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1. What is MAPLE Inc?

MAPLE, the Mutual Association for the Protection of Lake Environment in Ontario, is a non-profit environmental organization incorporated in 1987 to promote the preservation of the natural lake environments. Through the maintenance of existing natural shorelands and wetlands, it promotes the restoration and enhancement of waterfronts by encouraging natural regeneration and initiating revegetation of shoreland.

MAPLE is funded through membership fees, private and public donations and special project funding through local and provincial government for surveys and individual planting programs. MAPLE works with individuals, lake associations, environmental groups, business and government agencies primarily through the following three interdependent programs;

- a) Shoreland Inventory and Classification
- b) Shoreland Restoration
- c) Nursery Operation

Shoreland Inventory and Classification Program

The purpose of the Shoreland Classification Program is to survey the present state of a lake shoreland and outline the corrective action required on a property by property basis. This is achieved by mapping and photographing the shoreline, classifying it into homogenous zones, and recommending restorative action. Recommendations will vary from “total revegetation required,” to “leave in present natural state,” to “recommend enhancement of the existing vegetative cover.”

The Shoreland Restoration Program

MAPLE makes native shrubs and plants available to participating associations and groups for pick-up from its Nursery. Assistance from MAPLE (and from associated Conservation Authorities for required plantings through “development” applications) is free of charge to members for regeneration of shoreland environments. Currently, red osier dogwood, meadowsweet, willow (shrubby variety), sweet gale and virginia creeper are provided to participating Lake Associations and property owners who volunteer at the Nursery or take part in the inventory and regeneration programs.



The Shoreland Nursery Development Program

MAPLE cultivates indigenous plants and shrubs at its Christie Lake Shoreland Restoration Nursery in the Perth/Rideau lakes area of Eastern Ontario. Volunteers assist in the operation of the nursery propagating plant cuttings from mature shrubs. Shrubs are available free of cost (in exchange for “time donated”) to participating member lake associations and individuals for planting along devegetated sections of shoreland. In some circumstances, monetary donations are made in lieu of time donations.

MAPLE also continues to develop an ongoing public awareness program to educate citizens of practical, common sense ways to protect, maintain and restore natural shoreland environments.

Septic system surveys, fisheries and wetlands management schemes, municipal land use plans (Official Plans and Zoning By-laws), provincial and even federal planning and policy initiatives complement the “hands-on” MAPLE work. Retaining natural vegetation on the shoreline, or restoring degraded shorelines is still the most important fundamental first step toward maintaining and conserving a healthy natural lake.

2. Why is Shoreland Restoration Necessary?

Ontario is blessed with a great number of beautiful lake areas. People are drawn to lakeshore environments to live, for leisure and for sport. Lake and river shorelines also provide the most important base of habitat for land and water based flora and fauna. The lake provides people with the opportunity to get in touch with nature. However, pollution of lake waters is a widespread and increasing problem. In addition, the removal of natural vegetation from the shoreland and the filling-in of shore waters by waterfront owners has played a significant role in the deterioration of our lake environments. As background, Section 2 briefly describes the fundamentals of lake ecology, and the connection between people's actions and the health of the lake.

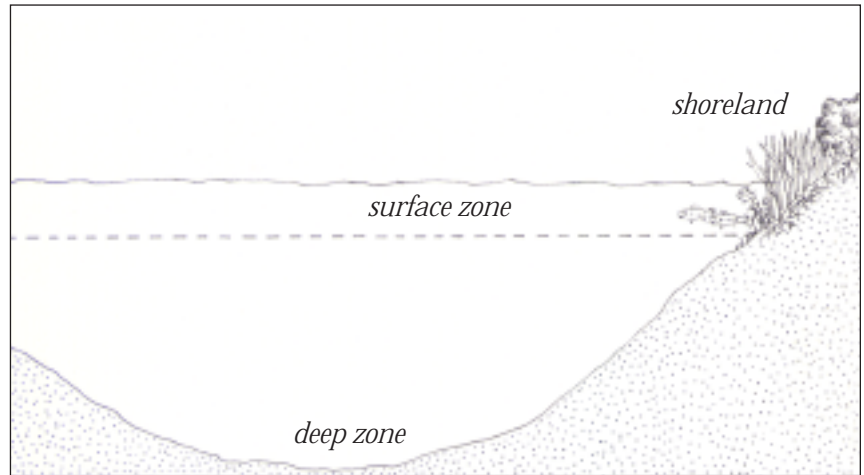
The Ecology of the Lake

The lake is a dynamic, complex and delicate ecosystem. Microscopic animal and plant life (plankton) are micro-organisms which float in the water. They constitute the first link in the lake ecosystem. They are fed upon by larvae, insects and small fish, which in turn are eaten by other animals and people. The web that links these plants and animals together in their cycle of life cannot be broken without disrupting the whole cycle.

The lake ecosystem can be divided into three different zones: the Deep Zone; the Surface Zone; and the Shoreland.

The Deep Zone

The deep zone is that part of the lake which does not receive natural light. Few plants and fish inhabit this area. The primary occupants of this area are tiny decomposer-organisms which recycle the waste matter that accumulates on the lake bed from dead fish and plants. This decomposing action consumes dissolved oxygen. The recycling action releases minerals back into the water to be re-used by plants.



The Surface Zone

The surface zone extends from the shoreline to a depth at which aquatic vegetation disappears, usually about six metres. This zone contains and supports up to 90% of the life in a lake. This "Ribbon of Life" can be divided into two main components: the littoral, or shore region, identified by the presence of aquatic plants rooted in the soil; and the limnetic, or open water region, where microscopic plants float in suspension in the water.

The surface zone is where the energy for the survival of the lake is produced. Most of a lake's oxygen supply, critical for the support of aquatic life, is transferred to the surface area from the atmosphere, which enters the lake and diffuses freely through the water. However a significant amount of a lake's oxygen is produced through photosynthesis, by vegetation.

Plants in the surface zone nourish lake inhabitants. Plants in the littoral zone also shade aquatic life from too much light and heat, offer refuge from predators and a quiet shelter for wildlife during reproduction and nursery periods.