

Asian Clams in Lake George

November 2010 Update



Asian clam was found in Lake George this past August. A Rapid Response Task Force has been formed to coordinate efforts to eradicate this new invader from Lake George before it has a chance to take hold.

A pilot study to test a number of different types of benthic barrier mats and their effectiveness in smothering the clams is currently underway at two shallow water sites in Lake George in Lake George Village. Monitoring and evaluation of the locations will help determine how to move forward in the spring with control efforts. Timing will be crucial; the clams can begin to reproduce again when temperatures reach 15° C, which is around mid-May in Lake George. So there will be a narrow window this spring between ice-out and when the water temperature warms to implement a plan of action.

What is the Asian clam?

The Asian clam, *Corbicula fluminea*, is a small bivalve that is native to southern Asia, the eastern Mediterranean, and Australia. They are small, usually less than 1.5 inches in size, and have a light tan or brown shell (color varies) with distinctive concentric ridges.



Asian Clam Rapid Response Timeline

August 19

Asian clams found off Lake Avenue Beach.



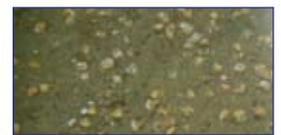
September

Additional surveys for details of infestation at Lake Avenue site. Size of infestation now estimated to be around 4 acres. Over 8,000 clams per square meter documented.



October 25

Removed first section of mats. Initial results - lots of dead clams!



August 25

First meeting of Task Force.

October 9 & 10

Mats for pilot study are installed at Lake Avenue & Park Lane sites.

November 23

Last day of pilot study.

August 20-22

Initial surveys. Up to 600 clams per square meter were documented, total invasion covering an area of approx. 2.5 acres.



August 26 & 27

Additional surveys by boat and scuba to determine extent of invasion.

September 28 & 29

Scientists from Lake Tahoe visit to share their experience with battling Asian clam.



October & November

Water from under mats sampled every 5 days. Some mats removed at day 15, 30, and 45.

Early December

Meeting of Task Force to discuss results of pilot study and begin planning for full scale spring effort.

What's the big deal? What happens if we just do nothing?

Asian clams greatly impact water quality because they can remove insoluble phosphorous from the bottom sediment and release it back into the water column, making it readily available to algae. In Lake Tahoe researchers first discovered the Asian clam in 2002, but control measures were not started until years later after algal blooms over Asian clam beds were being reported. Lake Tahoe is now past the point where eradication is possible. They have spent \$1.4 million working to manage and control clam populations in areas of greatest impact to the lake's fragile clarity.

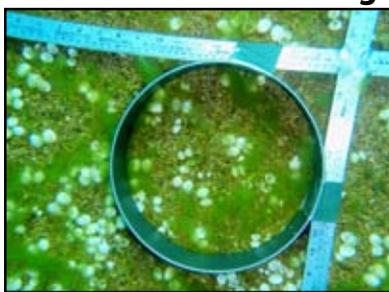
Researchers in Lake Tahoe who have advised the Lake George Task Force agree that eradication of Asian clam in Lake George is still possible if we act quickly. Eradication of this new invader now will save Lake George millions of dollars in control and management efforts and losses from declining water quality, tourism and recreational use, and property values in the future.

Asian clams are efficient filter feeders capable of rapid growth. This means they can:

- **Impact water quality by promoting algal blooms**

Asian clams excrete high amounts of nitrogen and phosphorus, making it readily available to algae. Lake Tahoe, which is also known for exceptionally clear water, is now experiencing algal blooms over their clam beds.

Some photos of the Asian clams and algae in Lake Tahoe.



- **Facilitate more invasions**

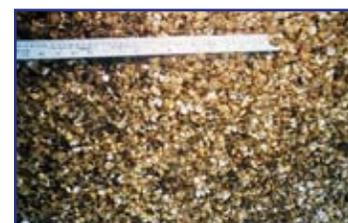
Asian clam shells provide a hard surface for zebra mussels to attach to. The shells also supply a localized source of calcium, making beds of Asian clam shells an ideal habitat for zebra mussels.

- **Clog pipes and litter beaches with dead shells**

As the clams die, their shells pile up, and can clog pipes or cover sandy beaches. And dead clams don't smell good, trust us!

- **Outcompete native mollusks**

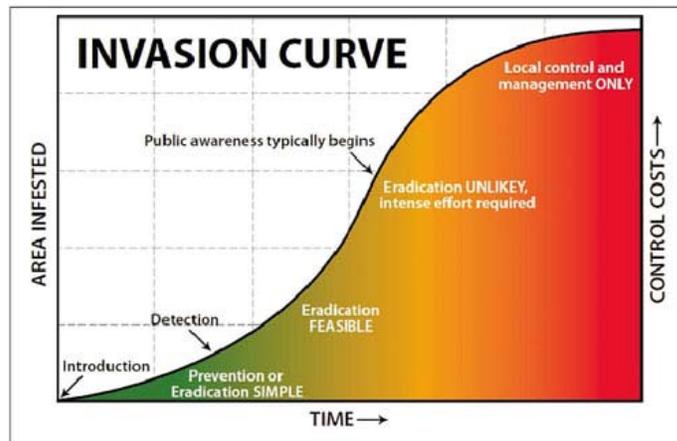
Lake George has a great diversity of native mollusks. Our native mussels grow slowly and can live for decades. They aren't equipped to compete with fast growing Asian clams for food and space.



Asian clam shells covering the bottom of Lake Tahoe.

Stay tuned for the next update this winter after the results of the pilot study are in!

The Asian Clam Rapid Response Task Force is made up of the Adirondack Park Agency, Adirondack Park Invasive Plant Program, Darrin Fresh Water Institute, Fund for Lake George, Lake George Association, Lake George Park Commission, Lake George Watershed Coalition, Lake Champlain Basin Program, and NYS Department of Environmental Conservation. Additional technical and scientific experts from Bateaux Below, Inc., InnerSpace Scientific Diving, Lake Tahoe, Scientific Diving International and VT Department of Environmental Conservation are assisting with species identification, surveys, the pilot project, and population control planning. *Corbicula fluminea* scientific illustration used in logo by Sarah Adler. Lake Tahoe photos by Brant Allen, UC Davis.



modified from Hobbs & Humphries 1995

The good news is that we are at the detection point on the curve - which means now is the time to act!