

Two Parks, Two Plates ... Too Beautiful!

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Old Wife Point at Five Islands Park. Below the basalt flows is a white layer (arrow) that marks a major extinction event at the end of the Triassic period (about 200 million years ago.)

Dinosaur footprints, violent volcanic eruptions, beautiful fault scarps, and raised beaches are part of the geological legacy found along the Minas Basin - Bay of Fundy Shore. Two provincial parks in this region — Cape Chignecto and Five Islands — expose rocks which show ancient landscapes, movement of two plates along a major fault, creation of a rift valley, a major extinction event and glacial advance and retreat.

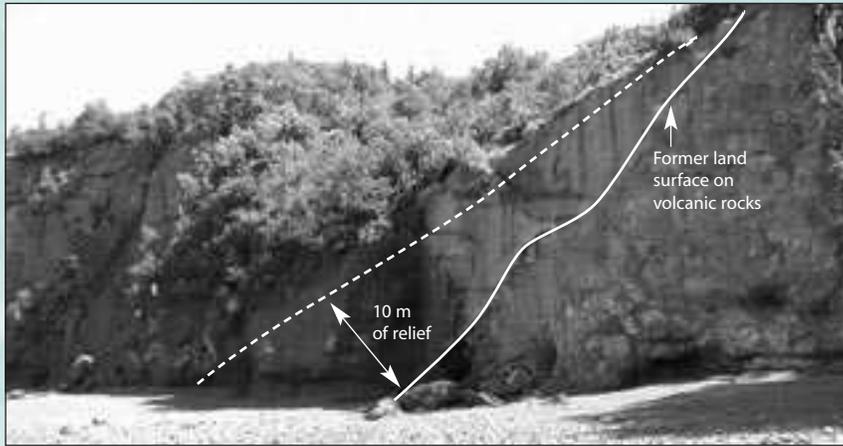
At Spicers Cove on the north side of Cape Chignecto Park, 350 million year old volcanic rocks representing violent eruptions formed an ancient landscape complete with small hills. One of these hills is 10 m (33 ft) high and was buried by layers of younger sandstone and conglomerate derived from the nearby uplift of land along the Cobequid Fault. Walking the trails at the north end of the park reveals beautiful vistas of the coast including sea stacks carved from red granite and pink volcanic rock. As you walk on the present sea floor in Spicers Cove, you can gaze up at the top of Squally Point to see an older sea floor. The bedrock at the top is a smooth flat surface created by the erosive power of waves. Beach sands and gravels are deposited on top of the wave cut surface. This beach formed shortly after the last glaciers melted away when the land was still depressed with the weight of the ice. As the ice melted, the land rose leaving this beach 30 m (98 ft) above the modern beach. Similar raised beaches at 5 m (16 ft) above sea level can be seen at Five Islands.

On the south side of the park at Red Rocks you can put one foot on the ancient continent Gondwana (southern Nova Scotia) and the other on Avalonia (northern Nova Scotia). Running between your feet is the Cobequid Fault. Along this deep crack in the earth's crust, plates moved thousands of kilometres past each other. By 300 million years all continents had been joined together to form Pangea. At 220 million years Pangea began to break apart by rifting. As the rift deepened along the Cobequid Fault, large amounts of mud, sand and gravel accumulated. You can see these red rocks at Red Rocks and at Five Islands Park.

Timing the Events in the Parks

Years before present

0	Our time to view the parks.
10,000 to 8,000	Beaches and bars being formed before the land rebounds upward.
10,000	Most icecaps have melted.
10,600	Paleo-people inhabited the Debert area
11,000	End of the last large glaciers.
75,000	Beginning of the last glacial period.
Aprx. 40 million	End of movement on the Cobequid Fault.
200 million	White layer at Five Islands and major extinction. Eruption of lavas.
210 million	Red sandstone deposited in Five Islands
300 million	Grey sandstones rich in fossil plants at Spicers Cove.
350 million	Eruption of volcanic rocks at Spicers Cove.
Before 400 million	Beginning of movement on the Cobequid Fault.



Spicers Cove, Cape Chignecto Park. Weathering and erosion of volcanic rock produced ancient land forms including a hill 10 m high. Later, the hill was buried by sand and gravel.

The drive between the two parks parallels the scarp of the Cobequid Fault. (See background photo). The older rocks to the north are higher in elevation and more resistant to weathering just like Economy Mountain is at Five Islands Park. Basalt flows, red sandstone, and sand and gravel of glacial origin underlie the land surface in the park. Dinosaur footprints and fish have been found in the red rocks. As rifting thinned the earth's crust, huge amounts of basalt flowed out into the valley. From Old Wife Point the view to the east is spectacular. Just below the brown basalt flow is a white layer of rock. This marks not only the boundary between the older Triassic age and the younger Jurassic age of rocks but a major extinction event. Many dinosaurs and other animals died off in the aftermath of a meteor impact which is located at Manicouagan, Quebec.

Both parks offer spectacular scenery and a fascinating geological history. See for yourself why the title "Two Parks, Two Plates, Too Beautiful" really works.

Please Use Caution!

In all areas of the Minas Basin–Bay of Fundy, anyone who walks along the beach **MUST** know about the daily tide cycle. In many areas you can be stranded by the incoming high tide. Please check the daily tide tables or ask park staff.

Stay away from cliff edges! Cliffs create some spectacular scenery, but observe them from a distance. Loose stones and sometimes large blocks of rock break away from the cliffs.

All fossils belong to the Province of Nova Scotia and a permit is required to collect them under the authority of the Special Place Protection Act. Please report all important fossil finds to park staff.

