County. Water was concentrated and collected in a plankton net tow (from the deepest part of the lake), preserved, and sent to ACRES environmental laboratory in Amherst, NY. The sample was analyzed for veligers (the juvenile planktonic form of the zebra mussel).

RESULTS

We are pleased to report that there were no veligers present in any of the lakes sampled. In addition, the Calcium levels measured in the lakes proved to be too low for the existence of the Zebra Mussels. Recent studies report that calcium and alkalinity are the major factors that determine growth and reproductive success of Zebra Mussels. Zebra Mussels require calcium (Ca^{2+}) concentrations greater than 12 mg/L to establish significant populations. None of the 20 lakes sampled had a calcium level over 12 mg/L, showing that now the conditions are not suitable for robust growth of Zebra Mussels in these lakes.

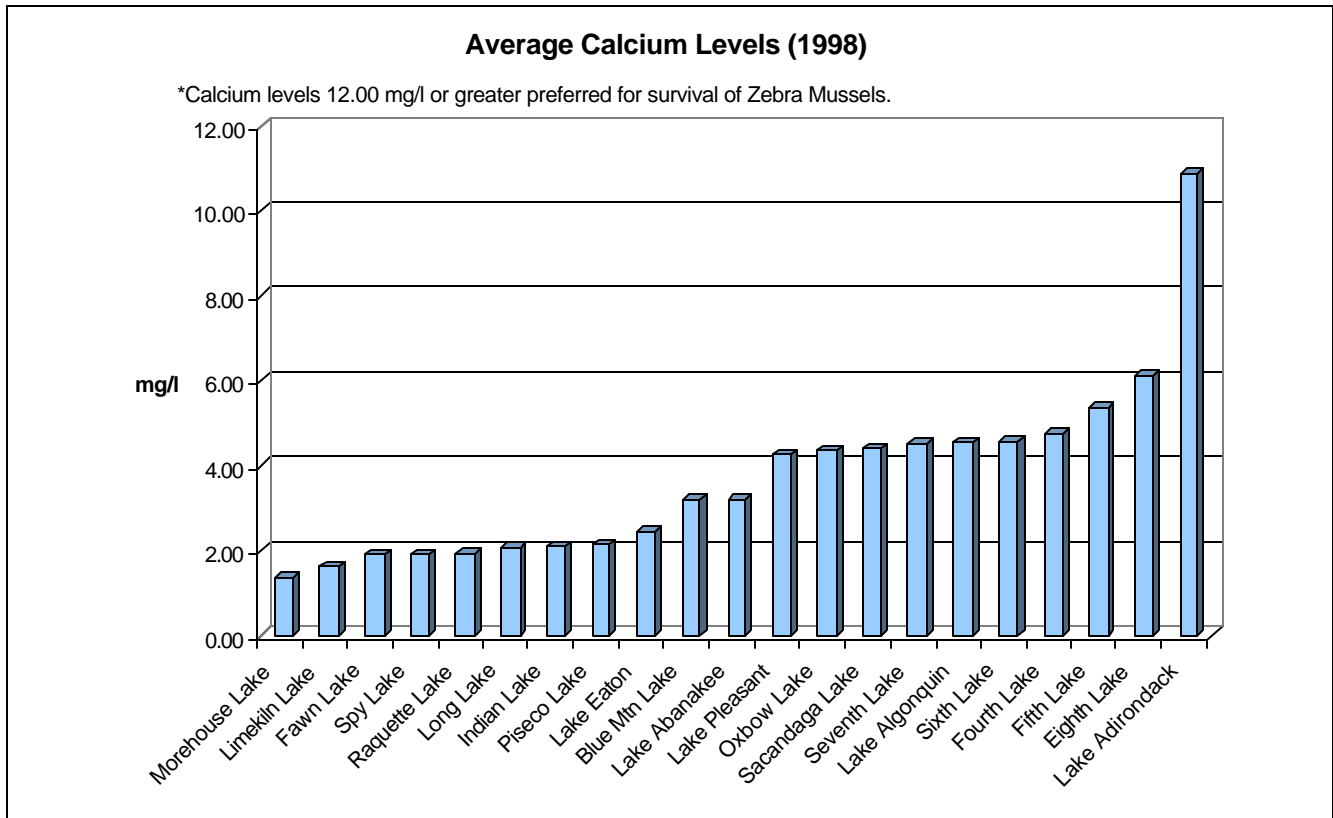
DISCUSSION

Even though conditions may not be ideal at the present time, it must be realized that zebra mussels are genetically diverse and can readily adapt to a wide range of conditions. In order to stop the “march” of Zebra Mussels across North America, it is advised to practice good boat keeping when transporting your boat from possible Zebra Mussel infested waters. To protect the waters and you motor, please:

- Be sure to drain all bilge water, live wells, bait buckets, and any other water from your boat or equipment. Left-over bait should not be transferred between waterbodies.
- Inspect your boat's hull, drive unit, trim and trolling plates, prop guards, and anchor; scrape off and trash any suspected mussels. Remove any vegetation attached to boat or trailer.
- Before launching into uninfested waters, thoroughly flush the hull, drive unit, live wells, bilge, trailer, buckets, and other boat parts which might have gotten wet with a hard spray from a garden hose. Use hot water if your boat has been in infested waters for a long period of time. DO NOT use chlorine bleach.
- Let the boat dry thoroughly before launching (preferably 2-4 days).

By: Alex Chaucer






For further information regarding Zebra Mussels, contact the Hamilton County Soil and Water Conservation District.



WARNING—Boaters

Don't Pick Up Hitchhikers

You can help REDUCE the spread of nuisance aquatic weeds and the Zebra Mussel

<p>Eurasian Milfoil <i>Myricophyllum spicatum</i></p> <p>is a major aquatic pest which is spread by plant fragments and seeds carried by wind, currents and people.</p> 	<p>Water Chestnut <i>Tropa natans</i></p> <p>is an obnoxious annual plant. Capable of spreading rapidly by the dispersal of its nuts.</p>  <p>NUT</p> 	<p>Zebra Mussel <i>Dreissena polymorpha</i></p> <p>is a potentially damaging mollusk clam which is spread by transport in its larval stage or by attachment to mobile objects in its adult stage. Adults are black and white striped and usually less than one inch long.</p> <p>MUSSEL</p>  <p>MUSSEL CLUSTER</p> 
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What Can You Do?



Inspecting - Thoroughly inspect your boat, hull, trailer, tire placid, fuel and lawn, prop, pump, transducer and trailer. If you see any "hitchhiking" plants, insects, frogs, fish, or animals, or aquatic plants and plant fragments clinging to your boat, trailer, hull, motor, lawn and boat interior spaces.

Cleaning - Use an A-100 jetter system, fire hose and hot soapy water. Thoroughly clean your boat, trailer and boat gear. Rinse with clean water. Do not discharge water into the waterway.

Remove and Dispose of Plants on Dry Land

For more information, contact your County Soil & Water Conservation District.