

Upper Saranac Foundation - Asian Clam Survey

What is an Asian Clam?

The Asian clam, *Corbicula fluminea*, is roughly dime sized bivalve (two shells hinged together) invasive species that is a native to southern Asia. They are small, usually less than 1.5 inches in size, and have a golden yellow/green to light brown shell with distinctive concentric ridges.



Why we don't want Asian Clams in Upper Saranac Lake.

Asian clams can grow and spread rapidly, displacing native species, reducing biodiversity and alter the food web. Nutrients from their excrement can degrade water quality, and feed plant and algal growth. These clams create direct impacts on the recreational tourism economy and reduce property values. In addition they can obstruct water pipes for drinking water and may contribute to human health hazards. High concentrations of Asian clam shells in beach or swimming areas can cause lacerations that repel users. Lake George has spent over 1.5 million over a two year period in unsuccessful efforts to clear the clams from their waters.

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How did they get to the Adirondacks?

Asian Clams were first found in North America in 1938 and was first detected in Lake George in 2010, though it is believed to have arrived in 2008. It is thought that they were brought to the US either as a food source or by accompanying imports. Since then, they have spread through the bait and aquarium trade. Juveniles can be moved around in bait buckets and other areas of a boat that holds water. A single clam can self-fertilize, can reproduce up to twice a year and produces 2,000 -4,000 juveniles per year. Densities can reach up to 6,000 or more clams per square meter.

Where are Asian Clams found?

Asian Clams prefer sandy or gravelly bottom areas, in shallow, warmer waters.

What is the Upper Saranac Foundation doing to protect Upper Saranac Lake?

Prevention is the best method of protecting Upper Saranac Lake from any invasive introduction. Early detection is the next line of defense. We know that if we find an infestation early enough, it provides us with a better opportunity to eradicate the invasive.

For this reason the Upper Saranac Foundation is putting together an annual lake-wide survey for Asian clams. We first want to determine if Asian Clams have already made it to our Lake, and if so to what extent. After that, we want to monitor our Lake yearly to find any invasive introduction early enough to eradicate it.

How can you help?

Help stop the spread of Asian Clams and other invasive species. Wash your boat and all equipment before entering Upper Saranac Lake. Be sure to drain all water, including live wells and bait buckets. Dry anything that has come in contact with previous water sources, and please participate in the Upper Saranac Foundations Volunteer Asian Clam Survey.

Upper Saranac Foundation - Asian Clam Survey

In August, volunteers will visit approximately 10 pre-determined sites on Upper Saranac Lake and Fish Creek Ponds to see if Asian Clams are present. We need people to sieve the sands to check for clams. This is our only means to determine potential locations of this invasive species in the lake, and we need your help. No experience needed, just an interest in helping the Lake.

Objective:

Take a sediment sampling of Upper Saranac Lake's benthic zone (shoreline area) in search of infestations of Asian clams. If any populations of Asian clam are suspected, each of these locations will require a rigorous follow-up survey by the USF to map the density and geographic extent of the population for management and eradication.

Survey Sites:

Asian clam survivability is greatest in sandy, shallow, near shore sites. In consideration of this, specific sites in the Lake have been identified for sampling based upon their physical attributes. Approximately 10 sites will be included in this project.

Sampling Protocol:

- Volunteer crews of 2 or more individuals (a boat operator and sampler(s)) will be assigned a sampling area.
 - Contact the Volunteer Asian Clam Survey Coordinator to receive a survey site near you.
 - Each crew will be provided a survey kit to include:
 - 8 inch diameter - 2 mm mesh size sieve
 - Sampling information, instructions and protocol
 - Asian Clam identification information with photos and dead Asian Clam samples for reference
 - Map indicating the assigned survey site
 - Zip-lock bag for collected samples and a post-survey assessment to be completed and returned at the conclusion of the survey.
 - Survey kits will be distributed and returned to the Volunteer Asian Clam Survey Coordinator.
 - The boat operator will be responsible for getting the sampler to the assigned plotted location to be surveyed, and ensure the safety of the crew.
 - Samplers will wade/swim to their assigned areas of the lakeshore and collect sieve samples of the lake bottom, at water depths ranging from 1 up to 5 feet or whatever is comfortable.

- **Sampling times and location:**
 - The survey can be done at your leisure, anytime in August. Warm and sunny days would be beneficial. Due to a limited number of sieve kits, crews are asked to pick up kits, complete the survey and return the kits and assessment in a timely fashion.
 - In conducting the sampling, the volunteer will wade and/or swim throughout the assigned localized shoreline area shown on the map, conducting one sieve at least once every 20-30 feet. Each site may take as few as 20 or as many as a few hundred sieves to cover the identified area. The number of sieve samplings can be determined based on size of site and available time.
 - In instances where similar substrate conditions exceed 500' in length (i.e. long, sandy beach), sieving rates may be reduced to once every 50 ft to cover the area.
- **Sieving for clams!**
 - Dig the sieve into the sediment approximately 2-3 inches, (scraping the bottom), and bring up.
 - Keeping sieve just under the surface, gently shake back and forth until the fine particles of sediment have fallen through the sieve (approx. 10-20 seconds, depending on substrate)
 - Look closely at what is left in the sieve. Baby clams can be very small, 2-3 millimeters, and can be easily missed. If nothing is found, continue to the next sieve site and repeat.
 - If any Asian Clam (large or small) is found, and if there is even a remote possibility that it could be an Asian clam, the sample should be put into a ziplock bag (provided), tagged with specific location information and the Upper Saranac Foundation's Lake Manager contacted.
 - Any Asian Clams retrieved should be brought the same day found to the Lake Manager for lab analysis.
 - Keep track of the number of sieve samples taken.
- **Be Prepared**
 - Things you may want to include on your excursion: life jacket, swimsuit, towel, fleece sweatshirt or similar, swim goggles or mask and watershoes, a lunch and bottle of water, and all your enthusiasm!
 - Wetsuits can be helpful for prolonged periods of time in the water
 - If poor weather is experienced on the Lake, work should be terminated for that day and rescheduled.
- **Reporting Findings**
 - Complete the post survey assessment questions
 - Return survey kit and completed assessment questions to the Volunteer Asian Clam Survey Coordinator.
 - Contact the Lake Manager as soon as possible if you have, or think you have found Asian Clams

THANK YOU!!!!

Questions: Call Guy Middleton, Upper Saranac Foundation, Lake Manager at 518 796-1052