

# A wake-up call:

## The power of multi-state collaboration

Susan Gallo and Melissa DeSimone

### Background

Conflicts among boaters and other lake users inevitably arise when one group's actions affect others or when one user group has an outsized impact on lake health. The simple solution is for all user groups to share the water, be mindful of how their use impacts others, and act in ways that protect the long-term health of waterways. But life is not simple. Policies that guide natural resource uses can be contentious and complicated. However, they are essential to protecting both users and the resource from unintentional and inevitable impacts.

Wakes produced by power boats operating close to shore have long been a source of conflict and aggravation for many who swim, paddle, sail, boat, fish, or live on lakes. When power boats operate too close to shore or too close to other lake users, their wakes can wreak havoc by stirring up sediments (especially in shallow water), scouring lake bottoms, eroding shorelines, destabilizing banks, increasing phosphorus loading, damaging personal property, endangering lake users, and degrading vital fish and wildlife habitat.

There are established policy solutions to mitigate the impacts and risks of smaller wakes generated by more traditional powerboats. For example, Maine has a designated Water Safety Zone that extends 200 feet from the shore where boaters must operate at no-wake speed. For boats generating smaller wakes, 200 feet from shore allows those smaller wakes to dissipate in both power and height, so the impact (and potential conflict) when the wakes reach shore are minimized. When the rule is followed, and when the initial wakes are relatively small, it protects lake health, lakeshore integrity, wildlife habitat, safety, and other lake users.

However, once wakes get larger, as we've seen with new boat technology and

*“Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has.”*

~ Margaret Mead

designs, a 200-foot no-wake rule is no longer protective of lake health. Ballasted boats, typically sold as “wake boats,” are a game changer in the world of wake generation and wake policies. Ballasted boats add weight to lower the boat in the water, often raising the bow so the boat will plow through the water at a greater angle and directing prop wash to lake bottoms. Wake heights have been increasing over

time, with wakes of four feet the current standard.

Wake boats operating in wakesport mode and traveling at about ten miles per hour allow a surfer to get up on a board behind the boat, using the enhanced wake on either the right or left side to push them behind the

boat without the use of a rope. In the sport of wakeboarding, which is possible with smaller wakes, the user's feet are strapped to a wakeboard and they hold on to a tow rope to engage with the wake. Other traditional boats can achieve similar large-wake effects with after-market wake-enhancing devices such as foils and bladders. (For more about wake-related sports, see Table 1.)

**Table 1.** Types of Motorized Boats and Towed Sport Activities

<i>Boat or Activity</i>	<i>Characteristics (with notes about wake sports in italics)</i>
Ski Boat / Skiing	Designed for speed and to minimize wake for towed skiers.  Skiers may be on two skis, one ski, or barefoot.  <i>Wakeboarding can be done behind a ski boat, but the large wake desired for tricks can only be achieved by adding ballasts or after-market wake devices.</i>
Wake Boat	Designed to be heavy and shaped to create a large wake.  Specifically for wakeboarding and wake surfing, generating wakes 2-3 times larger than more traditional boats.  <i>Skiing can be achieved behind a wake boat, but it is difficult because even without full ballast tanks the wakes are larger than desired by skiers.</i>
Wakeboarding	Standing on a single board with or without bindings to jump wakes and do tricks. Using a board without bindings for skateboard tricks is called wakeskating.  Towed behind the boat by a rope.  Needs a slower speed and larger wake.
Wake Surfing	Standing on a single buoyant board with no rope (other than to start) to imitate ocean surfing.  Ride board in the wake indefinitely, some tricks can be performed.

## Connecting around wake policy solutions

The concerns about larger wakes impacting lake health and the lack of policies to effectively address their impacts brought several statewide nonprofit organizations and advocates together in 2021. A handful of concerned individuals from different states held an initial video conference to discuss ways they could work together around wake policy. They reached out to more organizations and advocates, and an informal group, the National Partnership of Lake Advocates, was formed. More people have been added to the group over the years as concerns over risks from large wakes have grown. There is no funding, official organizational structure, or hierarchy for this truly grassroots effort.

The Partnership meets remotely each month and currently has participants from nine key states from the Northeast to the West Coast. Members share news about wake boat policies, research, and legislative action from their states and surrounding areas. Participants work together to provide guidance on policy approaches, share what has worked or not worked in their state, and track news and events of interest. Participants have shared reports of large wakes generated by ballasted boats engaged in wake sports washing over shorelines, eroding banks, damaging docks, tossing toddlers into the water, washing over loon nests, and putting the safety of other nearby boaters and swimmers at risk.

The group has focused on positive solutions to address safety, access, and lake health issues (summarized in Table 2). How can we manage wake sports to keep the activity in deeper water, away from shore? How can we ensure all users have a safe place on the water? Most importantly, how can we be sure that lake health, so critical for the enjoyment of all boating activity (and for wildlife, habitat, and ecosystem health) is a priority? Over the years, these monthly meetings have provided crucial collaboration, support, and feedback for positive change.

## Status of wake boat / wake surfing rules

One of the benefits of meeting with others across the country is the ability to share resources. The Partnership has grown its shared resource library around wake issues, including the results of studies that build a science-based rationale for sound

**Table 2.** Summary of Large Wake/Ballasted Boat Impacts on Lake Ecosystems (compiled from Ortiz et al. 2024, and Francis et al. 2023.)

	<i>Issue</i>	<i>Potential Policy Solutions</i>
Aquatic Invasive Species (AIS)	Ballasted boats can retain up to 23 gallons of water, even after being drained with electric pumps. The transport of this water between water bodies has the potential to spread even the smallest AIS (e.g., Eurasian watermilfoil, spiny water flea, zebra mussel, etc.)	Require ballasted boats to stay on one lake (home lake rule).  Require decontamination for ballasted boats traveling between lakes.  Require standard drying times (a week or more) to kill potential AIS in ballast tanks.  Require manufacturers to create better drains and filters to capture and contain AIS.
Shoreline Erosion	Ballasted boats can produce wakes that are 2–3 times larger than traditional boats and transfer up to 12 times more power to shorelines, which can erode and destabilize banks, washing sediment (and phosphorus) into the lake.	Require large-wake activities to be further from shore so that wakes have space to dissipate in both size and power,  <i>*Note that armoring shorelines with riprap creates more problems for lake health and is not a smart policy solution to reduce wake impacts.</i>
Property Damage and Safety	Large wakes from ballasted boats have washed over and damaged docks, sunk paddle boats, and tipped non-motorized boaters.	
Ecosystem Health	Prop wash and turbulence from ballasted boats, especially in shallow water, disturb and may destroy native aquatic plant communities, which are cornerstones of food webs and essential to many species of wildlife, including spawning fish and feeding loons.  Enhanced wakes, noise levels, and turbulence can negatively impact wildlife, including onshore nesting birds such as Common Loons and a variety of sport fish.  Manoomin (wild rice) is especially susceptible to intense turbulence and is of serious concern because of its cultural significance.	Require a minimum depth for large-wake activities to keep lake bottoms and habitats intact.  Require large-wake activities to be further from shore so that wakes have space to dissipate.  <i>*Note that propeller wash and turbulence are not unique to ballasted boats, though the angle and depth of their motors and deeper hulls likely exacerbate these impacts.</i>
Sediment Resuspension and Nutrient Pollution	Ballasted boats can resuspend lake sediments at deeper depths than other watercraft, reducing water quality and clarity.  The resuspension of lake sediment can also reintroduce stored and previously inaccessible phosphorus back into the water column, fueling algal growth.	Require a minimum depth for ballasted boat operation to reduce the volume of resuspended sediments and damage to lake bottoms and aquatic habitats.

wake policies. A significant addition to the resource library came in 2023 when the Michigan Department of Natural Resources Fisheries Division (MI DNR) completed a thorough literature review of studies of large-wake impacts to date. With a fisheries lens, this review concluded that boats using wake-enhancing devices should stay at least 500 feet from shorelines and in at least 15 feet of water. (See links to the review and other references at the end of this article.)

There are many approaches to evidence-based wake policies, and the group has seen and weighed in on regulation proposals with very different language and requirements. Oregon was one of the first states to implement wake policies, in part due to the high volume of wake boats operating in narrow stretches of the Willamette River. In 2023, Oregon passed a statute that regulates towed water sports on the Newberg Pool section of the Willamette River. Previously, the state had established regulations for towed water sports on the lower part of the river. The Oregon laws prohibit wake surfing on a narrow section of the river, impose weight limits for towing on the Newberg Pool section, and require wakeboarders and tubers to stay at least 200 feet from docks and other water-related structures. Despite these rules, in July of this year, in two separate incidents, wake boats in no-wake zones on the river capsized three dragon boats and swamped a fourth, a sad example of irresponsible boaters.

After an extensive multi-year effort led by Responsible Wakes for Vermont Lakes (RWVL), a collaborative group of volunteers concerned about adverse wake effects, the Vermont Agency of Natural Resources adopted groundbreaking rules prohibiting wake sports within 500 feet of shore and in less than 20 feet of water. The rules prohibit wake sports altogether on lakes that do not have at least 50 contiguous acres that meet the distance and depth requirement. The rule also embodies a home-lake concept that prohibits lake-to-lake transfer of wake boats without certified decontamination, addressing the risk of transferring and spreading aquatic invasive species. Partnership participants were active in supporting RWVL's efforts.

While some states have policies regulating weight and distance, other states are also including the mode of operation, i.e., is the boat in "wake sport mode"?

After much debate and a legislated working group evaluating policy options, a new Maine law prohibits the activity of wake surfing within 300 feet of shore and in water less than 15 feet deep. The law is likely to be revisited by advocates who initially proposed a 500-foot setback. Partnership participants were extremely helpful in providing feedback about research to the Maine working group.

While Michigan does not currently have legislation for wake boats, the Michigan Lakes and Streams Association and similar organizations are asking lawmakers to pass a bill currently sitting in committee in the House of Representatives that will address the concerns raised by the MI DNR review as well as by property owners and boaters across the state. Advocates in Wisconsin have formed a broad coalition of lake advocates and anglers that recently issued a policy statement calling for wakeboats to stay 700 feet from shore and in water more than 30 feet deep. Similar efforts in other states are likely to follow.

### **Opposition to wake restrictions**

The opposition to wake policies that restrict where or how wake boats operate is fueled in large part by the watersports and boating industries. Some industry groups advocate for distances of no more than 200 feet from shore for wake boat operation. However, the literature is coalescing around a distance of 500 to 1000 feet as the minimum necessary distance for wakesurf wakes to dissipate to the size of those generated by more traditional boats (see the summary of studies in MI DNR, 2023). The industry repeatedly refers to a modeling study it commissioned and funded to support its 200-foot recommendation.

The opposition points to existing regulations that broadly prohibit dangerous boating as adequate for protecting property and safety risks. However, those laws are difficult to enforce and do nothing to protect aquatic habitats. Maine's reckless boater law prohibits boaters from operating at more than reasonable and prudent speeds. Michigan's law makes boaters responsible for damage to life or property from the wakes they generate. In addition to enforcement issues, these laws do not address long-term damage to watershed systems, such as shoreline erosion, bottom scouring, and degradation of shallow

inland waters from repeated wake sport activities too close to shore.

The opposition also points to the wind as a natural source of large waves and has argued that wind-generated waves may have more long-term energy than wakes generated by boats. In general, natural wind forces consistently come from the same direction, and the topography of shorelines adapt to these natural forces. The presence of occasional or periodic large waves on a waterbody does not negate the impact of large wakes made by wake boats nor does it eliminate the need for policies regulating wake creation.

Many wake sport participants are understandably wary of policies that limit their activities. In 2024, the cost of new wake boats ranges from \$70,000 to over \$400,000. During the COVID boat-buying boom in 2020, more than 310,000 new powerboats were sold in the U.S., but less than 5% (13,000) were wake boats. Yet marina owners tell us wake boat sales are a significant source of revenue. The wake boat user group is small, relative to not just other power boaters, but other lake users. The potential for outsized impacts from this small group of users is an important consideration in developing protective wake policies.

### **Conclusion**

Managing power boat impacts with lake protection policies that work for everyone can be difficult and emotionally charged. However, lake protection must be the priority. Without healthy waterways and quality fish and wildlife habitat, our ability to swim, boat, fish and otherwise enjoy lakes is seriously diminished, as is the ability of lakes to provide essential ecosystem services such as public drinking water, upon which many of us depend. Following the science to craft policies that meet the goal of lake protection is critical. While each scientific study of the impact of large wakes has different parameters and protocols, looking to general findings across the breadth of the literature, which continues to grow, is essential.

The science around distance from shore and depth of water is guiding recent policy developments. Directing large-wake activities to deep water (more than 20 feet deep) and at least 500 to 1000 feet from shore and a safe distance from other boaters, allows wake sport participants to enjoy their sport while sharing the water



and reducing safety risks. Based on the science to date, this will also reduce damage to lake ecosystems and prioritize long-term lake health.

For ballasted boats, policies to reduce the likelihood of aquatic invasive species spread as tanks are filled and emptied are also needed. Drying times after filling ballast tanks in infested water and hot-water decontamination before boats move from one lake to another are two possible solutions. Manufacturers are also looking to improve in-boat filtration systems. Coming together as a collaboration of concerned professionals and advocates has been essential in moving smart wake policy forward. By efficiently sharing information, research, news, approaches, and policy options, participants from small nonprofits and volunteer groups with restricted capacity have leveraged their limited advocacy resources. Groups like this one could be formed around other lake issues. All it takes is a few motivated individuals, some good networks, and the magic of a Zoom meeting.

#### References

- Francis, J., Nohner, J. J., Bauman, J., & Gunderman, B. (2023, July). *A literature review of wake boat effects on aquatic habitat* (Fisheries Report No. 37). Michigan Department of Natural Resources. Retrieved from <https://mymlsa.org/wp-content/uploads/2023/07/Fisheries-Report-37-Wake-Boat-Study-Official-Version-Released-on-7.28.2023.pdf>
- Ortiz, D., Meyer, M., Daulton, T., Kovar, B. (2024, May). *The Effects of Wake Boats on Lake Ecosystem Health: A Literature Review*. Wisconsin Green Fire. Retrieved from [https://wlgreenfire.org/2019/wp-content/uploads/2024/05/WakeBoatsLakeEcosystemHealth\\_WGF-May2024\\_Final.pdf](https://wlgreenfire.org/2019/wp-content/uploads/2024/05/WakeBoatsLakeEcosystemHealth_WGF-May2024_Final.pdf)

**For a list and links to wakeboat literature** Michigan Lake and Stream Associations. (n.d.). *Boat wake resources*. Retrieved from <https://mymlsa.org/lake-and-watershed-management/boat-wake-resources/>

**For more information about the National Partnership of Lake Advocates** Email Susan at [sgallo@lakes.me](mailto:sgallo@lakes.me) or Melissa at [melissa.desimone@mymlsa.org](mailto:melissa.desimone@mymlsa.org)

**Susan Gallo** joined Maine Lakes, a state-wide nonprofit that acts to protect the future health of Maine's lakes, as their Executive Director in 2018. In that capacity she has helped increase the organization's capacity, expand staff, grow the LakeSmart program, and develop new outreach tools and programming such as the Look Out For Loons volunteer effort. Prior to her time at Maine Lakes, Susan spent 20 years as a wildlife biologist and program manager at Maine Audubon, where she directed the Maine Loon Project, the Maine Amphibian Monitoring Project, the Forestry for Maine Birds Program, and Maine Audubon's Renewable Energy Program. Her education includes a B.S. in Natural Resources from Cornell University, and an M.S. in Organismal Biology and Ecology from the University of Montana. She has worked as a certified Stewardship Advisor for the state of Montana, monitored avian nesting success for timber companies, and lived off-shore capturing and banding puffins and terns. Susan is a 2011 TogetherGreen Conservation Leadership Fellow, and a 2018 Source Sustainability Award Winner. She lives in Cumberland Center with her husband and enjoys visits from her kids and grandkids. In her spare time, Susan likes to read, garden, run, hike, and make things.



**Melissa DeSimone** has spent the last five years as the Executive Director of the Michigan Lakes and Streams Association (MLSA), a statewide organization working with waterfront property owners in preserving and protecting our inland waterways since 1961. She directs the quarterly publication of The Michigan Riparian magazine and all other MLSA communications. Melissa serves on the board of the Michigan Environmental Council and the Michigan Chapter of NALMS. She organizes an annual conference for MLSA and works with partnerships across the state like the Michigan Inland Lakes Partnership, the Michigan Natural Shoreline Partnership, and the Michigan Clean Water Corps. Melissa has a Master's in Educational Administration having started her career as a 6th grade science teacher before turning to the nonprofit world. She enjoys reading, fiber arts, and time spent with her husband and son at Gravel Lake in Southwest Michigan. \*



## This is the Best Time to Try an Aqua TROLL

Our seven-port water quality sonde with interchangeable sensors and antifouling wiper ensures reliable access to actionable data, while reducing maintenance in the field.

Take advantage of our trade-in offer and save.



LEARN MORE

