

Success in using UV light to kill invasive weeds

By Kathryn Reed

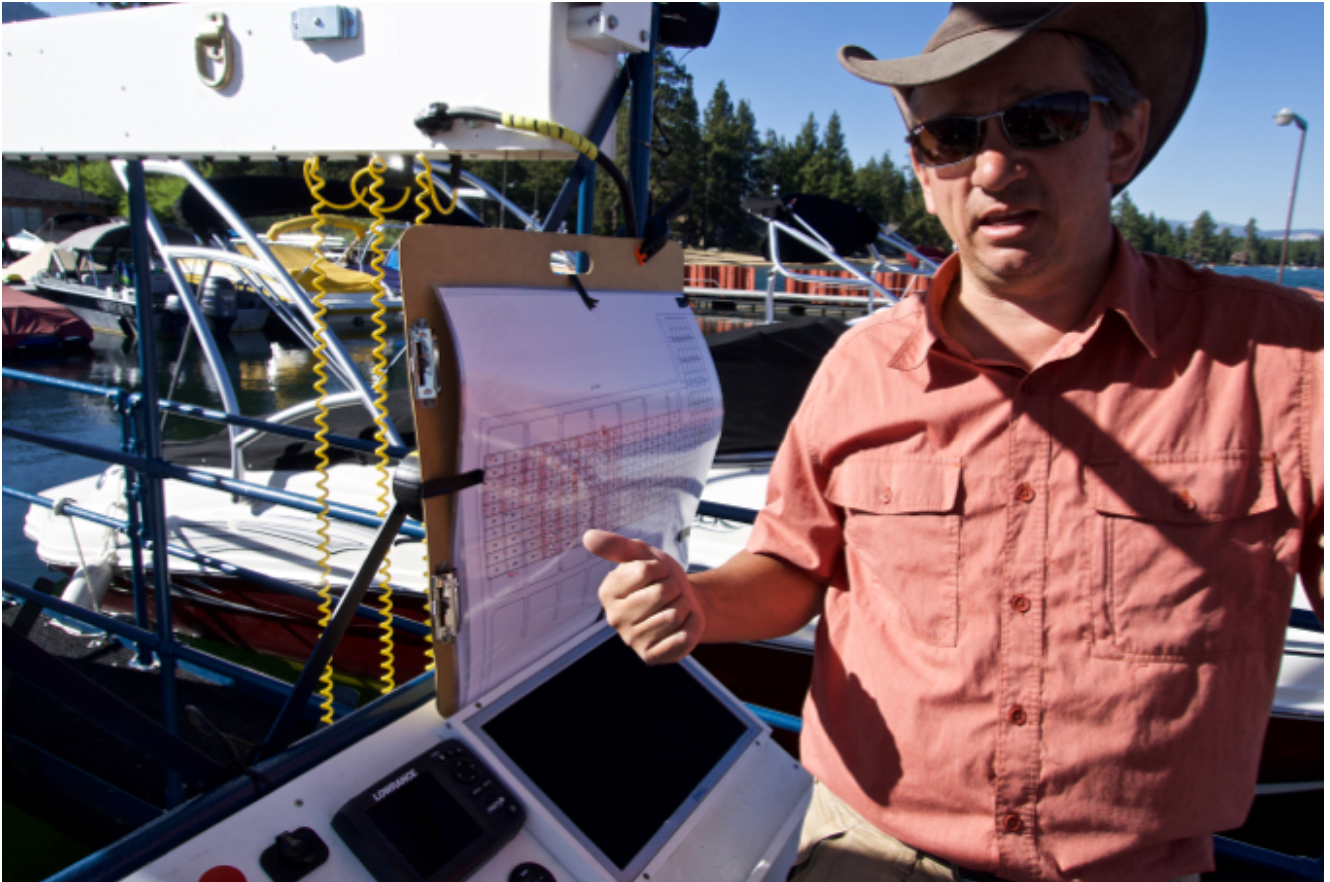
Light is usually a good thing to help plants grow. That's not the case with ultra violet C light.

Invasive plants have been withering to nothing in the boat slips at Lakeside Marina. And that's a good thing.

John Paoluccio, president of Inventive Resources Inc., is the creative genius behind this system. His special boat with a slew of devices was designed specifically to kill unwanted weeds in waterways.

Below the boat is a device that can hover just above the lake bottom. It's air tight. No fish can get in, nor can they be killed if they touch the machine. It can be so precise that native plants can be left alone.

UVC light works by damaging the DNA and cellular structure of the plants. This then stops reproduction. Because there isn't much cellular structure the plants essentially shrivel up and decompose in a matter of days. Eurasian milfoil, curly leaf pondweed and coontail are three of the main targets.



John Paoluccio is confident in his creation to rid invasive plants with UVC light. Photo/Kathryn Reed

This summer Paoluccio is testing his theory and equipment in a pilot program funded and overseen by the Tahoe Fund, California Tahoe Conservancy and Tahoe Resource Conservation District. The agencies have more than \$260,000 invested, while Paoluccio has about the same just in the vessel and gear. That doesn't take into account his research and sample tests to get to this point.

Paoluccio is almost giddy as he talks about the success so far this summer. Invasive weeds at Lake Tahoe may have met their match.

It will be a two-year study, with more definitive results coming out in late 2018. But for now it's working just like the engineer surmised it would.

Data about water temperature and turbidity are being collected. The amount of time to kill a plant, how far it is

from the bottom and other data are also documented. The plant height is noted; some were 8-feet tall.

Paoluccio's vessel moved through the marina working in each 20-foot-by-20-foot slip. If it weren't for the generator powering the UV lights, it would be a silent process. Next up is going to the mouth of the marina and beyond to see how it works in more of an open water environment.

Those tasked with protecting Lake Tahoe are hopeful the success of this venture will allow for expanded use. So far it looks like the UVC combined with mats that suffocate the invasive plants could be the desired one, two punch.

Assuming the data proves the UVC effective, the next hurdle will be funding. After all, Lakeside is just one location with the weeds so cost-effective solution is desired by many. The Tahoe Keys is ground zero for the problem. The homeowners there have voted to use herbicides to deal with the weeds, though that project has not been permitted.