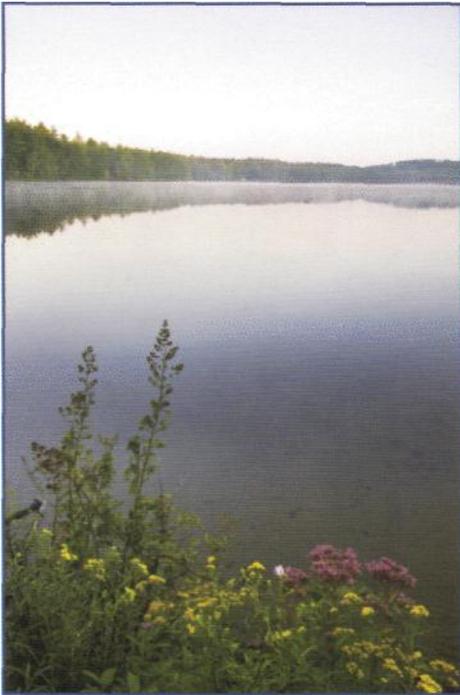


Nuisance Aquatic Plants, Algae, Clams and Snails.

Where Does it End?

by Amy Smagula, Limnologist/Exotic Species Program Coordinator, New Hampshire Department of Environmental Services

You may have heard it in the news—during summer 2012 two more lakes were added to the list of waterbodies infested with variable milfoil, the number one offending plant in New Hampshire waters. Unfortunately, these newly discovered infestations in Otter Pond in Greenfield and Naticook Lake in Merrimack were well established—likely present for more than a year—and will require significant effort and resources to bring under control. On a positive note, the exotic and invasive alga *Didymo* (commonly referred to as 'rock snot') has apparently not spread beyond its documented range in the Connecticut River and associated tributaries.



Variable milfoil was discovered in Otter Pond in Greenfield during summer 2012.
(Photo source: www.nhstateparks.org)

The New Hampshire Department of Environmental Services (DBS) began reporting on invasive exotic aquatic plants in the Granite State in the 1980s—variable milfoil in particular—and more recently on several other plant species including fanwort, water chestnut, hydrilla, and naiads. Unfortunately, we have had to expand the conversation to a whole array of species, including exotic and potentially invasive animals that are already in our waters, or just outside our borders.

The Mollusks

During the past couple of years, sightings of the Chinese mystery snail have been on the rise, and the Asian clam has been found in our waters. Both species are popular in the Asian food trade and perhaps found their way into the United States years ago through those markets. Once introduced into freshwater, these mollusks can move from waterbody to waterbody on their own and also by the aid of humans on boats, recreational gear, and in bait buckets, much like their exotic aquatic plant counterparts.

The Asian Clam: The Asian clam has been confirmed in the Merrimack River from the Town of Bow south through the Town of Merrimack since approximately 2010; in 2011, it was reported and confirmed in Cobbetts Pond in Windham, and in 2012, reported and confirmed in Long Pond in Pelham. Asian clams are round, yellow-green to dark brown shellfish with thick, concentric rings on their shells. They are typically small, averaging less than 1.5 inches in size, and prefer the shallow, relatively sun-lit, warmer areas of waterbodies with sand or gravel bottoms. Its ability to rapidly reproduce and physically attach to objects creates several problems, including altering the aquatic food web, clogging water intake pipes, and making recreation unpleasant by littering swimming areas with shells. Asian clams can also cause serious water quality problems—by feeding from the bottom sediment they can release phosphorus into the water, which in turn fuels plant and algal growth and increases the likelihood of potentially hazardous cyanobacteria blooms. An effective means to permanently eliminate Asian clam infestations has not yet been found; therefore, empha-



Asian Clam.

(Photo source: Lake George Association)

sis must be placed on preventing its spread into uninfested waterbodies and, in infested waterbodies, controlling its impacts.

The Chinese Mystery Snail: The Chinese mystery snail has been in New Hampshire for quite some time and there are at least a few dozen waterbodies where its presence has been confirmed. This creature can become fairly large compared to native snails, measuring up to two inches in diameter (walnut to golf ball sized). The shell often has six to seven whorls and is uniform in color with no banding or stripes. Juveniles can be light to dark olive green and adults range from brown to reddish-brown. They are often found in muddy or silty-bottomed, still water, or slow moving waterbodies. They can outcompete native snails for food and, like many other snails, are known to carry parasites which can be harmful to other organisms, including humans. They also foul beaches and other nearshore areas with shells and odors as they decompose.



Chinese

Mystery Snail.

(Photo courtesy of the New Hampshire Department of Environmental Services.)

Beyond Our Borders

There are more aquatic nuisance animal species lurking just beyond our borders. The spiny water flea was confirmed in Lake George, New York, this summer, and appears to be on its way into the Lake Champlain system through a hydrologic connection between the basins. This creature is a predator that feeds on algae-eating zooplankton, which in turn can alter the food web and result in algal blooms.

And there are more nuisance exotic aquatic plants moving toward New Hampshire, including hydril-

Where Does it End?, *continued*