

Natural South Marysburgh

The Bedrock Beneath Us

I am a geological aficionado. Problem is, I don't know a whole lot about the subject. The books, *Canada Rocks* and *Canadian Shield – the Rocks that Made Canada* have helped. So has Dugald Carmichael in Kingston, a geologist whom often I e-mail to get answers. At 78, I am learning new things.

I have already talked in a past column about those “pop-ups” that we see from the air as we fly along the South Marysburgh shoreline. It's all very interesting.

When you look at the geology of Prince Edward County, it probably isn't very flattering to describe the county as being like a lopsided layer cake. However, it is an apt description when we look at the topography of this area. It is a limestone plateau from which the retreating glaciers managed to strip all or most of the overburden. Just ask any farmer who has ever tried to scratch a living from the shallow soils in South Marysburgh. Not much dirt in places. Some 800 feet below though is the basement upon which all this rests – Precambrian rock, about 950 million years old, made up mainly of complex igneous and metamorphic rock types. Travel straight north to Madoc and you begin to see this Precambrian rock quite clearly as it rises to the surface where we can't help but be aware of its presence, or east to Kingston as we pass through the Frontenac Arch. It is true north country—something that doesn't exist down here in Prince Edward County. Or does it? Take a drive along Victoria Road, south of Belleville, and there it is, an impressive granite rock knob, reaching boldly out onto the shoulder of the road. It's not much for grandeur, for it's just a fleeting glimpse as we speed by, but it's there. It is an exceptional geological feature that we call the Ameliasburgh Inlier (Young's Mountain) which can be found nowhere else in our area, unless one digs down 800 feet.

To make this layer cake lopsided, we just have to look at the physiography of the county as a whole. Much of the north and east sides of the county are marked by a limestone plateau ranging from just a few feet to more than 250 feet high in some cases. On a map you can trace it along as it follows Victoria Road, Mountain View, County Road 14, levelling out a bit, then becoming more pronounced as it travels along County Road 49—appropriately named High shore Road, from



Ameliasburgh Inlier - Photo by Terry Sprague

Green Point to Picton. It continues, impressively, to Lake on the Mountain and meanders along the south shore of the North Marysburgh Peninsula, leaving behind a spectacular landmark—Cape Vesey, otherwise known as The Rock. As the high plateau peters out, it comes to an exhausting conclusion at Little Bluff, but not before another encore or two along the north shore of Long Point, concluding at Point Traverse.

Compare that now to the south and west shoreline of Prince Edward County which is relatively flat, sloping ever so gently into Lake Ontario and reaching far out into the shallows of the lake, quite noticeably, as limestone shelves. We see this curious feature too on Main Duck Island, 19 kilometres out in Lake Ontario, as though someone had taken a large piece of South Marysburgh, and lowered it ever so gently into

the water—high, limestone cliffs on the island's north shore, tapering south and becoming level with Lake Ontario on the island's south shore—almost identical to the lopsided topography of where we live here.

An unusual topographical feature of this limestone plain in Prince Edward County, is the location of three lakes, all of them along, or close to, the edge of the plateau. We know them as Roblin Lake, Fish Lake and, of course, legendary Lake on the Mountain. An interpretive sign on site explains that

Lake on the Mountain was formed by a geological phenomenon known as a collapse doline, where over many thousands of years, underground springs slowly dissolved the carbonate limestone rock, causing the roof to cave in and form a basin which became Lake on the Mountain. But that theory is being disputed now, as we continue to delve into its past.

We wonder, could Roblin Lake have been formed by the same process? Look at a depth chart some time and you will see that Roblin Lake for all its size is quite shallow, but lo and behold, right in the middle at the lake's west end is a basin about 50 feet in depth. A collapse doline on a smaller scale? It could very well be, for how else did this basin get there? Perhaps the same is true for Fish Lake.

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Terry and Christie—

