

Environmental Concerns Associated With Ballast Tanks

The usage of ballast tanks in boats while actively engaging in water sports is a fairly new phenomenon. Simply stated, a ballast tank is a water storage tank in a boat that can be filled with water to lower the level of a boat in the lake so that at speed it will create an oversized wake. Water is pumped into the tank from the lake to create a large wake for water sports and then discharged back into the lake when finished. While at first, this seems rather inconsequential, it does have potential negative environmental impacts to a body of water if not used responsibly. Below, is an excerpt from another lake association newsletter referring to a study done on ballast tanks in 2016.

A study from the Great Lakes Region (Campbell et al. 2016) examined ballast bags from 13 different vessels that had been docked for at least seven days. They found these bags could not be fully drained and contained residual amounts of water ranging from 1 to 87 liters. Of the 13 bags they examined, nine contained live aquatic organisms, two of which included live zebra mussel larvae.

This means that these vessels, with incomplete discharge of their ballast intake and typically no filtration or disinfection capabilities for the ballast system, could move water (and potentially harmful organisms) from one waterbody to another. We know a drop of lake water can contain thousands of organisms, and liters of water can contain hundreds of thousands of potentially problematic organisms!

In addition to moving volumes of water, these boats under the weight of ballast are heavy and sit low in the water. At operating speed for towing boarders and skiers or creating waves for surfers, they displace a lot of water, sending a series of tall waves across portions of the waterbody on which they are operating.

These waves have several times more energy than waves produced by un-ballasted ski vessels. This could lead to stirring up bottom sediments, shoreline erosion, nutrient loading and plant fragmentation, depending on how close to shore these vessels are operated.

How can ballast tanks affect Big Pond? So long as a boat is used exclusively on Big Pond there is obviously no concern of bringing live aquatic organisms to the lake via the ballast tank. However, if a ballast tank is ever filled with water from another body of water it is imperative to clean the tank prior to launching again at Big Pond as a safeguard against introducing any invasive species to our lake. The brochure from the department of conservation and recreation below outlines several methods of tank cleaning on the second page. I have laminated copies of this brochure for any homeowner that would like to have one for quick reference.

We have worked for the better part of a quarter of a century to keep Big Pond free from invasive species. Our greatest line of defense has been having the boat launch at the end of the outlet that acts as a washing station for any boat coming onto Big Pond. Any ballast tank used on the lake will inevitably be emptied into the lake before exiting Big Pond via the outlet, rendering our greatest line of defense ineffective. So please, anyone that has used their ballast tank in another body of water, it is imperative that the tank be cleaned prior to re-launching onto Big Pond. Additionally, if anyone has a guest or a renter that plans to bring a boat onto Big Pond that utilizes a ballast tank, please let them know that they must clean their ballast tank by one of the approved methods recommended by DCR before launching.

Outsized wakes caused from ballast tanks can also pose environmental risks of their own, especially if the boat is operated close to a shoreline. Many nutrients get “locked up” in the bottom sediment of a body of water such as Big Pond, rendering them more or less harmless to the ecology of the lake. Stirring up the bottom sediment can activate those nutrients and, in turn, create a negative effect on water quality. Additionally, there are aquatic weeds that primarily regenerate through fragmentation, including native species. A native species can act just like an invasive under the right conditions, such as over fragmentation, and over populate and choke the shoreline. Though not all areas of Big Pond are subject to erosion, there are stretches of shoreline that are and can be negatively impacted by an outsized, powerful wake being generated close to the shore.

We all love Big Pond and must be vigilant to keep our “slice of heaven” as pristine as possible. Ballast tanks are just another issue in a host of issues that we need to stay in tune with. WE can successfully address this by making certain that all ballast tanks are properly cleaned before entering Big Pond and that we all operate our boats with outsized wakes as far from the shoreline as is practical. If you have any questions or comments I can be reached at fcryon@hotmail.com or 203-915-0621.

Fred Ryon

STOP AQUATIC HITCHHIKERS!™



Prevent the transport of nuisance species.
Clean all recreational equipment.
www.ProtectYourWaters.net

When you leave a body of water:

- **CLEAN, DRAIN** and **DRY** anything that came into contact with water and remove all plants and other debris from boats, trailers, equipment, etc.
- **NEVER** release plants, fish or animals into a body of water unless they came from that body of water.

IT'S THE LAW!

Up to \$5,000 fine

MGL c. 21 s. 37B
302 CMR 18

To Report Violations: Contact your Local Harbormaster or
Massachusetts Environmental Police at (800) 632-8075
www.mass.gov/lakesandponds

PREVENT THE SPREAD OF AQUATIC INVASIVE SPECIES

A. Clean, Drain, Dry. All visible plants, mud, or other debris should be removed. All drain plugs should be pulled with any standing water allowed to fully drain. The watercraft and equipment should then be allowed to fully dry for 1 week during July and August, 2 weeks in June and September, and 4 weeks before and after these dates. Dry times should be longer if weather has been unseasonably cool or wet.

Note: Vessels that have been exposed to freezing temperatures for the winter are considered to be decontaminated.

OR

B. Clean, Drain, Decontaminate. After cleaning and draining, use an approved decontamination method or combination of methods on all vessel parts in contact with water and carpeted trailer bunks:

Steam or Scalding Hot Wash (>140 degrees): To achieve this temperature at the surface being cleaned, water temperature must be as close to 155 degrees as possible at the nozzle (Note: Caution should be taken as this temperature may cause scalding to exposed skin). Keep contact for 10 seconds or more. High pressure spray is best to clean the outside surfaces of vessels and low pressure should be used to flush live wells, bilges, ballasts, and engines. Run the water through the craft's cooling system for at least 10 seconds at 140 degrees. Use "ears" for outboards, or garden hose for personal watercraft and inboards as you would normally for winterization or running while out of water.

Note: All decontamination procedures should be implemented away from water bodies and storm drains draining to watercourses.

Cleaning Solutions

Disinfectant	Concentration	Contact Time
Steam/Scalding hot wash	>140°F	10 Seconds
Chlorine/Bleach Solution	1 oz. per gallon water	10 Minutes
Lysol	1% Solution	10 Minutes
Vinegar	as sold - 100%	20 Minutes
Freezing	<32°F	24 Hours



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HITCHHIKERS!**

Prevent the transport of nuisance species.
Clean all recreational equipment.
www.PreventTheHitchhiker.com

To report a AQUATIC INVASIVE SPECIES sighting or for more information, contact Massachusetts DCR Lakes and Ponds Program at 617-626-1250 or www.mass.gov/lakesandponds