Bras d'Or Lakes

Coastal Development Guidance

Bras d'Or Lakes Collaborative Environmental Planning Initiative

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Managing Shoreline Development

Following the recommendations in this pamphlet will help to ensure the health of the Bras d'Or Lakes, protect private property investments, reduce erosion costs and help wildlife habitats.

These recommendations are based on the *Development Standards Report* and the *Development Standards Handbook* created by the Bras d'Or Lakes Collaborative Environmental Planning Initiative (CEPI) to provide best management practices to protect the Bras d'Or Lakes shoreline.

How Shoreline Development Affects the Bras d'Or Lakes

- Developments can be a major source of siltation, sediment, and erosion
- Water that is not absorbed into the ground during rain events transports pollutants into watercourses
- Untreated sewage and poorly maintained sewage systems pollute watercourses
- Clearing land can impact wildlife habitat
- Amour stone deflects water energy in unpredictable ways and can often increase erosion down shore
- Clearing land to the water's edge may create an unattractive viewscape for others

Did you know that overland and coastal flooding is not covered by your insurance?

Select a Suitable Site for New Construction

Topography - The greater the slope of the land the harder it is to manage erosion – maintain vegetation on sloped areas. Grade property to direct stormwater away from the shoreline and toward planted areas. Flat areas often experience increased flooding.

Shoreline Type - Assess erosion potential by looking at the shoreline:

- If vegetation is hanging over top of the bank, you may have an erosion problem
- Rocky debris piled at the "toe" of a bank (i.e. the bottom 0.6 - 1.2 m) might indicate erosion
- Sandy beaches and barachois can change quickly - is your beach growing or shrinking?
- Barrier beaches will limit erosion – do not create openings in the barrier

Onsite Water and Sewer - Ensure there is adequate water available and soil drainage is appropriate for on-site sewage disposal if not connected to municipal sewers. As per the Nova Scotia On-site Sewage Disposal Systems Regulations, septic systems must be 30.5 m from the shore.

Potential Impact to Sensitive Areas - Consider the impact of development on lakes, rivers and shoreline vegetation. The proposed development should not affect vegetated watercourse buffers, wetlands, floodplains, steep areas where slopes are greater than 30%, agricultural soils, or archaeological sites.

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help keep it that way

Building Near Water – General Guidelines

When we plan how land is cleared and developed with the environment in mind, we can maintain important natural processes. This will reduce site maintenance costs, help improve land values, and ensure the safety and longevity of infrastructure and buildings.

- Before selecting a building location, take into account past and predicted rates of erosion
- Do not build on sensitive coastal features such as dunes, sand bars, and wetlands
- Build 1.15 m above the current high water mark to protect against most effects of sea level rise and storm surge
- Do not armour the coast unless important infrastructure cannot be easily moved or is at immediate risk
- Use boardwalks, rafts, or docks that can be removed/relocated as the shoreline changes
- Plan and prepare for droughts and severe floods/weather

Limit Runoff to Reduce Erosion and Pollution

- Keep 50% of the building lot as natural areas
- Limit road development, keep driveways narrow and use porous materials (crushed stone, shells, gravel) to increase absorption of rainwater
- Use mulch, silt fences, or hay bales during and after construction
- Use rain gardens, ponds, cisterns and rain barrels to store or slow runoff
- Leave trees and fallen natural debris along the shoreline to minimize erosion
- Use curved pathways to the shore so there is no direct runoff into the water
- Minimize or eliminate use of pesticides and fertilizers
- Maintain your septic system on a regular basis

Build in locations to avoid the impacts of sea level rise

Planning for Climate Change

Sea level in Northern Cape Breton is expected to rise by approximately 0.34m by 2050 and by 0.82m by (Zhai *et al.*, 2014). This means that new structures will need to be built higher than normal to accommodate this change. The recommended "allowance" for Northern Cape Breton is approximately 0.41m for the year 2050 and 1.15m for the year 2099.

The term "allowance" means the amount that structures should be raised above their current height in order to experience the same level of flooding as today.

In order to experience less flooding than you currently do, structures should be built at higher elevations from the shore than the recommended allowances.

Retain Vegetated Buffers

The term "vegetated buffer" refers to the strip of vegetation next to the water. Buffers play an important role in filtering pollution and sediment contained in runoff, and provide important wildlife habitat for terrestrial and aquatic species. Naturalized shoreline buffers are the first line of defense again erosion and storm surge. If you have an undisturbed natural shoreline, the best thing you can do is leave it alone.

- Retain at minimum a 20 m vegetated buffer next to rivers and the Lake
- Retain a wider buffer (75 m) where slopes are steep, flooding is likely, or where potentially polluting substances are stored (e.g., manure)
- Plant deep rooted species in the buffer
- Maximize the diversity of vegetation in the buffer

Additional Resources

Bras d'Or Lakes Development Standards Report
brasdorcepi.ca/wp/wp-content/uploads/2011/04/2008-03-CEPI-Bras-dOr-Development-Standards-Final-Report.pdf

Living by Water Guide
www.livingbywater.ca/main2

Nova Scotia Environmental Farm Plan Program
www.nsfa-fane.ca/efp

Native Plant Nurseries in Nova Scotia
www.ecologyaction.ca/gowild/resources_nativePlants.php

Nova Scotia Department of Environment - Before You Construct a Water Well Guide
www.novascotia.ca/nse/water/docs/ConstructWell.pdf

Nova Scotia Department of Natural Resources - Before You Build a Wharf or Do Other Work on the Shore of Your Coastal Waterfront Property
www.novascotia.ca/natr/land/policybeforeyoubuild.asp

Ecology Action Centre's Living Shorelines Project
www.ecologyaction.ca/livingshorelines

Ecology Action Centre's Stormwater Management Blog
www.managingstormwater.blogspot.ca

Retain vegetation along watercourses

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