



etired Manitoulin farmers Dick and Eunice Bowerman began building hiking trails in 2012 near South Baymouth. Their plan was to build a series of trails extending from a parking lot near the terminal for the Chi-Cheemaun ferry so that tourists arriving from or departing to Tobermory on the Bruce Peninsula, could experience nature first hand.

They were convinced that the forests on Manitoulin's south shore, with their stunted White Cedar, Balsam Fir, White Spruce and Trembling Aspen, all of which are affected by the cool, moist air of Lake Huron, would provide a unique experience for nature lovers. They knew that the forest floor here supports a rich diversity of flowers, ferns, and lichens. In addition, they knew the area holds amazing geological features and they wanted to share their knowledge with tourists and nature lovers.

The project began when

Dick and Eunice located survey stakes laid out by Dick's grandfather in 1901, that ran from the town site to the shoreline, just west of the ferry terminal. This was where they decided to build five parallel trails each about half a km in length extending westward from a county road. The trails were named First to Fifth Street with each joining a north/south trail that takes visitors to the shore of Lake Huron. Each trail was built near the centre of 20 metre strips of unopened road allowances over an area of about 20 hectares. The trails, on county land, are open to the public throughout the year.

Trail Construction

Building trails was rigorous work for the elderly couple but they were used to clearing forests on their former farm. For the most part, the trails are about a metre wide and extend in straight lines, however in several places steep rock outcroppings required the building of stairs. Trees

removed from the trails were used in constructing curved stairways and railings, while boards from home were used for the steps.

Some of the felled trees were used to make cordouroy paths over low, wet areas. The trail near the shoreline enters a small island the Bowermans call Make-Believe Island. Two large benches were also built, one of which sits on a sturdy stand on the island overlooking rock formations and Lake Huron to the south. The Chi-Cheemaun ferry can be seen from the stand, entering and exiting the harbour at South Baymouth.

Little did the Bowermans know when they built their trails that one segment passed over a patch of a rare plant called the Dwarf Lake Iris. This tiny plant is a relic of the last glacial period and is only found at a few sites on Bruce Peninsula, Manitoulin Island, and in northern Michigan. Its scientific name is *Iris lacustris - Iris* meaning "rainbow" and *lacustris*

meaning "of the lakes."

Dwarf Lake Iris grows in clones of fragmented populations and thankfully, hikers on the Bowerman trails have caused them little damage. Indeed, the trail through the irises appears to have enhanced the health and size of the South Baymouth population. Apparently, the removal of a few trees opened the canopy, allowing just the right level of light to reach the forest floor that stimulates vegetative production and flowering.

Geologic Features

The Bowerman Trails are along the spine of the Niagara Escarpment which extends along Manitoulin Island from Bruce Peninsula and extends westward to the Upper Peninsula of Michigan. The rocks here are made up of fossilized remains of marine animals that lived 400 million years ago. Shells of ancient animals and mud settling from the surface were compacted into limestone, some of which





▲ A stairway built by the Bowermans on a steep rock outcrop on one of their trails.

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▲ Closeup of the rare Dwarf Lake Iris that grows near the Bowermans' trails.

was later subjected to saline ground waters and additional compaction and turned into rock called dolostone.

Scouring action of numerous glaciers scraped the surface of the flat rock clean of overburden in many places leaving exposed expansions called pavement alvars, so named because they resemble artificial pavement. Manitoulin is famous for its alvars, some of which gently slope down to the water's edge near the Bowerman trails and are inhabited by specialized vegetation.

The exposed surface of the fossil-rich limestone and dolostone is often dissolved from the action of waves, rain water, and carbon dioxide in a process called karstification and the appearance of rugged rock formations called karsts.

Past dissolution of pavement sediments along the trails millions of years ago



▲ Dwarf Lake Iris thrives on shallow soils and the marly karst rock surface which provides protection and anchorage for the shallow roots and rhizomes. "Marl" is a friable earthy deposit consisting of clay and calcium carbonate.

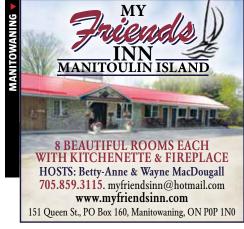


▲ The lakeshore lookout platform, built by Dick and Eunice Bowerman, shown here, is a perfect place to stop and enjoy the view.

Manitoulin Island







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38 Niagara Escarpment Views **№** SUMMER 2020 SUMMER 2020 Niagara Escarpment Views 39 has resulted in fascinating depressions in the rock surface called pit karrens which are small, circular pits about two cm in width and half a cm deep. When the pits join, they produce jagged and scalloped karst. Karst between the dense forest and open shoreline provides an ideal habitat for Dwarf Lake Iris.

Besides odd rock formations, there are other signs of past glaciation along the Bowerman trails and nearby South Baymouth. The most notable is huge boulders called erratics that were scooped up by the glaciers far to the north then deposited here when the ice melted. Striations are obvious along the surface of the bedrock caused by these rocks being dragged along under the ice.

Also seen along the shoreline between Make-Believe Island and the South Baymouth harbour are a series of deep grooves, some of which extend out into the lake. Called whalebacks, they were scoured out by glaciers and extend in a north-south direction. They are easy to see when looking west from the deck of the Chi-Cheemaun as it departs South Baymouth

Although now in their golden years, the Bowermans still enjoy walking their trails, Dick usually with a hammer and nails to fix loose boards. Dick has placed homemade walking sticks on loan at the start of each trail and often adds clay figurines in rock crevices to the delight of children. However, the Bowermans are happiest when their four children, seven grandchildren and three great-grandchildren walk the trails with them. **NEV**

Joe D. Shorthouse is a retired professor of entomology at Laurentian University in Sudbury. His last feature for Niagara Escarpment Views was "Three Wild Roses of the Escarpment" in the Spring 2020 issue.



▲ Surface of dolomite pavement alvar near the shoreline covered with depressions called pit karrens. These pits are two to three cm in width and depth and were formed by dissolutional and/or biological erosion of rocks along shorelines that were continuously wetted and dried. Lake Huron has a complex history of changes in water levels since glacial retreat and where these sculptured outcroppings occur far from the water's edge, they serve as ideal habitats for specialized plants such as Dwarf Lake Iris to anchor themselves.



▲ A large glacial erratic which was carried by glacial ice from northern Canada and deposited here when the ice melted.



◀ Large
grooves called
whalebacks
were caused by
the scouring of
past glaciers
in the limestone
and dolostone
along the
shoreline.

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