



“When one tugs at a single thing in nature, he finds it attached to the rest of the world.”

-John Muir

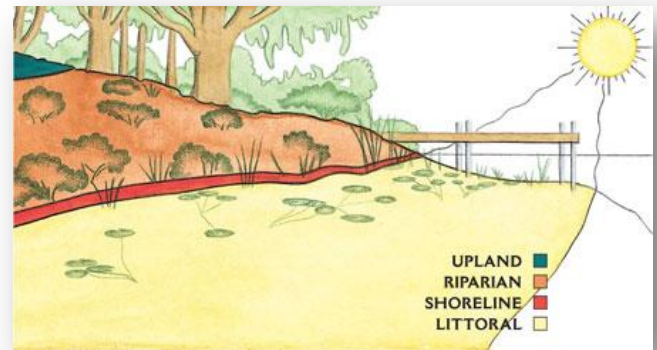
Your Littoral Zone

The quiet spot by the lake enjoyed by many cottagers and waterfront residents is also the richest natural environment that most of us will ever come into contact with. This waterfront area is crucial to your lake's health, providing oxygen, food, cover and a barrier to contaminants, as well as a living retaining wall for the shoreline.

The natural shoreline has four components, beginning underwater and extending upland. These four components are the littoral zone, the shoreline, the riparian zone, and the upland zone, and each plays a critical role in keeping your lake healthy.

As important as these separate zones are however, it is vital to remember that the shoreline is a natural progression - each area transforms into the next in a gradual, almost seamless transition. Altering any portion of this region affects the whole, diminishing its ability to support life on the lake.

- ❖ The **littoral zone** is the area from the water's edge to roughly where sunlight no longer penetrates to the lake bottom;
- ❖ the **shoreline** is the place where land and water meet;
- ❖ the **riparian zone** is the section of land closest to the shoreline; and
- ❖ the **upland zone** is the higher, drier ground found beyond the riparian area.



Sitting on your dock, you are perched in the littoral zone. As much as 90 percent of the species in the lake either pass through or live in this zone.

The water in front of the shoreline provides spawning areas, cover, nursery habitat and food for a range of species, offering foraging areas and hiding spots and a shallow, relatively protected area for young fish and amphibians to grow.

Aquatic plants and downed trees are a crucial part of the system, with the plants acting as the lungs of the lake, converting sunlight into food and releasing oxygen in the process, and providing food and shelter for other creatures.

Once submerged, wood becomes a major source of food for aquatic insects, crayfish, and small fish, its surface covered with tiny plants and invertebrates. Downed trees and woody debris also act as hiding spots for small fish and their predators, and are good spawning zones for some fish species.

Protect Your Littoral Zone

The water's edge is also a focal point for human activity. While we do not intend to, it is easy for humans to interfere with the delicate operations of the littoral zone.

The simplest way to keep the littoral zone vibrant and healthy is to tinker with it as little as possible:

- ❖ Use your dock as a bridge over the weedier shallows, and moor a swimming raft out in deeper water, rather than removing fish and amphibian habitat by ripping out aquatic plants to make a swimming area.
- ❖ Leave trees where they fall, unless they are a hazard to boats or swimmers. Typically, only a few trees along a kilometre of waterfront will tumble into the water during a year. When a cottager removes all of the trees lining the waterfront, habitat formed by the fallen trunks and branches that took decades to accumulate is destroyed in a single summer.
- ❖ Do not "improve" your swimming area by bringing in a few truckloads of sand and dumping them on the shoreline. When the sand erodes, as it almost certainly will, it smothers spawning areas for smallmouth bass and other fish, buries mayflies in their burrows, and covers the vegetation where frogs and toads lay their eggs. The impact ripples through the food chain. Without frogs and tadpoles and other aquatic species to eat decaying aquatic plants and insects, more oxygen-depleting algae fills the lake and more insects swarm the shoreline. The blue heron moves on when amphibians grow scarce. While a beach may be fun for sunbathers, it is no picnic for littoral residents.
- ❖ If a sandy area is necessary, you may be able to create a dry beach if it is well above the ordinary high water mark and there is little or no disruption to natural shoreline vegetation. On a lakeshore, the ordinary high water mark is the highest point to which water customarily rises, and where the

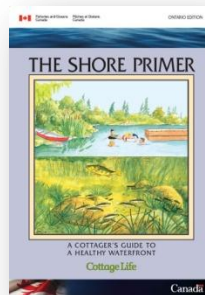


vegetation changes from mostly aquatic species to terrestrial.

Instead of working against nature, why not declare a truce and weave your cottage needs into the natural shoreline? By maintaining all four components of your shoreline in as natural a state as possible, you will be protecting your quiet spot by the lake for enjoyment into the future.

More Information

There are a number of resources available for waterfront owners wishing to protect their natural shoreline area.



The Shore Primer, produced by Fisheries and Oceans Canada in association with Cottage Life, offers cottagers and other landowners constructive solutions for restoring an altered shoreline to its former health and beauty.

On the Living Edge: Your Handbook for Waterfront Living, published by the Living By Water Project, is available from the Muskoka Heritage Foundation at (705) 645-7393.

Muskoka Watershed Council

www.muskokaheritage.org/watershed

Muskoka Water Web

www.muskokawaterweb.ca