the lake where you live

Making waves

Wakeboats remain a hot topic among lake residents in Vilas and Oneida counties.

The impact of enhanced wakes, chiefly for wakesurfing, has been studied widely, from Quebec to New Zealand to Idaho. Closer to home, studies in various detail have been performed on North Lake in Waukesha County, on Mid Lake in Oneida County, and elsewhere.

Communities are looking for ways to regulate enhanced wakes to protect the integrity of shorelines, preserve quiet forms of water recreation, and sustain traditional notions of peaceful lakeshore living.

Regulating boat wakes and the boats themselves is tricky; proponents of special rules are looking to rely on data from the various studies to guide effective and responsible policies. Results from one of the most anticipated studies, conducted by the University of Minnesota's St. Anthony Falls laboratory, were released last month.

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The research, conducted in fall 2020 on Lake Independence, suggests that wakeboats must be operated farther from shorelines than more typical recreational boats to reduce the impact of their larger waves. The researchers say the study "provides baseline data that can be used for future decision-making."

The researchers measured the maximum height, total energy, and maximum power of the waves produced by two wakesurf boats and two more typical powerboats. They also measured how the wakes changed as they rolled toward shore.

When they compared the data, they found that wakeboats operated for wakesurfing need to stay more than 500 feet from shorelines, docks and other boats to allow their wakes to decrease to levels similar to those from ordinary runabout boats.

That's more than twice the 200-foot distance Minnesota guidelines recommend for other boats. Two hundred feet is also the distance the Water Sports Industry Association claims is enough for wakeboat waves to dissipate to the point where they are no more harmful than natural wave action.

"Under both slow and fast speed conditions," the report states, "the wakesurf boats produced the largest waves in terms of height, energy, and power when compared to the non-wakesurf boats. Larger, more energetic waves need to travel a greater distance to decrease in wave height, energy, and power."

The research did not look at two other impacts from wakeboats that concern lake advocates. One is the impact of propeller wash on lake bottoms, which has the potential to disrupt aquatic plants and stir up and re-suspend phosphorus in the water column, providing food for algae and other forms of vegetation.

Because wakeboats in the wakesurf mode operate in a bow-up position, there is a meaningful downward component to the propeller wash, and thus more possible impact on the bottom than, for example, a waterski boat would have.

The other component that needs more study is the effect of large wakes on shorelines. Anecdotal evidence suggests that enhanced wakes accelerate shoreline erosion and lean property owners to armor their shorelines with rip-rap, seawalls or timbers, contradicting the movement toward natural shorelines as keys to healthy lake ecosystems.

Significantly, the cost of the Minnesota research was covered by crowdfunding; more than 200 donors included individuals, lake associations from Minnesota and elsewhere, statewide lake advocacy associations, and others. That level of interest shows that this issue has a high priority and that attempts at regulation will persist.

Ted Rulseh resides on Birch Lake in Harshaw and is an advocate for lake protection and improvement. His Lakeland Times and Northwoods River News columns are the basis for a book, "A Lakeside Companion," published by The University of Wisconsin Press. Ted may be reached at trulseh@tjrcommunications.com.