Key Issues Requiring Attention on Cedar Lake

The Board of Directors of Cedar Lake Owners Association (CLOA) have been closely following 2 topics that have become major issues for lakes across Connecticut and across the country. These issues will be discussed at the upcoming member meeting as we feel a properly invested and educated membership is a key component in managing these issues. The issues are:

- Invasive Weeds: mainly hydrilla and milfoil
- Wake Boats

The key points are summarized below with more detailed information attached for those wanting to dive deeper. We encourage you to do so.

Invasive Weeds:

- #1 cause of spread between lakes is human transportation via boats, boat trailers, ballast bags, anchors, fishing gear, kayaks, paddleboards, canoes and tubes
- CT lakes facing these problems: Twin Lakes (Salisbury), Coventry Lake, Candlewood Lake, Lake Zoar, Gardner Lake, Lake Bashan, CT River, Lake Lillinonah
- Impact: ecological, recreational, decrease in home values.
- Studies indicate that lakefront properties on infested lakes can see a 19% to 40% decrease in value
- What you can do: get educated, report sightings immediately, strictly follow clean, drain and dry protocol

Wake Boats:

- The Connecticut Federation of Lakes held a meeting in April to review CT DEEP's Draft Wake Boat and Wake Surf Study. Key Findings include:
    - Wake boats can pose greater adverse effects on lake water quality than other types of motorized watercraft, especially in shallow water. Cedar Lake has an average depth of 7.9 feet. States with depth restrictions require a min of 15-20 feet.
    - Wake boats create divergent waves 2-3 times higher, had 3-9 times more energy and were 6-12 times more powerful than non -wake boats operating at planing speeds. To mitigate this impact, one study showed that wake boats require minimum operational distance of 500-600 feet from shore. Cedar Lake is only 140 acres and is no wider than 1500 feet at its widest point, making it difficult to maintain 500 feet from shore and other watercraft.
    - Wake boats can be a hazard to small watercraft and cause shore erosion and property damage.
    - Wake boats pose an increased risk to the spread of Aquatic Invasive Species (AIS) due to the downward-directed propeller wash and increased wave energy that can break apart plants, stir up sediments and lift AIS fragments into the water column that would otherwise remain sedentary.

Why Are Wake Boats Not Suitable For Use On Cedar Lake

1. Cedar Lake is shallow with an average depth of 7.9 feet with a maximum depth of 11 feet. Water clarity in the lake has diminished greatly since 2024.

CT DEEP Wake Boat and Wakesurf Study 3/3/26:

Wake boats produce increased water velocities beneath the boat and along the boat path due to bow and stern pressure waves, propeller wash, and transverse waves (Riesgraf et al. 2025). The effects of these phenomena occur simultaneously and penetrate down into the water column along boat path with sufficient energy to interact with the lakebed. These factors are relevant to the question of the depths at which wake boats should operate.

Resuspension of Sediments: *The extent of plumes of resuspended sediment was measured using the echograms produced by an ADCP deployed in 14 feet of water. Non-wake boats did not produce plumes that could be detected while wake boats produced plumes that were detected at an average of 4.3-5.7 feet above the lakebed. The bow and stern pressure waves for* ***wake boats were found to initiate the movement of lakebed sediments to a depth of 20 feet.***

While distance restrictions are the most common policies enacted by states, depth restrictions were frequently recommended in both public comments and reflected in other state's policies. ***Two states, include depth restriction for wakesurfing – Vermont in water depth less than 20 feet and Maine in depths less than 15 feet. Depth restrictions are important from an environmental perspective because they help mitigate water quality impacts as well as the fish and aquatic plants that depend on water columns and lake-bottoms for habitat.*** *Despite researchers facing similar challenges as distance studies, these studies provide helpful insight into the impacts wakes and propeller wash can have on water bodies.*

Research reviewed by DEEP indicates that wake boats can pose greater adverse effects on lake water quality than other types of motorized watercraft. When ballast compartments are full, wake boats displace more water and create larger wakes than traditional boats, leading to phosphorus resuspension in the water column from lake sediments and decreased water clarity (turbidity). Also, the force of the boat propellers pushing water downwards can disrupt a lake's natural water column stratification process

Lakes with shallower depths are likely to be more impacted because wake boat propellers can mix water down to the bottom of the lake more easily. Riesgraf et al (2025) found that at depths of 10 to 15 feet transverse wave velocities produced by wake boats were 2–3 times larger than non-wake boats. Such constant water column mixing from wake boating can adversely disrupt the ecological system of a lake. Dissolved oxygen levels and water temperatures may be impacted as the warm water from the epilimnion is forced down to the hypolimnion layer which is cold and oxygen depleted (Riesgraf et al. 2025).

DEEP's review of available research concludes ***that the operation of wake boats can cause impacts to water quality of lakes through turbidity, phosphorus resuspension****, and changes to the natural water column stratification process.*

Minnesota Coalition of Lakes Assn Study:

University studies (like those from the University of Minnesota) ***recommend 20 feet as the baseline for wake boats*** *in surfing mode to prevent the resuspension of phosphorus and sediment*.

CLOA Environmental Study of Cedar Lake Conducted in 2025:

*With a relatively shallow maximum depth, Cedar Lake likely does not stratify or only does so periodically through the summer months. Even in this well mixed state, the bottom water sample showed drastically higher (5x) amounts of Total Phosphorus (TP) at the bottom than on the surface****. This is evidence that Phosphorus is actively being released from the sediment and then used up by algae/cyanos in the presence of light****. This sediment release of phosphorus is called internal-loading and is the major driver of algae/poor water quality in many lakes. Direct testing of lake sediment in three locations also confirms a significant amount of phosphorus is found within the sediment.*

2. **Cedar Lake is a small lake with an area less than 140 acres and is no wider than 1500 feet at its widest point making it difficult to maintain a distance of 500 feet from any shoreline or other watercraft. Large waves from Wake Boats can be a hazard to small watercraft and cause shoreline erosion and property damage**

CT DEEP Wake Boat and Wakesurf Study 3/3/26:

Marr et al. (2022) found that wake boats created divergent waves that were 2-3 times higher, had 3-9 times more energy, and were 6-12 times more powerful than non-wake boats operating at planing speeds. Additionally, Marr et al. (2022) found that ***wake boats require minimum operational distance of 500-600 feet from shore*** *to achieve the same maximum wave height, total wave energy, and maximum wave power produced by a non-wake boat operating at planing speed 200 feet from shore; it is important to note that this does not mean that waves have completely dissipated to ambient conditions.*

The public comments provided numerous reports of ***wake boats creating adverse boating conditions for those on the water, especially for non-motorized vessels*** *navigating on*

Connecticut's inland water bodies. Smaller vessels such as Stand-Up Paddleboards (SUPs), canoes, kayaks, rowboats, and small sailboats are all vulnerable to the effects of wake boats because they have a low freeboard which is the vertical distance between the waterline and the top of a boat's hull or gunwale; they tend to be lightweight; and they can be difficult to maneuver quickly. Large wakes can cause swamping, which is when a boat fills with water that enters the boat over the gunwales; create a risk of capsizing; send smaller boats off course into dangerous areas; and cause the need for continuous bracing for waves creating fatigue and anxiety. In addition to these non-motorized vessels, other motor boaters routinely also passively recreate on Connecticut's waters by drifting or anchoring to fish, picnic, swim, or just enjoy the sun. When not under power these passively recreating motor boats can also be dangerously rocked by a wake boat operating within close proximity – or compounding the effects when more than one wake boat is operating nearby.

3. Cedar Lake is vulnerable to the spread of invasive aquatic plants, such as Milfoil or Hydrilla, transported from other lakes by Wake Boats with ballast tanks.

CT DEEP Wake Boat and Wakesurf Study 3/3/26:

Boats are one of the common vectors by which Aquatic Invasive Species (AIS) are spread within and between water bodies. When plant fragments, seeds, other plant propagules, mussel veligers, or small organisms get stuck to or trapped within wet areas aboard boats they can be carried to new locations and deposited there. ***Wake boats pose a particularly increased risk to the transmission of AIS compared to other common recreational vessel types due to their large ballast tanks which are designed to be filled and emptied directly into water bodies and are often difficult to completely drain.*** *If not sufficiently cleaned, drained, and dried or otherwise effectively decontaminated, ballast tanks have the potential to transport live plant fragments or organisms suspended in residual water over long distances and long time periods.*

In addition to concerns about transporting AIS in ballast tanks, ***the downward-directed propeller wash and increased wave energy produced by wake boats can also contribute to the spread of AIS. These forces can break apart plants, stir up sediments, and lift AIS fragments into the water column that would otherwise remain sedentary****, increasing the chances that these species drift, spread, and become established in new areas*

CT Lakes - Restrictions on the use of Wake Boats

- **Local Ordinance Sec. 13-2 (b) Prohibition of Wake Boat Operation on Lake Waramaug**

1. No person shall at any time operate on Lake Waramaug a vessel while employing one or more ballast tanks, weight-loading, hydrofoils, wake shapers, or any other device(s) to artificially enhance or increase its wake.

2. Prior to their launching on Lake Waramaug all power vessels shall be inspected for environmental fitness (as is provided in the Agreement dated June 28, 2004 among the State of Connecticut Department of Environmental Protection and the Towns of Washington, Warren and Kent).

3. Any person violating this Ordinance shall be fined two hundred and fifty dollars for each occurrence in accordance with Connecticut General Statutes Section 7-148 as the same may be amended from time to time. Any such violation which is of a continuing nature shall be deemed a separate violation each time it occurs. Each day a violation continues shall be deemed a new occurrence.

Bashan Lake & Moodus Reservior – East Haddam

Wake enhancement and wake surfing are strictly prohibited on Bashan Lake. The Town of East Haddam enforces a local ordinance making it illegal to operate a motorboat to allow wake surfing, effectively banning the use of wake boats and artificially enhanced wakes.

Other States - Wake Boat Restrictions

CT DEEP Wake Boat and Wakesurf Study 3/3/26:

State	Laws	Reference / Link
AL	Restricts wakesurfing within 100ft or 200ft of any shoreline, dock, pier, boathouse, or other structure located on certain named impounded waters. Restricts wakesurfing to at least 400 ft from shore on certain named impounded waters.	AL Code Sec. 33-5-26.1

GA	Prohibits wakesurfing between sunset and sunrise and within 200 feet of any shoreline or structure.	GA Code § 52-7-13.1
ME	Requires wake sports to be conducted at least 300 feet from shore and in areas with at least 15 feet of water depth.	12 MRSA Sec. 13001, sub-§27-A
MD	Prohibits operation of a vessel involved in wakesurfing within 200 ft. from shoreline or structures.	MD Code Regs 08.18.01.09
State	**Laws**	**Reference / Link**
NJ	Wakesurfing tow lines shall be not less than eight feet in length.... "Vessels utilized for the purposes of wakesurfing shall be direct drive or v-drive type propulsion vessels, where the propeller does not extend aft of the transom of the tow vessel. Any vessel in which the means of propulsion extends rearward of the transom of the tow vessel, including, but not limited to, outboard, inboard outboard, and jet drive, shall not be utilized for wake surfing."	NJ Administrative Code, Subchapter 3, Section 13:82-3.1
OR	Bans wakesurfing and wake-enhancing devices on the Newberg Pool section of the Willamette River. Requires boats to weigh less than 5500 lb. including max. ballast capacity, and the state may study raising or lowering that weight limit based on environmental effects. Bans all wakesurfing and wake-enhancing devices (in addition to preexisting ban of	ORS Sec. 830.649

	towed water sports) in Newberg Pool Congested Zone (Willamette River)	
PA	Boats engaged in wakesurfing are limited to slow-no-wake speed when within 200 feet of shoreline, docks, launching ramps, swimmers or downed skiers, persons wading in the water, anchored, moored or drifting boats, floats, except for ski jumps and ski landing floats, and other marked areas.	58 PA Code Sec. 109.4
SC	Wake sports permitted only when at least 200 feet from docks, swimmers, and other anchored craft.	SC Code Sec. 50-21-870(B)(9)
TN	Prohibits wakesurfing between sunset and sunrise, within 200 feet of a shoreline or dock, and on bodies of water less than 50 acres in size.	TN Code Sec. 69-9-221
VT	Restricts wakesurfing to designated zones that are at least 500 feet from shore, at least 20 feet deep, at least 200 ft. wide, and on water bodies that provide at least 50 acres of acceptable wakesurfing zone.	12-027 Code VT R 12-030-027-X