

RWVL Comments on a typical **Boating Industry Document**

In this case material was distributed by the Michigan Boating Industries Association (MBIA)

University of Minnesota Study, MYTH vs. FACT

Myth: Wakesurfing should be restricted within 500 feet of shoreline.

Fact: The University of Minnesota study does not recommend a formal setback for wakesurfing.

- The study simply states that wakes from wakesurfing boats wash up on shore within 500 feet from shore, which is not in dispute. However, the researchers did not study if wakes from wakesurfing boats contribute to shoreline erosion. There is no evidence to suggest that wakes generated by wakesurfing boats degrade shorelines when operated at least 200 feet from shore.

The study does much more than make obvious statements. It provides guidance, based on extensive measurements of wave characteristics, including comparisons such as those shown in the table below (from the UMN study). This guidance is intended to inform regulators.

Table 5. Summary of the estimated operational distances needed to attenuate the wake wave characteristics (height, energy, and power) of the wakesurf boats to the reference condition levels selected in examples 1 and 2.

Reference condition	Operational distance required by wakesurf boat to attenuate to reference condition levels
Example 1 non-wakesurf boat planing at an operational distance of 200 ft (Condition 2 - planing)	Maximum Wave Height: >500 ft. Total Wave Energy: >575 ft. Maximum Wave Power: >600 ft.
Example 2 non-wakesurf boat transition to planing at an operational distance of 200 ft (Condition 1a - largest wave)	Maximum Wave Height: >425 ft. Total Wave Energy: >425 ft. Maximum Wave Power: >425 ft.

RWVL suggests that these recommendations be strengthened to compensate for the trend in the displacement of wake boats towards bigger boats making bigger waves.

- Wakes from wakesurfing boats that wash up on shore do not inherently degrade shorelines. To the contrary, according to the University of Minnesota itself, “shoreline erosion is driven mainly by wind-generated wave energy.” St. Anthony Falls Laboratory released its [“Quantifying Wave Energy on Minnesota Lakes”](#) study in January 2022, with one goal of studying near-shore sediment movement. Maps of wave height and wave energy were taken around the shorelines of 460 Minnesota lakes. The study’s findings focus on wave energy’s effects on activities in a watershed or on a lakeshore, and how that can impact fish habitats. It is concluded that erosion is primarily a result of wind-generated waves, with no mention of boat wakes.

This study cited above was designed to study and support the development of models to characterize wind waves and their effects on near-shore sediment transport. It was not designed to investigate

the comparative impacts of wind and boat waves and hence makes no mention of them. Shorelines frequently exposed to high winds with a large fetch are generally hardened and not vulnerable to boat waves. However, nearly all lakes have shorelines protected from such exposure that are vulnerable to boat wakes from boats operating too close to shore.

- The University of Minnesota study's recommendation has less to do with shoreline erosion than an arbitrary setback for a specific type of boat. The impact from regulation on recreational boating and watersports like wake boarding and/or surfing would be enormous, unprecedented, and very specific. If implemented, these recommendations could jeopardize one of the fastest growing parts of recreational activity.

It is possible that wake sport regulation would impact the growth of the wake boat sector of the boating industry. However, it may also reduce the negative impact on traditional boating sectors, like paddle boats, small fishing boats, and ski boats that currently comprise the bulk of the market, at least in Vermont. In Vermont, boat-specific regulation would not be unprecedented, since personal watercraft are currently subject to regulation.

Myth: The University of Minnesota paid for the study.

Fact: The study was crowdfunded by groups and individuals that have been critical of wakesurfing.

- The University of Minnesota: St. Anthony Falls Laboratory "Field Study of Maximum Wave Height, Total Wave Energy, and Maximum Wave Power Produced by Four Recreational Boats on a Freshwater Lake" is a crowd-funded research initiative. After the Legislative-Citizen Commission on Minnesota Resources' (LCCMR) declined to fund a study on wakesurfing, the University of Minnesota's St. Anthony Falls Lab turned to wakesurfing skeptics to fund their report, who coughed up more than \$100,000 for this effort.
- The study's authors claim that those who funded the study had no input on the study itself. However, they have not made public the list 200 donors who contributed to crowdfunding the study.

Crowdfunding for technical innovation and scientific research is becoming more common, and many useful developments have resulted.

Myth: The study underwent an independent peer review.

Fact: The study underwent a "technical review process" by a small, handpicked group of people with a longstanding history of anti-wakesurfing positions.

- Based on their own admission, the researchers handpicked people to review the study rather than undergoing a truly independent peer-review process. The two people selected to review the report have previously published information critical of wakesurfing. It should not be surprising that a group of people with a predetermined position on wakesurfing agree with the report's findings.

The reviewers were respected researchers with a reputation in the field of wave dynamics without connection to the University of Minnesota.

- Additionally, the study's authors claim, "we reviewed many field-based studies that focus on assessing

boat wave impacts on specific lakes or water bodies.” However, the researchers and reviewers ignored several existing studies that did not support their predetermined conclusion, including a study by former Massachusetts Institute of Technology researcher Clifford A Goudey, which established the benchmark for these types of studies.

This industry-funded study was only released as a draft and was not peer-reviewed. See document [review](#) by Merrick located at the following for a critical review of this study (summarized on page 23 of this review).

Myth: The study analyzed impacts of waves created by wakesurfing boats.

Fact: The study compared wave sizes between wakesurfing boats and boats designed to create the smallest wake possible.

- Only four boats were evaluated in this study. Two were recreational boats that are commonly used for activities like waterskiing, which are designed to create a small wake. The other two were wakesurf boats designed intentionally for the sport.

The wake boats studied were 2019 models that are representative of the high and low displacement boats currently available in Vermont waters. Similarly, the ski boats are representative of similar boats in Vermont.

The findings of these boat evaluations focus on maximum wave height, total wave energy, and maximum wave power production. On page 96-97 of the report, it states, “this report only characterizes the wave height, energy, and power of a few recreational watercraft, and does not address potential environmental impacts such as shoreline/riparian erosion, water quality degradation, or alteration to aquatic habitats.” In addition, the study compares boat wakes with wind driven waves on different lake sizes. Their conclusion here notes that “further work is needed,” and long-term monitoring would be needed to effectively compare the cumulative impacts of boat wakes vs. wind driven waves.

There are multiple studies relating boat waves to shoreline erosion. Examples are cited in the RWVL petition and include references ([Johnson, 1994](#)) and ([Bilkovic, 2017](#)). See also “Considerations in assessing shoreline and near shore impacts of wind-driven waves vs motorboat waves in Vermont” and associated references available [here](#).

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Myth: Minnesotans want to regulate wakesurfing.

Fact: According to a Minnesota Department of Natural Resources survey, a large majority of Minnesota do not support burdensome restrictions on wakesurfing.

- According to the Minnesota Department of Natural Resources’ 2020 [Recreational Boating Study](#), 65% of respondents do not consider wakesurfing boats to be a problem on lakes and rivers.
- Along the same lines, 60% of Minnesotans do not support punitive restrictions on wakesurfing, which

includes setbacks of more than 200 feet from shorelines. When wakesurfing restrictions are considered, 42% of respondents were willing to support them only in shallow waters, on small lakes, or near shore.

- Waterfront homeowners have historically been a group that promotes and funds efforts to dramatically restrict and/or prohibit wakesurfing in the state. When they are removed from the response group, the number of Minnesotans who don't support restrictions on the sport actually increases to nearly 70%.
- Within the recreational boating community, as a whole, most are generally satisfied with the Minnesota boating system. 87% are satisfied with the overall water recreation system and more than 70% are satisfied with the enforcement of boating regulations, boating safety education, and information about boating opportunities, rules, and maps.

Vermont is not Minnesota. The RWVL petition has broad support throughout the State. This is evidenced by endorsements from many lake associations, and over 40 organizations concerned about the impacts of wake boats on our lakes and on traditional lake recreational uses.

Myth: The boating community isn't doing anything to educate boaters.

Fact: The boating community – led by the Water Sports Industry Association established the Wake Responsibly initiative years ago to educate boaters about how to safely and responsibly wakesurf.

- The recreational boating industry has long been supporters of responsible and safe wakesurfing. The Water Sports Industry Association (WSIA) developed the "Wake Responsibly" initiative, which focuses on educating boaters and all those who enjoy our waterways on courteous behavior to ensure every moment on the lake is safe and enjoyable for all. The program also works to forge partnerships with state marine police, posting and maintaining signage at boat ramps and engaging with those who enjoy tow-sports through dealerships and other means.
- The Three Pillars of Wake Responsibly are:

STAY AT LEAST 200 FEET AWAY from the shoreline, docks, or other structures Staying at least 200 feet away from shoreline, docks, or other structures allows boat wakes to recede enough to minimize any adverse effects.

The University of Minnesota study demonstrates clearly that a 200' shoreline distance is grossly inadequate to protect lake shorelines. At this distance the peak power in a wakesurfing wake is 5-10 times higher than that from a typical ski boat. When these wakes dissipate this energy at the shore, it can produce shoreline erosion, structural damage, and water turbulence disrupting the littoral zone ecosystem.

KEEP MUSIC AT REASONABLE LEVELS because sound travels well over water. If it is loud enough to hear at 80 feet back, it is likely loud enough for homeowners to hear. It is important to be considerate of the time and situation and respect others on and around the lake who may be enjoying peace and quiet.

MINIMIZE REPETITIVE PASSES on any one portion of shoreline. Repetitively driving back and forth in the same line can damage shores and docks. After a few passes, take a break, move to another location, and return later if you like.

This is an admission by the industry that damage occurs at 200 feet.

Myth: Recreational boating is a small part of Minnesota's economy.

Fact: Recreational boating is a growing economic driver that benefits communities across Minnesota; putting restrictions on wakesurfing puts that economic growth at risk.

- Minnesota has a very robust outdoor recreational economy that relies on the boating industry and all its related activities. Recreational boating's economic impact alone produces about **\$3.1 billion** in annual economic impact in the state. More than **10,000 jobs** and about **700 businesses** are also supported by the industry. An overgeneralized prohibition on wake boats and activities like wakesurfing would have a detrimental effect on the state. First, by targeting an growing segment of the economy; and second, by preventing thousands of boating families and communities from being able to fully access lakes. By trying to restrict wakesurfing through the avenue of wake boats themselves, opponents and legislators are inevitably hurting the ability for locals to participate in other towed water sports. Minnesotans deserve to safely utilize and enjoy their state's waterways, whether it be for the natural environment, recreational pastimes, or economic benefit.
- The recreational boating community is dedicated to protecting our natural resources, including our waterways. Without healthy lakes and rivers, the boating lifestyle – along with the thousands of businesses and jobs it supports would be in jeopardy.

Tourism centered on Vermont's lakes is a critical part of Vermont's economy, and lakeshore property is a significant part of its asset and tax base. For a comparison of economic effects with and without regulation, see RWVL's [Economic Analysis](#). It concludes that over time, regulation results in significant annual economic benefits and prevents significant losses in property values.

