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LITTLE YORK — A graduate student will don a scuba suit and dive into Little York Lake later this month, collecting samples of invasive species and hoping not to find a weed already found in Cayuga Lake.

Andrew Brainard, a student at SUNY College of Environmental Science and Forestry, has been studying the presence of invasive species in Little York Lake and other kettle lakes in the region since last summer.

Kettle lakes are shallow and formed by retreating glaciers.  
The study concludes in September.

Brainard has found several invasive species of plants and mussels in the lake, a problem which will only continue to grow if residents do not take the proper precautions against proliferation.

Precautions include washing off boats and allowing them to dry for four to five days prior to taking them to another lake, he said.

Brainard said Little York Lake has “by far” the highest biomass of invasive plant than any of the other lakes he is studying. He attributes this mainly to the fact the lake has public boat access, allowing the spread of species from boats, especially powerboats where weeds can be caught on a propeller, for instance. He also cited the nearby farm fields that present issues like fertilizer runoff, something that provides a nutrient-rich environment in which these species thrive. Leaky septic systems are the No. 1 culprit for most lakes, he said, presenting nutrients for the weeds to thrive in.

Brainard is also studying Tully Lake, Song Lake, Crooked Lake and Gatehouse Pond. Tully Lake and Little York Lake are the only public lakes he is studying.

In Little York Lake, Brainard has found zebra and quagga mussels, the Asian clam, and weeds like Eurasian milfoil, starry stonewort, a macroalgae, and curly leaf pond weed.

These organisms are problematic for a number of reasons.

The weeds clog waterways, making recreational boating difficult. The mussels are sharp and dangerous to walk near. They also filter the water and promote toxic blue and green algae blooms, which are microscopic plants that can cause upset stomach if consumed, which can happen accidentally while swimming, for example.

The presence of the Asian clam surprised Brainard, though it has been reported in Owasco Lake and in Lake George so it is known to be present in the state. It is not known when the clam species arrived in Little York Lake but the likely source was boat traffic, he said. The clam is similar to the mussels that filter water and promote algae bloom.

The latest weed that concerns him is hydrilla, an invasive weed that has been found in Cayuga Lake, the lake that Brainard said is most frequently visited by boaters surveyed at Little York Lake.

“It’s not in Little York yet but it’s in Cayuga Lake, so there’s the possibility it could easily come to Little York Lake through boat traffic,” Brainard said.

Brainard described it as a “nasty invader” that clogs waterways and gets hung up on boat propellers.

“It sort of takes over. It chokes out a whole water body and covers the lake,” Brainard said.

Brainard said he wants his study to raise awareness about the dangers of spreading invasive species from one lake to another.

“People should be aware of what they’re doing if they own a boat and if they are taking it from lake to lake, what the implications are when you’re boating and bouncing around different lakes to different lakes within a day or two,” Brainard said.

Once an invasive species is established, he said, it is very hard to eradicate if it is not caught early enough.

Prevention is key, he said.

He described invasive weeds as “supercompetitors” for the lake’s indigenous plant life.

“They can just take over and so it goes from being a diverse system to being full of one basic plant,” Brainard said.

Certain efforts like weed harvesting are undertaken yearly to help control the amount of weeds in the lake, which Brainard said is helpful.

Pat Reidy, water quality specialist with the Cortland County Soil and Water District, said weed harvesting usually takes place on Little York Lake anywhere between the end of June to mid-July. A harvesting machine goes out on the lake and tries to target Eurasian milfoil, said Reidy, but also ends up getting large quantities of Chara, a non-invasive weed.

The machine spends about 60 hours collecting the vegetation and Reidy said that since 2008, when harvesting began on the lake, the amount of vegetation that it collects seems to have diminished.

Reidy said the harvester started out collecting about 500 tons and now collects about 200 tons each summer. The vegetation is composted at Cobblestone Farm in Preble.

Reidy said each year the harvesting efforts seem to be successful in cutting back the weed growth.

“We are having modest success in improving the recreational use of the lakes and we’re probably having some success in ... at least preventing its (Eurasian milfoil) spread,” Reidy said.

Brainard is working with the Cortland-Onondaga Federation of Kettle Lakes Association and will present his findings after September at the federation’s monthly meeting held in Tully.