

# STEWARDSHIP GUIDE FOR PROTECTING AND PRESERVING LAKE BOON

Lake Boon is a treasured natural resource – a great place to swim, boat, fish, or bird watch. However, the lake cannot stay clean and healthy without us doing our part by becoming its stewards to keep it that way.

Lake Boon is threatened by nuisance aquatic vegetation and excessive nutrient loading. The nuisance aquatic vegetation found in Lake Boon is Fanwort (*Cabomba caroliniana*) and Variable Milfoil (*Myriophyllum heterophyllum*). This guide focuses on nutrient loading. Some nutrient loading is natural and unavoidable, but some comes from human activities – from fertilizing lawns to washing cars and failing to maintain septic systems.

Everyone who lives in the Lake Boon watershed – the land that drains into the lake – can make a difference. Please take the time to learn how to minimize your impacts on the lake. Read and follow this guide. It lists many simple actions we can take as stewards to help ensure that future generations will be able to enjoy Lake Boon as we do today.



*This guide was produced by Lycott Environmental, Inc. in conjunction with the Lake Boon Quality Assurance Team (LBQAT) – a representative group of individuals appointed by the Lake Boon Commission (LBC).*

*Some of the information contained in this guide has been adapted from "Keep it Hardy: A Care Guide for Our Neighborhood Pond", produced by the Hardy Pond Association, Waltham, Massachusetts.*

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## MISSION STATEMENT

It is the mission of the Lake Boon Association and the Lake Boon Commission to preserve, protect and enhance the environmental, aesthetic, recreational and economic value of Lake Boon, and to strive for a sensible balance between recreational activities and healthy wildlife habitats through in-lake and watershed management.

## LAKE BOON NEEDS US TO DO OUR SMALL PART!

The cumulative impact of numerous individual actions can make a big difference in the quality of Lake Boon. This brochure contains many practical suggestions on how each of us can contribute to the improvement of the lake. Separately each of us can make a ripple, but collectively we become a wave and can make Lake Boon a better lake – enhancing its recreational value and at the same time increasing the viability of its wildlife habitat.

Do your part and strive to follow these simple guidelines to help maintain Lake Boon as a beautiful, natural resource for future generations.

## HELP PREVENT EXCESSIVE AQUATIC VEGETATION AND ALGAE

One of the nutrients that aquatic plants thrive on, also known as the limiting nutrient, is phosphorus. Phosphorus is found in rocks, soil, plants, animals, household soaps, laundry detergents, and lawn fertilizers.

Since phosphorus is a food source for aquatic plants and algae, small quantities can significantly increase weed and algal growth.

### ► Steps That Can Be Taken To Prevent Excessive Phosphorus From Entering Lake Boon:

- Check household product labels for phosphorus content and minimize their use.
- Utilize low-phosphorus or phosphorus-free lawn fertilizers, if any at all.
- Set up vegetated buffer zones.
- Don't feed ducks or geese.
- Maintain septic systems.
- Control runoff and erosion.
- Thoroughly rinse winterized and professionally cleaned watercraft away from the lake before launching.
- Do not wash vehicles, watercraft or trailers where runoff can occur.
- Pick up after your pet (on land and lake ice) and dispose of its waste responsibly.
- Always clean up after any recreational activities, on shore or on the lake year-round.

### ➤ Household Products:

Although the Massachusetts Legislature passed a law requiring that only non-phosphorus laundry detergents be sold in Massachusetts, many other products contain varying levels of phosphorus. Please check the labels on household products to be certain they contain low phosphorus levels, especially products that are used to wash vehicles. The water used to wash vehicles can be washed into a local tributary or storm drain and into the lake.

A list of low-phosphorus automatic dishwasher detergents can be obtained from the Organization for the Assabet River (OAR) at <http://www.assabriver.org/nutrient/detergents.html>.

### ➤ Lawn Care Recommendations:

The quest for a “perfect lawn” can pose several threats to the life of the lake. A closely cropped lawn that slopes down to the water’s edge does little to trap phosphates in the storm water runoff from driveways and roads.

Many lawns are over-treated with fertilizers. Fertilizers of any kind are discouraged as they not only provide lush green lawns, they contain nutrients, such as phosphorus and nitrogen, that also feed algae that will create a green lake.

Consider not fertilizing lawns, but if you must:

- Have your soil tested to determine what nutrients your lawn needs ([http://www.state.ma.us/dfa/waterwellbeing/soil\\_needs.htm](http://www.state.ma.us/dfa/waterwellbeing/soil_needs.htm)) beforehand, then,
  - Use phosphorus-free or low-phosphorus fertilizers available for lawns and gardens.
  - Do not fertilize before a rainstorm.
  - Avoid over-application of fertilizers.
  - Avoid fertilizing during the summer. (Turf grass demand for nutrients is low at this time of the year.)

- Read labels to determine correct application rate.
- Keep vegetable gardens small and limit the use of fertilizers.
- If you use a lawn care company, find one that uses Integrated Pest Management (IPM). Lawn care professionals that use IPM are focused on chemical treatments to specific pests and their areas of infestation.
- Do not dump yard waste into the wetlands, water or along the shoreline of the lake – this is illegal and it contributes nutrients to the lake.

### ➤ Vegetated Buffer Zones:

An effective means of preventing phosphorus from entering the lake is by setting up and maintaining vegetated buffer zones (VBZ). VBZs help filter nutrients before they reach the lake, minimizing the impact of fertilizers, household products, and sediment particles from lawns, driveways and streets. Plants in the buffer zone use the nutrients and reduce surface water runoff.

Buffer zones can be as small as 2’ – 3’ wide along the shoreline of the property, but it is recommended that they be at least 10’ – 15’ wide at the property owner’s discretion.



In addition to filtering nutrients, surface water runoff and sediment particles, VBZs also help discourage waterfowl, such as geese, from feeding on lawns.

The easiest way to create a VBZ is simply to leave a wide unmown strip of grass along your waterfront. For a more landscaped look, an effective buffer zone can be created with a variety of native shrubs, ground cover and trees. The VBZ should remain undisturbed, i.e., do not rake the leaves and limit foot traffic to a bark-mulch winding path. Do not use fertilizers in VBZ.

## Suggested Buffer Zone Plantings

### Trees:

Red Maple (*Acer rubrum*), Birch (*Betula sp.*), Black Gum or Tupelo (*Nyssa sylvatica*), White Ash (*Fraxinus americana*), and Willow (*Salix sp.*).



### Shrubs:

Shadbush (*Amelanchier canadensis*), Sweet Pepperbush (*Clethra alnifolia*), Red Osier Dogwood (*Cornus stolonifera*), Witherod (*Viburnum cassinoides*), Highbush Blueberry (*Vaccinium corybosum*), Fetterbush (*Leucothoe racemosa*), Swamp Azalea (*Rhododendron viscosum*), and Buttonbush (*Cephalanthus occidentalis*).

### Ground Cover:

Ferns (*many species*), Dewberry (*Rubus hispidus*), Pachysandra (*many species*), and Daylily (*Hemerocallis*).

### Waterfowl:

Lake Boon has a diverse fisheries and wildlife habitat, which includes, but is not limited to, ducks, geese, swans, and a variety of other birds, as well as beavers, muskrats, fish, frogs and turtles.



While waterfowl can be aesthetically pleasing, feeding waterfowl, especially geese, is strongly discouraged. Waterfowl move from one water body to another, often carrying plant fragments or seeds. Feeding waterfowl encourages a larger population that may carry and introduce

additional invasive plants to Lake Boon. In addition to the threat of nuisance aquatic plant infestations, the defecation (by waterfowl or other animals) in the lake and along the shoreline increases nutrient and bacterial loading.

### Wildlife Recommendations:

- Do not feed any wildlife. They will become dependent on humans for food rather than eating the diet nature intended.
- Do not disturb or approach wildlife; use binoculars or cameras with zoom lenses for closer observation.
- Turtles are not toys! Be careful; not only the big ones, but even the smallest snapping turtles deserve respect.
- When fishing, practice a catch-and-release method, and be certain to remove remnants of monofilament line, as it is hazardous to wildlife.



### Maintain Septic Systems:

A failed septic system can contribute a significant nutrient load to the lake, not to mention increased bacterial problems. Failing systems can create a particularly hazardous situation at Lake Boon due to the close proximity of wells and septic systems.

Septic systems should be evaluated and pumped at least every one to two years depending on the size of the household, age of the system, and proximity to the lake. Any septic system that begins to show signs of failure should be repaired or replaced.

➤ **Erosion Prevention:**

Erosion washes soil particles into the lake. Soil, especially loam, can carry a significant amount of nutrients, contributing to increased plant and algae growth. Too much erosion causes sediment loading in the lake, which can lead to more shallow water and damaged wildlife habitats.

Please take precautions to prevent soil erosion. Home construction and large remodeling, paving, or landscaping projects can tear up vegetation that would otherwise help keep soil from being washed into the lake. Please check with your town's Conservation Commission for recommendations regarding erosion control during construction projects. Also, please keep an eye on your waterfront and repair any damage from wind, weather and boat wakes.

Remember that a naturally landscaped waterfront is more erosion-resistant than lawns or beaches. Also, adding sand/fill to beach areas in or near the lake is considered an activity/alteration that requires authorization from your town's Conservation Commission. While the establishment of beach areas is desirable for some residents, please realize that every cubic yard of sand placed in the lake is a step toward turning Lake Boon into a wetland.

➤ **Roadway Runoff:**

Roadway runoff can be a major source of sedimentation buildup and nutrient load. Efforts should be made to capture as many solids from runoff as possible before it goes directly into the lake. Catch basins with sumps that are cleaned periodically can effectively capture these soil particles.

Runoff from impervious surfaces, such as driveways, can also be a source of nutrients and sedimentation as a result of periodic sanding/de-icing agents. It is recommended that spring sweeping of driveways be undertaken, as well as street sweeping operations by the Towns of Hudson and Stow.

The use of de-icing agents should be kept to a minimum.

Problems should be reported to the appropriate agency:

Stow Highway Department – (978) 897-8071  
Stow Conservation Commission – (978) 897-8615

Hudson Department of Public Works – (978) 562-9333  
Hudson Conservation Commission – (978) 568-9622

Please notify the LBC at the Town Clerk's Office in Stow at (978) 897-4514 for follow up.

➤ **Storm Drains:**

Whatever is left on the street today may be washed into the lake tomorrow. When it rains, storm drains collect runoff from the street and carry it into the lake along with any petroleum products, transmission oil, radiator coolant, or phosphate-loaded detergents from washing cars, boats, trailers, lawn furniture, etc.

Storm drains are designed to collect storm water runoff. They should not be used to dump automotive or household waste products, leaves, sand or litter.

➤ **Hazardous Materials:**

To prevent contamination of the water in Lake Boon from hazardous materials, the following is recommended:

- Store gas powered equipment and hazardous materials in a safe, secure area.
- Dispose of paint and solvents in a responsible manner; never pour them down the drain, into storm drains or on the ground.

- Allow latex paint to dry out in a well-ventilated area, and then put in the trash.
- Let used paint thinner settle. Once it separates, pour off the clear liquid for reuse. Let the solid residue dry out in a well-ventilated area, then put in the trash. Use caution, these materials are highly flammable.
- Take used motor oil to a service station or auto parts store for recycling.
- Stow and Hudson have hazardous waste collection days. Check with your Board of Health.

Problems should be reported to the appropriate agency:

Stow Board of Health – (978) 897-4514 extension 32  
 Stow Fire Department (if non-emergency) – (978) 897-4537

Hudson Board of Health – (978) 568-9625  
 Hudson Fire Department (if non-emergency) – (978) 562-7069

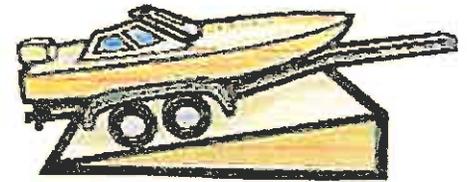
Please notify the LBC at the Town Clerk's Office in Stow at (978) 897-4514 for follow up.

In case of emergency, dial 911 for Stow or Hudson fire, police or ambulance.

## BOATING

Care in the use of boats can prevent a significant amount of lake deterioration:

- Take extra precautions when refueling and cleaning boats to prevent anything from entering the lake.
- When moving your boat from one body of water to another, carefully remove all plant material from both the boat and trailer when hauling out, to prevent the spread of invasive plants to the destination water body.
- Select the much cleaner burning 4-cycle rather than 2-cycle engines for powerboats.
- Minimize intermediate speed operation in all areas, as greater wakes are generated.
- Run boats at high speed primarily in the middle of the basins:
  - To allow wakes to dissipate before reaching the shoreline and reduce erosion and wear on shoreline structures;
  - To minimize re-suspension of sediment and nutrients in shallow waters;
  - To reduce unwanted noise at neighbors' homes;
 and
  - To comply with Lake Boon Boating Rules, which prohibit high-speed operation within 75 feet of any swimmer or other boat.



**It is highly recommend that all users of Lake Boon who do not have a copy of these rules, or are unfamiliar with their provisions, contact the Lake Boon Commission to obtain a copy, or to clarify any questions about their application.**

**For more information, visit the LBA Website at: [www.LakeBoon.org](http://www.LakeBoon.org).**

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