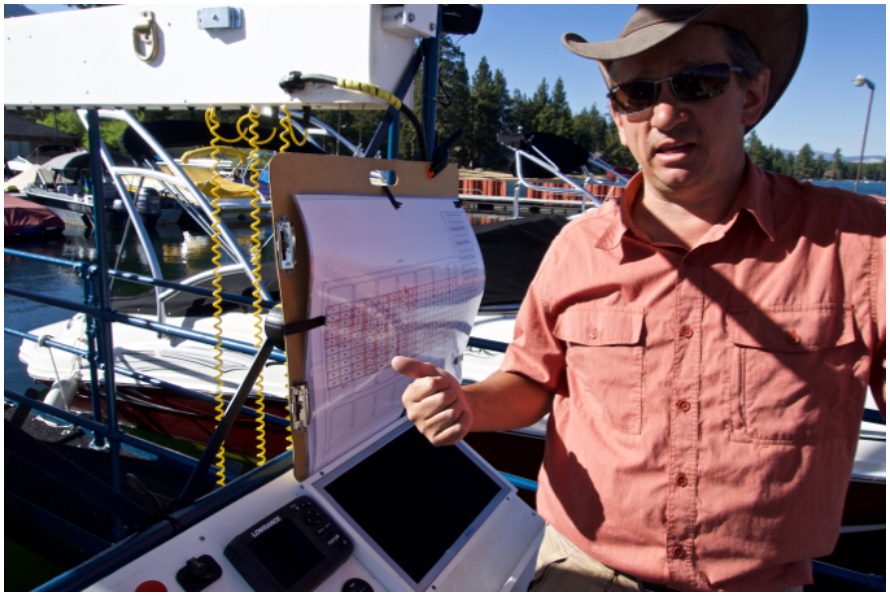
TRPA, boat builders collaborate on designs for AIS



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

By Dennis Zabaglo

Ten years ago, when a new threat to Lake Tahoe from invasive species emerged, TRPA stepped up to tackle the challenge.

That challenge, now known throughout the West, was to prevent the spread of aquatic invasive species, especially quagga mussels. TRPA took the initiative to lead the collaborative partnership to fight invasive species, which is now a national model of success.

Beyond local partnerships, TRPA has expanded relationships at the national level, seeking new methods to prevent a quagga mussel introduction and to prevent and control other species.

TRPA works with the boat industry to develop new components

and encourage new thinking when it comes to designing and building boats. For instance, Wake Worx LLC of Florida has developed a filter in collaboration with TRPA, UNR and others. The filter is designed to prevent quagga mussel juveniles and other species from entering ballast tanks on wakeboard boats. Due to the large amount of water that these tanks can hold, invasives could easily be transported to another water body. This innovative filter significantly reduces the risk of transport.

Also helping to prevent the spread is Volvo Penta, which manufacturers boat engines. Starting with model year 2017, stern-drive engines come outfitted with a hose quick-connect designed to simplify and increase effectiveness of hot water decontaminations. The boat industry is embracing work to combat invasives and is committed to partnering with TRPA and others to find new solutions.

To help control invasive species already in the lake, a new technique is in the testing phase. Inventive Resources, Inc. from the Central Valley of California, has invented a method using ultraviolet light to help control aquatic invasive plants. “When I hear ‘it will never work,’ it kicks me into high gear, and makes me even more passionate about using innovation to solve problems. Everything can be improved upon,” said John Paoluccio, owner of Inventive Resources Inc. The project, overseen by the Tahoe Resource Conservation District, is showing promising initial results, and the partnership is eager to continue the pilot project with post-monitoring in 2018.

Another new method, called laminar flow aeration, will be tested at two locations with the most dense and complicated aquatic invasive plant infestations at the lake—Ski Run Marina and the Tahoe Keys. Laminar flow aeration injects millions of tiny air bubbles from the bottom to the lake surface, producing constant, parallel layers of flow, with no cloudiness between the layers. The resulting oxygen-rich

environment enhances the consumption of the organic layer at the bottom, which plants use for food. If there is less food, then it becomes less likely the plants will survive.

Plants are not the only invasives needing to be controlled. The invasive Asian clam is also a problem at Lake Tahoe. Rubber barriers can kill these unwanted creatures, but the process leaves behind dead shells that are a nuisance. The decomposing shells are visually unappealing and may also add concentrated levels of calcium that make areas of the lake more suitable for other potential invaders like quagga mussels. Here too the private sector is seeking solutions. Aqua Treasures, LLC of Canada has developed equipment that will harvest the clams from the lake bed. Additional development on this invention is still needed, but plans are in the works to test the equipment this fall at Lake Tahoe.

As the adage goes, “you can’t build a house with a hammer alone,” but with continued investment in innovation, the Lake Tahoe Aquatic Invasive Species Program will have the tools to continue the success of the past 10 years.

Dennis Zabaglo is Tahoe Regional Planning Agency’s aquatic resources program manager. This article is republished from the ***summer 2018 Tahoe In Depth****.*