



Under this naturalized shoreline above is an ice ridge left intentionally to help protect the shoreline. The downward

The Tremendous Power of Ice

Lake Scugog is a very large lake. Every spring, it experiences the power of ice along its shorelines – pushing up ice ridges as shown above, turning over ledgerrock walls and jacking the shoreline edge up and back. In areas with soft shorelines next to large expanses of water, the shoreline is sometimes lifted up several feet. And some years, this damage is much worse than in other years. Why is this so?

The following information is from an article entitled The Tremendous Power of Ice by Moriya Rufer, the Lakes Monitoring Program Co-ordinator for RMB Environmental Laboratories in Detroit Lakes.

Why do these ice ridges form?

“Ice is not stagnant in the winter once it forms. It is continually changing, expanding and contracting as the temperatures rise and fall. When the temperature drops, the lake ice contracts, producing cracks which refill with more water and freeze. Then, when the temperature rises, the ice expands, but there is nowhere for the ice to go in the lake so it pushes up against the shore. As ice continues to expand and contract throughout the winter, it produces a ratcheting effect. Each subsequent and cumulative push exerts tremendous pressure upon the shore.”

“For example, for a lake that is one mile across, when the ice’s temperature rises from 24 to 32 degrees Fahrenheit, the ice sheet will expand laterally a total of approximately 32 inches, or almost 3 feet. This can occur in a matter of hours when there is no snow cover on the ice sheet.”

“Ice jacking is more severe in years where the temperatures fluctuate greatly and where there is little snow cover to insulate the ice and keep the ice temperature constant.” On Lake Scugog, this ice action is exacerbated by wind action.

Are there any benefits to leaving the humps of ice heaves and ice jacking?

“The ice ridges form a natural barrier to runoff and trap nutrients from flowing into the lake. These nutrients become fertilizer to plants that grow to form a buffer on the lakeshore. The shade and habitat offered by near-shore plants benefit organisms along the shore and in the lake, thus supporting nesting and spawning fish. If you have undeveloped natural shoreline, leave the ice ridges in place and watch in future years how they develop into great habitat.”

On Lake Scugog you will need a permit from the Trent-Severn Waterway, www.pc.gc.ca/docs/r/poli/page01 to make any repairs or changes to your shoreline. Also, repairs cannot be done until after fish spawning occurs. Bulldozing the ridges down flat every year not only removes any natural stability in the soil from plant roots, but it eliminates any kind of shoreline or in-water habitat that

helps to keep the lake healthy. For more permanent solutions, get in touch with the Kawartha Conservation <http://www.kawarthaconservation.com> The Stewardship Co-ordinator can show you how to protect your shoreline in an environmentally friendly way and may even be able to make a monetary contribution to help fund the improvements.