Comparative dendrochronological analysis of red spruce from Central PEI and Southwestern NS

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Two stands of red spruce were sampled and analyzed using standard dendrochronological research techniques. One stand from Fort Augustus, Prince Edward Island and one stand from Harmony Lake, Nova Scotia were assessed using similar methods to test for similarities and differences between the two locations.

The growth characteristics were found to be very similar at the two locations except during the years 1974 to1989. The two chronologies revealed that the stand at Fort Augustus experienced a sudden growth decline over this period. A climatological analysis indicates that long-term records show strong similarities over the period in question for both precipitation and temperature patterns. Therefore, the difference in radial-growth trends is likely due to an internal forcing factor such as the effects of a budworm outbreak in the Fort Augustus region.

Aside from the fifteen-year period when the Prince Edward Island stand was experiencing a growth decline, the radial-growth patterns of the two sites are strongly correlated and suggest the presence of similar environmental conditions. This is important for further dendrochronological investigations as it indicates that strong spatial similarities can be found at locations at least 280 km apart within the Maritimes.