

Researchers use drone to study Otsego Lake

By Joe Mahoney Staff Writer | Posted: Thursday, July 2, 2015 8:20 pm

COOPERSTOWN — If you're paddling on Otsego Lake and happen to notice a dark object hovering over the water, that's not a dragonfly on steroids.

The Biological Field Station, a research arm of the State University College of Oneonta, has been testing its newly acquired drone, equipped with high-definition cameras, that will help scientists address problems incurred as the result of sediments washing into Otsego County's largest body of water.

The teaching and research center has been exploring ways to protect fragile ecosystems in the Upper Susquehanna Watershed since it was founded in 1968.

Aerial monitoring has been used in the past for research on the lake, tributaries and wetlands. But the founder of the program, Willard Harman, said acquiring planes and pilots is not only expensive but they aren't always readily available when needed.

"We can have a drone ready in five minutes," Harman said in an interview on a floating dock jutting out from the west bank of the lake, near the field station headquarters just north of the village of Cooperstown.

Putting up the \$2,000 to cover the cost of the unmanned aerial device, equipped with four propellers, and related accessories was the Otsego Lake Association. *

Recruited to help researchers find applications for its use in their projects was Peter Booth of Oneonta, a drone expert who is pursuing a degree in geographic information systems. The science uses technology to help researchers understand relationships, patterns and trends from the data collected. Sponsoring Booth's internship is the Otsego County Conservation Association.



Researchers use drone to study Otsego Lake

Joe Mahoney | The Daily Star
A drone hovers over Otsego Lake as research intern Peter Booth and Willard Harman (foreground), director of the Biological Field Station in Cooperstown, with the four-propeller device that has been acquired to help the environmental watchdog facility monitor sediments that wash into the lake.

Explaining one potential value for the work, Harman said, "The overall concern is during big storm events you get a lot of erosion into streams. That mud hits the lake with a whole bunch of nutrients associated with it — mainly phosphorous is what we're concerned about. That's what drives the amount of algae and plants in the lake. And so we want to find which streams have the most in in the way of sediments coming into the lake.

"That way," he added, "we can see where the priority action needs to be to change land-use practices. We want to see where those plumes are and how they act."

Once sediment-rich plumes are located, the researchers will follow up to see what is causing the activity.

Booth said he sees his role as finding ways to convert the images captured by the drone into useful data for researchers

Said Harman, "If we can't quantify the information we're getting, than our information is no better than anyone else's who is just taking pictures."

The professor said he sees many potential applications for the drone, including combating invasive species that threaten the health of the lake and its aquatic life, as well as monitoring wetlands.

** Story changed at 11:06 a.m. July 3 to correct the funding agency.*