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ISSUE : [Issue 12](#)

Published by Ronald Caplan on 1975/12/1

The Life of a Raised Bog A raised bog is a waterlogged habitat. It is a living plant community that goes through successional changes, creating out of itself the conditions in which new bog can be raised up, drowning out the parent so to speak. Raised bogs cover a large portion of the northern plateau. One such bog known as Sunday Lake covers an area of over 14,000 acres and five Cape Breton rivers are born within it • and it is only a portion of these massive and little known areas of the island. The requirements for bog formation are critical, and vrtien raet rare groupings of unusual plants are able to survive* The geology of the Highlands • gently undulating granite bedrock • capture the heavy rainfall and maintain acid conditions that encourage the growth of sphag? num (peat mosses) • which John Erskine calls the beginning and the end of all high bogs in Nova Scotia. "On bare rock," he writes, "trees can find no food, but mosses ask little or nothing beyond air and water and light, and so flourish there. Ordi? nary pin-cushion mosses gather blown dust, mix it with crumpled fragments of them? selves and build a patch of soil in which more complex plants can root and grow and overshadow the mosses that made the rock habitable. But sphagnum work differently. Their leaves, like those of most mosses, are only one cell thick, but the food- building green cells are reduced to less than one-quarter of the area, and the other H A G N U M S. capillaceum S* pulchrura S* papillosum S. pvlaesii S. magellanicura cells have been changed to storage tanks for water* Some species can soak up nearly 40 times their weight*. **Rain falls upon the bog, but unless the moss-resevoirs are filled, none flows away. The bog swells like a huge sponge, and the water level re? mains at the surface for much of the year, so that rivals to the sphagnum can find no air. The sphagnum itself offers food to none, lives alone and builds, beaver-like • an expanding area of permanent water in which nothing else can find food. It grows upward and crushes its older parts down into the cold dark water, and there bacteria which can live without air, break down the dead fragments and produce an acid waste in vrihiich not even bacteria can live. So the depth of the bog becomes a pickling vat in which change almost ceases*" The storage cells carry water up in the growing plants, well above the water table. Raised hummocks result. In time some of them join creating dense, sodden walls • and ponds are formed. And then these ponds fill in and new hummocks grow up out of them. At the same time weight and weather are tearing holes in the bog, creating gullies and drainage along the slopes of the hum? mocks. New ponds are formed and filled. This is the cvcle of growth, succession in the ponds, erosion and regeneration of the raised bog, that will be described in more detail below. It is essential to remember that while we are describing one step at a time • all these steps are taking place at the same time in any given bog. You can walk across a bog and see there evidence of the forming, eroding and re-torming; ponds forming and filling in. Also, when we speak of one or two plants as prominent during a phase of raised bog development • it should be remembered that these plants represent an association of a number of plants that can survive the conditions of that particular phase* What follovre is essentially a



reduction from Paul Comeau's excellent thesis, "A Study of Five Raised Bogs on the Cape Breton Plateau*" The Growth of a Raised Bog Comeau writes: "Raised bogs become established once peat accumulation raises the surface above the influence of mineral soil water*" Now only rainwater supplies the growing sphagnum and the layer of peat accumulating beneath • and the bog surface is now capable of supporting a kind of bulrush (*Scirpus cespitosus*)* A layer of cora- Cape Breton's Mafiazine/9