

Manchaug Pond Care Guide

As neighbors along the shoreline or in the watershed of Manchaug Pond, we share special environmental responsibilities. Our day-to-day actions have a considerable impact on the complex and sensitive ecosystem around our pond. The natural slope of the watershed combined with the streams and storm runoff that empty into the pond can make seemingly harmless activities a threat. How you cut your lawn, maintain your septic system, and dispose of yard waste can contribute to the health or deterioration of Manchaug Pond.

Please take a few minutes to discover the simple actions that each of us can take to protect the health of Manchaug Pond.

**The Manchaug Pond Care Guide is produced
by the Manchaug Pond Foundation
(online at manchaugpond.net)
First Edition 2015**

Who We Are

The Manchaug Pond Foundation (MPF) is a 501 (c)(3) non-profit conservation organization dedicated to the preservation and correct use of 380-acre Manchaug Pond and its 4,288 acre watershed. For over 45 years, the members of the MPF and its predecessor, the Manchaug Pond Association, have served a leadership role as stewards of the lake and advocates and educators for its proper use and preservation.

MPF's Recent Accomplishments

2014 and 2012 Water Quality. Secured two nonpoint source pollution grants from the Massachusetts Department of Environmental Protection (MA DEP) with funding totaling over \$240,000. The funds are used for projects that will curtail pollution from entering into the pond from the watershed's runoff, by either reducing the amount so it is naturally filtered or by filtration sites along the pond. The targeted pollutants are nitrogen and phosphorus as well as total suspended solids (TSS), which carry the pollutants into the pond.

2013 Watershed Protection. Saved 100 acres of prime watershed property from development. The MPF successfully purchased the Beaton Farm property, located in Sutton and Douglas. This acquisition included 875 feet of forested Manchaug Pond shoreline.

2012 Lake/Water Level Preservation. Successfully identified, negotiated, and secured an owner for the Manchaug Pond dam and a \$350,000 dam maintenance fund.

The writing and door-to-door distribution of the *Manchaug Pond Care Guide* has been done by Manchaug Pond Foundation volunteers.

We thank the Hardy Pond Foundation (a project of the Waltham Land Trust) for allowing the use of some of their wording and graphics for this guide.

The cover photo is courtesy of Linda Nelson. The photos on the back page are courtesy of (clockwise from upper left) R.L. Charpentier (two photos), Phyllis Charpentier, and Jodi LeDoyt.

The printing and any mailing of the *Manchaug Pond Care Guide* have been financed with Federal Funds from the Environmental Protection Agency (EPA) to the Massachusetts Department of Environmental Protection (the Department) under an s.319 competitive grant. The contents do not necessarily reflect the views and policies of EPA or of the Department, nor does the mention of trade names or commercial products constitute endorsement or recommendations for use.

Please Don't Feed the Weeds!

All of us get annoyed when we go swimming and find aquatic "weeds" floating in the water or brushing against our feet and legs.

Excessive phosphorus is a significant cause of Manchaug Pond's aquatic plant growth. Phosphorus is found in rocks and soil as well as in plants and animals. However, human activities and development along our shoreline and in the watershed can increase phosphorus in storm water runoff to levels many times its natural concentration.



In a body of water such as Manchaug Pond, phosphorus feeds aquatic plants and algae. It is very important for shoreline and watershed residents to reduce the addition of phosphorus to the pond.

Fertilizers, grass clippings, leaves, eroded soil, and animal waste are all sources of nutrients, including phosphorus. Phosphorus is the main nutrient that causes eutrophication (dense growth of aquatic plant life and death of animal life from lack of oxygen) in most lakes. Relatively small amounts of phosphorus can cause water quality declines.

Limiting the phosphorus that enters Manchaug Pond is the single most important step shoreline and watershed residents can take to reduce the growth of aquatic plants in the pond.

How you can help keep Manchaug Pond healthy

You can take the following steps to protect Manchaug Pond:

- Follow recommended lawn, garden, and yard care practices
- Properly maintain your septic system
- Set up a vegetated buffer zone (VBZ)
- Redirect or capture rooftop runoff
- Use caution with hazardous materials
- Protect wild inhabitants of the pond

This care guide provides more information on the preceding steps for reducing aquatic plant growth in our pond and has additional ideas on how you can help keep Manchaug Pond healthy.

To get more information on many of these topics, including composting and organic gardening, rain gardens, and vegetated buffer zones, you can visit www.manchaugpond.net/waterquality.

Lawn Care, Gardens, and Yard Waste

Without realizing it, Manchaug Pond shoreline and watershed residents who strive for the “perfect lawn” may pose several threats to the life of the pond. A closely-cropped lawn does little to trap phosphates in the storm water runoff from driveways and roads.

Many finely manicured lawns are regularly over-treated with fertilizer and pesticides. While fertilizers can give a healthy-looking green lawn, they contain nutrients, especially phosphorus, that increase aquatic plant growth.

Careless pesticide applications to a yard can result in toxic effects on aquatic life. Hundreds of people live in Manchaug Pond’s watershed. The effects of fertilizer and pesticide use are cumulative and can damage this precious natural resource.

If you must use these products, do so sparingly and follow the pond protection guidelines on this page. Easy and inexpensive alternatives to chemical applications can be found online or in an organic gardening book at your local nursery or library.



Recommendations for lawn care, gardens, and yard waste:

- If possible, avoid fertilizing your lawn. Instead leave mulched grass on your lawn by mowing using the mulching capability of the mower to get the desired results.
- If you must use fertilizer, use one that contains zero phosphorus. Liquid fertilizer, when properly applied, can minimize runoff of excessive nutrients and phosphorus.

TIP: On a fertilizer bag or bottle, check the three analysis numbers indicating the percentage of nutrients. The middle number is for phosphorus. As an example, 32-0-10 indicates by its middle number that the fertilizer has zero phosphorus. Some but not all Scott’s and Vigoro lawn fertilizers now have zero phosphorus.

- To lessen the chance of runoff into the pond, avoid using fertilizers or pesticides before a rainstorm. Be aware of the weather forecast.
- Avoid application of fertilizers during the summer. Turf grass demand for nutrients is low at this time and unused fertilizer is more likely to end up in the pond.
- When you cut your grass too short, the roots die back. Allowing your grass to grow taller (at least 3 inches) will result in deeper roots and a better lawn. Taller grass absorbs more rainwater so that less runs off during storms.

- Locate leave and compost piles, vegetable and flower gardens, and planters that will be fertilized as far away from the shoreline and wetlands as possible.
- Avoid or limit the use of herbicides and insecticides, which can be harmful to fish, wildlife, pets, and children. Many natural alternatives are available.
- Do not dump yard waste into the wetlands, water, or along the shoreline of the pond. It contributes excess nutrients that promote undesirable aquatic weed growth.
- Never burn yard waste near the shoreline or wetlands, or put ashes from a campfire in the pond.
- Aquatic plants can be spread by plant fragments. Along the shoreline, if aquatic plant fragments are in the water or on your beach, remove them and dispose in your compost pile or the town’s compost pile.

Maintain Your Septic System

The septic systems of the houses along Manchaug Pond’s shoreline and in the watershed are another significant contributor to the nutrients that enter the lake, degrade water quality, and accelerate aquatic plant growth. In older houses, many but not all of the old cesspool systems have been replaced with up-to-code septic systems.

Maintaining your septic system is critical to the health of our pond.

- For those property owners that have an older cesspool or other not-up-to-code system, replace it with a modern septic system. This can be an expensive improvement, but it will have to be done sooner or later. Doing it now will protect our pond.
- Monitor the levels of sludge in your septic system and have the tank cleaned when it reaches half full. When septic systems are not pumped routinely, the leach field may become clogged.
- Conserve water and reduce the burden on your septic system by fixing leaking faucets. Your septic tank can only handle so much water at a time. The tank needs time to separate the solids and liquids and send the liquids to the drain field.
- Bleach, drain cleaners, chemicals, and paints harm beneficial microorganisms in the septic system. Paper towels, cigarettes, and garbage disposal debris should never be flushed as these products can overload the septic system.
- Avoid using a garbage disposal.
- Don’t do all your laundry on one day. This practice can overload your septic system. Spread it out to allow time for your septic tank to recover.
- Choose commercial drain cleaners carefully as many may be harmful to the groundwater and to your leach field.

Create a Vegetated Buffer Zone



One of the most effective ways of preventing phosphorus from entering Manchaug Pond is to maintain a vegetated buffer zone (VBZ). If you live near the shoreline or wetlands in the watershed, you can help improve the water quality and reduce aquatic weed growth by planting a buffer zone between your lawn and the pond or wetlands.

Vegetated buffer zones help filter nutrients and pollutants before they reach the pond, minimizing the impact of pesticides and

fertilizers from our lawns and oil and grease from streets and driveways. Native shrubs, ground covers, and trees in the buffer zone use the excess nutrients, and their roots slow surface runoff, providing cleaner water to the pond.

Lawns are inadequate buffers because they only hold soil in place. Grass is not thirsty enough and grass roots are not deep enough to absorb even a fraction of the runoff during a rainstorm. With a VBZ, lawn maintenance will be reduced, wildlife habitats will increase, and visual diversity will be added to the landscape.

While it is most important for shoreline and wetland abutters to plant a buffer zone, nearby residents can greatly aid in this effort by planting a similar area on the side of their yard that drains towards Manchaug Pond.

Create an effective buffer zone by following these suggestions:

- Locate vegetable and flower gardens and planters that will be fertilized, as far away from the shoreline or wetlands as possible.
- Use a variety of native shrubs, ground cover, and trees—because in combination they take up the most water and nutrients. See “Suggested buffer zone plantings” for plant ideas.
- Make the buffer zone as wide as possible, but even a six foot buffer zone is better than none.
- Leave the VBZ undisturbed—do not rake the leaves and limit foot traffic to a bark-mulched winding path.
- Do not use fertilizers or pesticides in the VBZ.
- Do not add sand to your beach area. Added sand is a major source of sediments and phosphorus.

Suggested buffer zone plantings

Shrubs

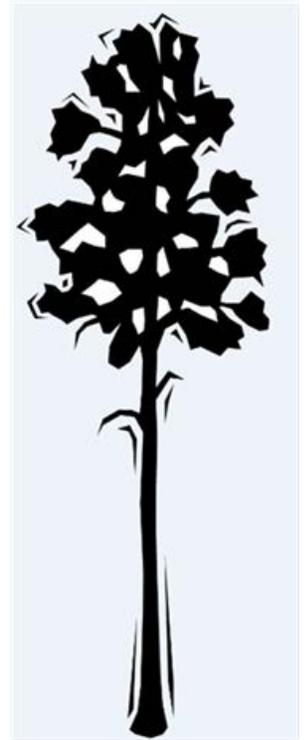
Shadbush (*Amelanchier canadensis*)
Sweet Pepperbush (*Clethra alnifolia*)
Red Osier Dogwood (*Cornus stolonifera*)
Witherod (*Viburnum cassinoides*)
Highbush Blueberry (*Vaccinium corybosum*)
Fetterbush (*Leucothoe racemosa*)
Swamp Azalea (*Rhododendron viscosum*)
Buttonbush (*Cephalanthus occidentalis*)

Trees

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

Ground Covers

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



TIP: For a vegetated buffer zone, Sweet Pepperbush is found all along Manchaug’s shoreline, and its aromatic blooms attract hummingbirds. Buttonbush, when near the water, has seeds that attract ducks. Another favorite is Highbush Blueberry bushes, which attract birds and the berries are great in pancakes and muffins.

For more ideas on creating a vegetated buffer zone, see the Water Quality area (<http://manchaugpond.net/waterquality/>) of the MPF website.

Rooftop Runoff - Harvesting Rainwater

Redirecting downspouts and creating a rain garden can protect the water quality of Manchaug Pond.

On many properties on and around Manchaug Pond, rooftop runoff from gutters and downspouts drains into driveways or onto yards with compacted soil. The runoff eventually flows into the lake, sometimes by way drainage ditches, roads, or local streams.

On its way, runoff water can pick up and carry many substances that pollute our pond. The runoff water carries with it sediment, nutrients like phosphorus, pesticides, and oil and grease from roads and driveways. Runoff not only pollutes but also erodes the banks of streams and the pond. The mix of pollution and eroded dirt muddies the pond's water and causes problems downstream.

Redirect downspouts

- Check your gutters and roof drains and remove any leaves or other debris that may block water flow. If leaf accumulation is a recurring problem, consider installing commercial gutter shields.
- If your roof drain downspouts discharge to your driveway or too close to the house, install extensions that carry the water at least six feet away from the driveway or foundation to a vegetated area of your yard.
- Place a splash block at the end of the downspout extension to spread out the water as it runs onto your lawn. This reduces the potential for soil erosion.

Create a rain garden

A rain garden is an attractive native plant garden with a special purpose: to reduce the amount of stormwater that rushes into a pond or stream. It is constructed as a place to direct the stormwater that runs onto or falls on your property and is landscaped with water-loving native plant species. With a rain garden in your yard, you can use rain the way nature intended — instead of wasting this valuable resource!

A rain garden is located in a low-lying area of your yard which is not too near the shoreline or wetlands and where water tends to run or collect during a rainstorm. It is planted with water-loving native plants that can handle alternately very wet and dry conditions.



Manchaug Pond boat ramp
rain garden

To get more information on rain gardens, visit the MPF website at <http://manchaugpond.net/waterquality/watershed/>.

Use Caution with Hazardous Materials

Large numbers of gasoline-powered boats and jet skis use Manchaug Pond every year. To protect the pond and its wildlife, it is important for boat owners to handle gasoline and oil properly. Other toxic substances such as pesticides, fertilizers, paints and other poisonous chemicals can pollute the pond and harm the fish, birds, and animals that live in or around the pond.



Prevent contamination of the water in and around Manchaug Pond

- Most gasoline spills occur when refueling a boat or jet ski at the dock. When refueling, use a gasoline can that does not leak at the spout. Have absorbent material ready to wipe up a spill before it reaches the water. Then dispose of the material properly. Absorbent material with gasoline on it is dangerously flammable.
- Store gasoline-powered equipment and hazardous materials in a safe, secure area well away from the water.
- Dispose of paint and solvents in a responsible manner. Never pour them down the drain or onto the ground.
- Latex paint can be dried 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, and then put in the trash. Use caution as these materials are highly flammable.
- Used motor oil should be taken to a service station or auto parts store for recycling.
- Avoid using or purchasing detergents and household chemicals that contain phosphates.
- When possible, avoid purchasing paint strippers, solvents, or other highly toxic or flammable materials. They are dangerous to have around and are difficult to dispose of. Look for solutions that are more environmentally friendly and purchase products that are less toxic.
- Avoid or lessen the use of salt (sodium chloride) and chemical “ice-melt” products. The salt and chemicals migrate into streams, the pond, and groundwater. The salt and chemicals harm plants, fish, and animals. Instead of salt, you can use non-clumping cat litter for traction on icy walks.

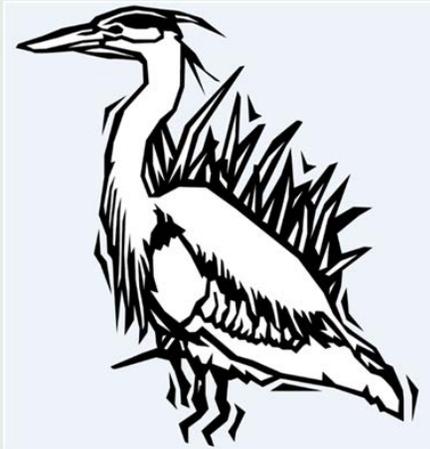
Wildlife

Manchaug Pond is home to an incredible variety of wildlife including birds such as ducks, herons, osprey, and bald eagles; mammals such as muskrats and woodchucks; and many species of fish, snakes, frogs, and turtles.

Protect Manchaug Pond's wild inhabitants

Backyard bird feeders may be harmless, but don't feed other wildlife, including geese and ducks. Waste produced by wildlife, particularly ducks and geese, can be a significant source of bacteria and nutrients to the water. Feeding wildlife adds to the problem.

- Leave no litter in the water or on the ice. Make a habit of removing all trash from the pond and watershed, even if it was dumped by someone else. Debris such as styrofoam, plastics, bottles, broken glass, and cigarette butts are harmful to wildlife and contribute to the pollution of Manchaug Pond.
- When fishing in Manchaug Pond, practice catch-and-release. Also, be sure to take any remnants of monofilament line with you as these are very hazardous to wildlife.
- Don't disturb or approach wildlife. To view wildlife, use binoculars or a camera's zoom lens to capture the moment without disturbing the subject.
- Stay away from bird nesting areas, burrows, and egg beds.
- Turtles are not pets. Turtles in Manchaug Pond are less numerous than in the past. Some of the big snapping turtles can be 100 years old. They deserve our respect and should not be played with.
- When boating or jet skiing, be careful not to travel too near or harass ducks or geese.



Volunteer and Help Protect Manchaug Pond

Many volunteer opportunities exist for helping to protect Manchaug Pond and its watershed. You do not have to be a member of the Manchaug Pond Foundation to help with these efforts. With the exception of pulling shoreline weeds, these volunteer activities do not require strenuous activity.

To volunteer for any of these opportunities, you can use the Contact Us form on the MPF web site at <http://manchaugpond.net/contact-us/>.

Spring Cleanup of the Boat Ramp, Roadsides, and Shoreline

Volunteers work for a few hours one Saturday morning in late April to collect litter and other debris along the roadsides and pond's shoreline. They also rake and do some cleanup at the public boat ramp.

Water Quality Monitoring

At specific times throughout the year, volunteers take water samples at the inlet and outlet of the pond and at locations on the pond. In cooperation with the Blackstone River Coalition, these water samples are analyzed to help determine the health of the pond and watershed.

Fall Invasive Weed Pull and Cleanup

Volunteers work for a few hours one Saturday morning in late October to pull up invasive weeds along the shoreline. They also collect litter and other debris along the roadsides and pond's shoreline and at the public boat ramp.



Weed Watchers

Throughout the year, volunteers who are boating or kayaking on the pond keep an eye out for newly introduced non-native aquatic plants. Weed Watcher volunteers try to identify any new invasive so that it can be eliminated before it spreads on the pond. A short orientation on identifying invasives is part of this effort.

Join the Manchaug Pond Foundation

Becoming a member of the Manchaug Pond Foundation is an excellent way to protect Manchaug Pond. The MPF has as its objectives the "preservation and correct use of the pond." For over 45 years, the MPF has been a very effective steward of the pond.

To join the MPF, visit the MPF web site at <http://manchaugpond.net/join/>. To get a paper application, you can write to: Manchaug Pond Foundation, P.O. Box 154, Manchaug, Massachusetts 01526.

“If you love a place, you will protect it.”



Snapping turtle



Lady slippers