Response to the Letter to the Editor by William F. Banholzer regarding
"Are Wake Sports Bad for Wisconsin's Lakes? Madison Magazine, August 12, 2026

There are several misrepresentations in the letter to the editor by William Banholzer, a chemical engineering professor and wakeboat owner who surfs on a 180-acre glacial lake in Wisconsin's Northwoods:

Banholzer claims his rigorous statistical analysis from six independent wave studies shows that once the surf wake has traveled 200' toward shore the waves are similar to those 100' from his benchmark, a ski boat going 10 mph.

All six of those studies actually show that it takes about 500' for the surf wake to dissipate to be like 100' for conventional boating. However, Banholzer discards the experts' results and instead compares their data for surfing to a much larger benchmark wave, from a large boat that is intentionally making the largest wake possible by plowing bow-high at pre-plane transition speed, about 10-12 mph, as if surfing. (Boats plowing at that speed create a much larger wake than when going slower or faster.)

Banholzer's new benchmark is unreasonable because it does not represent acceptable boating and is certainly not what lawmakers envisioned when the 100 foot rule was created decades ago. Also, most boats pass through that inefficient plowing speed quickly as they accelerate to planing speed. But when surfing the boat stays at plowing speed because a big wake is their goal.

The relevant question is not whether a wakesurfing wave can be made to look comparable to another large wave at 200 feet. The question is how much **wave energy** is still reaching the shoreline and surrounding lake users.

The research indicates that at 200 feet, the answer is: **a lot more than from conventional boating.**

Regarding lakebed disturbance, Banholzer claims that the U of MN study never detected sediment resuspension over 14' deep. See U of MN Table 8 showing disturbance capable of resuspending coarse silt over 22' deep for surfing. And watch the MN video showing the lakebed explode when surfing in water 14' deep. The disturbance is so intense the screen goes black for several seconds, then you can see the back and forth scrubbing from the underwater wave motion. https://www.youtube.com/watch?v=TuS3rNECq-A

Banholzer claims other boats had a deeper impact in the MN study. Wrong again. Even the yacht (13' longer than the wakeboat, with two berths, bath, and galley) had less bottom impact than the wakeboat in surf mode.

Banholzer cites several studies he says bolster his claims. But all are either outdated, inapplicable, or flawed.

- The 36 year old Army Corps of Engineers study involved no wakesurfing.
- He claims a 24 year old site-specific Clear Lake, Iowa study shows that wind waves are the real culprit. That is an extremely large open lake, 3600 acres, over 4 miles long, 2 miles wide, just 16' deep. Less than two dozen lakes in Wisconsin have any area with that large a fetch for massive wind waves to develop.
- The Laval study measured an impact 16' deep for surfing (not 10'-15' as Banholzer claims). A good study, but the wakeboard boat used is now 20+ years old. Newer heavier wakesurf boats have a deeper impact.
- The Daeger study, conducted in 2018, reported no significant change in water quality when "surfing" in 10 to 15 feet of water—but there are important reasons to question how applicable those findings are to today's wakeboats. It was a limited, low-budget study: the camera failed, leaving no video documentation; no velocity detectors were used; and the study relied only on water-quality samples. A local boat dealer provided the boats and drivers (per acknowledgements). The wakeboat was a relatively small Super Air Nautique 210 (model year and weight not provided). The boat's speed was not reported, and rather than regulating speed the engine was kept at 2000 rpm for surf mode and 3000 rpm for planing (Table 1). Most sources say that surfing actually requires a similar or greater engine speed than

planing due to the ballast and inefficient plowing mode, usually 2800 to over 4000 rpm, so it is unclear if the boat was in true surf mode. Many samples were also collected too soon after the boat passed, before the sediment plume had time to spread to the depths being sampled (surface, mid depth, and near bottom). The Daeger study therefore provides limited insight into the impacts of today's much larger, heavily ballasted wakeboats—and has since been far superseded by the University of Minnesota's 2025 Phase II research.

Banholzer cites the current lack of special wakesports laws in Michigan and Minnesota as evidence that proposed legislation for Wisconsin is excessive. The boating industry is powerful and is impacting legislation everywhere. Efforts for meaningful statewide standards in Wisconsin, Michigan and Minnesota have been held off by a very well-heeled wakeboat manufacturing lobby. That hasn't stopped some entities from speaking out. Michigan's DNR Fisheries Division recommended at least 500' from shore and 15' deep (written before the MN study saying 20'). Also, their 500' from shore is based on environmental concerns only, not safety. It does not provide even a narrow strip along shore for all others to navigate without dangerous wakes.

Minnesota has no law about distance from shore for any boating, only recommendations; 200' for conventional boating, and "If you're engaged in an activity that creates artificially enhanced wakes, a greater distance from shore is necessary to prevent damage."

Please see the complete critique of Banholzer's letter, including all sources, and reviews of more work by Banholzer and others at LastWildernessAlliance.org

Signed:

Carol Wood Phillips, a retired former Registered Professional Civil Engineer, Presque Isle, WI
Last Wilderness Alliance (Wisconsin)
Lakes at Stake (Wisconsin)
SafeWakes for Minnesota Lakes
Michigan Lakes and Streams Association
Oregon River Safety and Preservation Alliance
Responsible Wakes for Vermont Lakes
The Watershed Foundation (Indiana)
Spokane RiverFriends (Idaho)