

Boats, Wakes, Lakes and Wakeboats

June Fichter
Resident of Lake Sunapee and Executive Director LSPA

April, 2020

While wake-boats may be fun for many people, they create some concerns and negative effects for other activities around lakes, ponds, and rivers.

Some research has been done on these effects from boats in general. (See Slide 2.) One such study was done in Wisconsin in 2000. The effects studied included emissions and exhausts, propeller and hull contact, turbulences, waves and wakes, noise, and movements. This study focused on aquatic ecosystems, with human enjoyment and safety as a sideline.

Of particular note (See Slide 3) relative to the current discussion of wakes from wake-boats, are: turbulence, sediment re-suspension and turbidity. Bigger wakes can lead to bigger disturbances. In shallow areas, re-suspension is more likely, and particularly important because re-suspension releases phosphorus. Phosphorus is the leading cause of cyanobacteria (green scum) and algae in lakes. Economically, harmful algal blooms reduce or eliminate watersports, fishing, and swimming, as well as reduce property values and tax revenues.

Slide 4 shows Oregon State Marine Board's comment on damage to shorelines, referring to hydrologists' estimates. And Slide 5 (from an Oregon State presentation) refers to the industry's (WSIA) own wakeboard and wake-surfing influence on shorelines. By inferences, we can say that operating 250 feet from shore in water greater than 15 feet would help reduce the wake effects.

My experience on Lake Sunapee is that even at 250 feet away, trying to get onboard a small sailboat can be more than challenging when wake-boats continually go by. Grandkids can't safely kayak. For that matter, my neighbor can't get into her kayak either. Other family and friends enjoy stand-up-paddling, but not in the presence of wake-boats. So, are we to give up our activities for wake-boats? If the water levels are high, one can't even just sit on the dock.

At the Lake Sunapee association (LSPA) office, we receive many calls complaining about wake-boats. Most, not all, pertain to the harbor areas and narrow channels. (See Slide 8). A compromise would be to discourage wake-boat activities in these areas, leaving plenty of space for them in wider sections of the lake. That might reduce the number of complaints.

Slide 6 refers to wake-boat technologies, which are techniques to produce bigger and better wakes. That is to be expected as the industry looks for the next competitive edge. But where does it stop? How high should a wake be? (And how deep does that wake go). There really should be a limit.

Wind-driven waves can and do cause erosion. But when there is boating activity, particularly boats with more intense waves appearing on the scene, their activities can accelerate erosion. (See Slide 7.)

The industry itself can see that some education and limitations are necessary if they are to survive. The question is: does their education efforts go far enough? (See Slide 9.) We don't believe so. In their education material, they suggest staying 200 feet from shore. In my experience, that is insufficient. As for repetitive passes, their suggestion is vague.

In summary, (See Slide 10) the concerns for lake management of wake-boat impacts are:

1. Spread of invasive species
 - Ballast tank water can relocate invasives from one place to another, either in the same lake or a different water body.
2. Sediment re-suspension
 - Deep wave action churning up the benthic layer, can release sediment phosphorus, contributing to cyanobacteria blooms.
3. Effects on the public
 - Wake-boats close to shore, making multiple passes, or driving in circles all make other lake activities and enjoyments either impossible or dangerous for kayakers, children and families, canoeists, sailors, people, wading or sitting on shore.
4. Increase in shore erosion
 - Shore erosion has natural causes such as wind and rain. But large, compounded wake-boat wakes also contribute unnecessarily, when driven in small coves, too close to shore, in circles, and in multiple passes.

My summary for potential and reasonable impact solutions (See Slide 11):

1. Spread of invasive species
 - Educate Wake-boaters on the requirement to clean their boats including ballast tanks.
2. Sediment re-suspension
 - Require wake-boaters, when wake-boating, to operate in deep waters and to remain at no-wake speed in shallow waters.
3. Effects on the public
 - Wake-boating should not occur near shore, should be single pass only, and not in circles, to allow other lake activities and enjoyments for kayakers, children and families, canoeists, sailors, people wading, sitting on shore.
4. Increase in shore erosion
 - Shore erosion will be limited if the above can be accomplished.
5. Policy and Education
 - Need users, the industry, marine patrol, lake associations to work together for reasonable action.