

Lake George Asian Clam Containment and Eradication Effort



Summary:

A large-scale benthic barrier treatment effort to contain and eradicate the Asian clam (*Corbicula fluminea*) was started on April 25, 2011 in a 5-acre area in Lake George in the Village of Lake George. This project received permits from the Adirondack Park Agency, Department of Environmental Conservation and US Army Corp of Engineers. Over 825 benthic barrier mats (PVC 20mm, 50' x 7') were installed as full mats in open waters and in partial mats under more than 25 docks that populate the area. All mats were installed by May 27th. Of these mats installed over 175 were outfitted with ports to measure dissolved oxygen concentrations (DO).

Mats were weighted down with a mixture of 5-foot No. 5 and No 4 weight rebar. Over 25,000 pieces of rebar were installed with the mats. Shoreline mats received over 300 sandbags in mid-May to try and improve holds and seals in shallow water locations. Another 2,000 sandbags were installed on July 18-20 in an attempt to improve effectiveness of mats.

On June 17th removal of mats began from beach areas in front of nine resort operations and one private residence. This work continued until July 21st. A total of 81 full mats and 20 partial mats were removed. This was done at the request of the resorts to facilitate their business needs. As of July 21st over 725 mats remain in the treatment area. See attached map for current configuration of mats and for recorded DO levels as on July 8th. Mats were removed from the Village of Lake George Lake Avenue public beach on July 27th.

On July 15th a second infestation of Asian clams was discovered and verified in Boon Bay, over 6 miles north of the Village site. Preliminary findings estimate that this infestation is approximately 3.75-5 acres in size and is a similar age and distribution as the current site. More information is being gathered and planning is underway for treatment options. More work is also underway for surveying the entire lake for additional infestations.

This project is managed by the Lake George Asian Clam Rapid Response Task Force.

Preliminary Results:

- To date mat treatment shows success in reducing DO concentrations below 3 mg/L for 75% of the mats with ports. However, additional mat treatment time is required for these lowered DO levels to be maintained for at least 45 days.
- DO levels below 3 mg/L have not yet been achieved for under 10% of the mats with ports. These areas will require additional “sealing” efforts or an alternative strategy (such as suction harvesting) to maximize clam mortality.
- Many beach (nearshore) areas, where mats were removed prior to 45 days of treatment, still have live clams and will require additional treatment. However, only 2.8% of the clams collected

from these areas remain alive. The project has achieved over 97% efficiency to date in eliminating Asian clams in areas where mats have been removed.

Next Steps:

- To maximize clam mortality and effectiveness of the containment and eradication effort it is critical that mats remain deployed for additional time. At a minimum, enough additional time so that DO concentrations under mats are maintained below 3mg/L for at least 45 days.
- The FUND for Lake George, the permit holder, has sought a permit modification to extend the treatment season to keep mats in place longer. Under a new permit mats will remain in place until late fall. APA needs to approve a secondary treatment when the plan is finalized.
- A secondary treatment is being formulated to re-install mats in the fall at some point after Labor Day in areas along beachfronts and areas where it was not feasible to install mats in the spring. Approximately 200 mats will be installed in the fall.
- Efforts are underway to organize a suction harvesting treatment effort for small areas of infestation (under wharves, rocky areas, shallow areas) where use of mats is not possible.
- At this time the plan is to remove all mats, sandbags and rebar before the end of 2011.
- Treatment options for Boon Bay are being assessed based on the size of the infestation and lake bottom features. A plan will be developed and costs estimated.
- A survey of other parts of Lake George is being organized to determine if there are other infestations.

Funding:

Over \$475,000 has been committed to this project in support from the NYS Department of Environmental Conservation, NYS Lake George Park Commission, NYS Department of State, the Lake Champlain Basin Program, Warren County, the Village of Lake George, Town of Lake George, Town of Queensbury, Town of Bolton, Town of Hague, Town of Ticonderoga, Town of Putnam, Town of Dresden, Washington County, Essex County, the Adirondack Park Invasive Plant Program, Lake George Association and FUND for Lake George. Materials were provided by the Lake George Park Commission. In-kind support has been provided by the Town of Lake George, Village of Lake George, Town of Bolton, NYS Department of Environmental Conservation, and NYS State Emergency Management Organization. Extensive staff time has been provided by the Lake George Association, FUND for Lake George, Lake George Waterkeeper, Lake George Watershed Coalition, RPI Darrin Fresh Water Institute and Vermont Department of Environmental Conservation.

The Lake George Asian Clam Rapid Response Task Force estimates that it needs \$200,000 in additional funds to complete the project in the Village of Lake George in 2011 that includes a limited suction harvesting operation and \$450,000 to complete the project with a major suction harvesting operation. No cost estimates have been prepared to date for treatment of the Boon Bay infestation.