20 WAYS TO PROTECT MERRYMEETING LAKE: HOW WE CAN PRESERVE THE LAKE WE LOVE

The mission of the Merrymeeting Lake Association is to preserve and protect the innate beauty, pristine quality, integrity, and value of Merrymeeting Lake and its surrounding watershed, with the goal of conserving this irreplaceable natural resource for future generations.

Produced by the
MERRYMEETING LAKE ASSOCIATION
PRESERVE AND PROTECT COMMITTEE

Merrymeeting Lake Association

Water Quality Affects Property Values

"There is no single feature of lakes which affects people's enjoyment of the resource more than water clarity."[1]

A loss of 3 feet in water clarity would lower property values in one lake in Maine by 17%.

photo credit: John Brucker

"…buyers of lakeshore properties prefer and will pay more for properties on lakes with better water quality. Therefore, sustaining and/or improving lake water quality will protect and/or improve lakeshore property values. On the other hand, if water quality is degraded, lower property values will result, which in turn will increase demand and development pressures on remaining lakes with the better water quality and ultimately lowering their water quality as well."[2]

photo credit: Stephanie Schmid

INTRODUCTION

Only YOU Can Keep Merrymeeting Lake Pristine!

Our activities on land relate directly to the quality of water in our lake. Shoreland development and other increased human activity contributes to a reduction in natural shoreline vegetation, which can result in soil erosion and polluted runoff in amounts that our lake cannot handle. The water becomes less clear, rocks get slimy, and shallow areas fill with silt and aquatic plants. Consequently, property values drop and people no longer turn to their shorefront properties for the high quality experience they once sought.

An example of decreasing water quality is Lake Tahoe on the California-Nevada border - once one of the clearest lakes in the world. Since 1965, the lake has lost one foot of clarity per year. The most likely causes are increases in algal growth, sediment washed from surrounding areas, and urban growth and development.[3]

Let's not allow this kind of change in the Merrymeeting Lake watershed. Whether we live along the lake or on the hillsides above, we are all part of the same system. In this watershed, most of the land is close enough to the surface water that careless land use practices can negatively affect the water quality of the lake.

This booklet has been developed to help those who live on or near Merrymeeting Lake as they build or remodel homes, manage camps, perform landscaping, build roads or driveways, and maintain septic systems. It contains helpful suggestions for things we can do better and resources where further information can be found.

The future of Merrymeeting Lake and its watershed is in the hands of you and your neighbors. We are the lake's best friends and its worst enemies. What every resident of the lake does each and every day is what will make the difference.

LANDSCAPING AND GARDENING

1. Maintain natural shoreline vegetation.

photo credit: Sue Raslavicus

The natural shoreline serves many purposes: fish and wildlife habitat, land stability, erosion control, wave and ice protection. Even trees that have fallen into the water have value.

Leave existing rocks and aquatic plants in place. Allow native plants, shrubs and trees to take root along your shorefront. Create or maintain a wide buffer of natural vegetation along the shoreline. Leave pine needles on the ground to soak up rainwater and minimize erosion. Consider them a gift: they never need mowing!

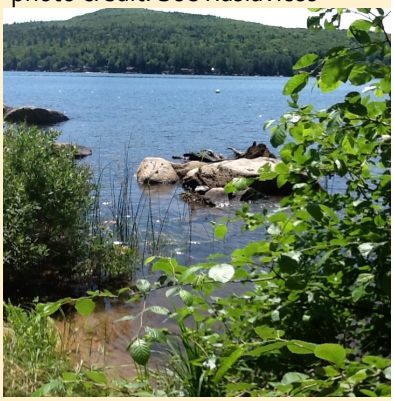

photo credit: Sue Raslavicus

WHY? Shorelines are generally stable due to years of wind, wave and ice action. Alteration of the natural shoreline and its vegetation destabilizes banks and increases erosion and run-off, adding nutrients to the lake and impairing fish and wildlife habitat.

Minimize the cutting of trees or trimming of shrubs within 50 feet of the shoreline, maintaining the natural landscape as much as possible.

photo credit: Sue Raslavicus

WHY? Vegetation traps rainwater. Cutting vegetation will reduce the effectiveness of the shoreline buffer. NH Shoreland Zoning laws require maintaining natural vegetation for at least the first 50 feet from the shoreline and obtaining a permit to cut trees there.

2. Reduce lawn areas.

Replace lawns with natural ground cover, shrubs and trees.

WHY? Lawns require large amounts of fertilizer and pesticides, all of which are harmful to water quality. Natural ground cover soaks up rainwater and reduces erosion.

3. Avoid using chemical pesticides, herbicides and fertilizers.

WHY? Pesticides and herbicides can be toxic. Fertilizers, including organic fertilizers, will help plants and algae grow in the water just as they do on land. Green lawns can result in “green lakes,” green with plants and algae.

LANDSCAPING AND GARDENING

4. Do not add sand to the waterfront.

WHY? Sand introduces nutrients to the water, which increases plant and algal growth and leads to lower water clarity. Note that replenishing a sand beach requires a permit from the NH Department of Environmental Services (DES).

5. Design landscape structures to minimize water runoff into the lake.

- Use "pervious" building materials for driveways and walkways.
- Place drainage swales and plantings near structures, driveways and walkways to divert rain water away from the lake.
- Direct roof gutter spouts away from the lake.
- Design walkways with bends and curves to slow down water runoff.

WHY? By decreasing erosion and runoff, fewer pollutants will enter the lake.

6. Plant native species wherever possible.

WHY? Non-native plants can out-compete native vegetation and reduce natural diversity. The NH Cooperative Extension and DES have handbooks on how to plant native vegetation and establish shoreline buffers (see listing on the back page of this booklet).

photo credit: John Brucker

Japanese Knotweed is considered one of the worst invasive land plant species. It crowds out native species, damages buildings, and is very difficult to eradicate once established.

photo credit: Sue Raslavicus

Viburnum is a native shrub that has beautiful white flowers in spring and produces berries that are attractive to many bird species.

BOATS AND DOCKS

7. Clean, drain and dry boats and trailers BEFORE you launch, no matter where you launch your boat.

WHY? To prevent invasive, non-native aquatic plants and animals from getting into Merrymeeting Lake.

8. Maintain low engine speed in shallow water.

WHY? To avoid stirring up sediments and aquatic plants.

9. Do not use the lake as a bathroom when boating or swimming.

WHY? Human waste contains nutrients and bacteria that are harmful to the lake, wildlife and people.

10. Adhere to current state and local regulations for docks and rafts.

WHY? Oversized docks, breakwaters, boathouses, and other such structures alter the natural habitat and shoreline of the lake.

11. Consider smaller boats with lower horsepower engines and paddle boats (such as canoes, kayaks, stand-up paddleboards) as alternatives to larger boat choices.

WHY? A certain amount of the fuel that enters into a motor is discharged unburned, adding metals and chemicals to the water. This pollution can affect the pH and dissolved oxygen in the lake, which can influence the type and abundance of fish and wildlife. In shallow areas, motors can churn up the lake bottom, stirring up lake sediments and re-suspending nutrients that can cause algal blooms. In shallow areas, motors can also cut up aquatic plants whose fragments can then spread and re-root in other areas of the lake.

SEPTIC SYSTEMS

12. Pump your septic tank, on average, every two years for year-round residents and every five years for seasonal residents. Make sure your septic system size is adequate for the amount of use it receives.

WHY? Septic systems will fail if solids enter the leach field, allowing sewage to enter the lake.

13. Conserve water, give your septic system time to "rest" after heavy use and avoid using a garbage disposal.

WHY? The less you stress your septic system, the better it will work.

14. Do not use strong cleaning agents (drain cleaners, antibacterial soaps, bleach, etc.) as they will harm the septic system.

WHY? Strong cleansers will kill the microorganisms that break down waste in the septic system, thus impairing the proper functioning of the system.

15. Check for spongy, damp ground, "sewer smell" or lush vegetation around or on top of your leach field.

WHY? It could be a sign of a malfunctioning and polluting septic system. If you see such problems, have your septic system professionally inspected.

16. Discard over-the-counter and prescription drugs at designated sites and town-held collections; never flush them down the toilet or sink.

WHY? Septic systems do not treat drugs and medical waste.

17. Avoid using phosphate-containing detergents. Do not wash cars or boats near lakes, streams or drainage ditches.

WHY? Any phosphorus entering the lake will help aquatic plants and algae to grow.

WILDLIFE PROTECTION

18. Do not use lead fishing tackle. NH law prohibits the use of lead sinkers and jigs of one ounce or less.

WHY? Ingesting lead can kill a Common Loon in a matter of weeks.

photo credit: John Brucker

19. Keep a safe distance from loons – at least 200 feet.

WHY? Encroaching on loons may cause them stress and jeopardize their safety and well-being. Nesting loons and their chicks are particularly vulnerable, so observe at a distance of at least 200 feet and only for a brief period of time.

photo credit: John Brucker

20. Don't feed the ducks.

WHY? Bread is junk food to ducks, it has low nutritional value and may harm them. Ducks also carry parasites that cause "swimmer's itch".

Thank you for following the tips in this booklet. Working together, we can keep Merrymeeting Lake pristine today and for future generations.

SUGGESTED RESOURCES:

1. N.H. Comprehensive Shoreland Protection Act:
https://bit.ly/2GBaEqi
2. FAQ for N.H. Comprehensive Shoreland Protection Act:
https://bit.ly/2LgH5xR
3. New Durham Shorefront Conservation Overlay District:
https://bit.ly/2rWxGmc (see section XIV on page 72)
4. Merrymeeting Lake Watershed Overlay District:
https://bit.ly/2rWxGmc (see section XVIII on page 102)
5. NH Cooperative Extension Native Plants for New England Rain Gardens:
https://bit.ly/2IQSpSS

REFERENCES:

[1] *Water Quality Affects Property Prices: A Case Study of Selected Maine Lakes*. Holly Michael, Kevin Boyle, and Roy Bouchard. Maine Agricultural and Forest Experiment Station Misc. Report 398, Feb 1996, Univ. of Maine.

[2] Lakeshore property values and water quality; Mississippi: **https://bit.ly/2IyYyE2**
Maine lakes case study; water quality affects property values: **https://bit.ly/2x43pI6**
Effect of water quality on rural non-farm residential property values: **https://bit.ly/2s0eV10**

[3] NASA image of Lake Tahoe: **https://go.nasa.gov/2IyiE1h**

photo credit: John Brucker

Inspiration for some of the content in this booklet is based on the *50 Ways to Care for the Squam Lakes* brochure: https://bit.ly/2stFpcq

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