Context:
Gabriola, ecology, forests

Citation:
Doe, Nick, Dendrochronology, *SHALE* 8, p.34, June 2004.

Errors and omissions:

The tree's stunted growth in the 1920-40s may have been due to the multi-year drought in that period. Noted on page 9 of http://www.nickdoe.ca/pdfs/Webp649.pdf .

Reference:

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Dendrochronology—by Nick Doe

Earlier this year, I gave a lecture on the use of dendrochronology to investigate Gabriola's history. Unfortunately, the lecture was held early one Sunday morning when it was spitting with rain, but, nevertheless, I'm happy to report that two Gabriolans attended and, as you can see, showed a keen interest in what was being explained.

Having just read Simon Winchester's book on the eruption of *Krakatoa*, we wanted to see if the trees on Gabriola had recorded this far-off event. Because of the dust that the volcano put into the atmosphere, temperatures dropped worldwide in the winter of 1883/4. We actually found nothing unusual in the tree ring for that year, but we learned one or two interesting things in this, our first attempt at dendrochronology.

On the tree that we examined, a Douglas-fir, we were able to count rings back to the 1860s. The tree was older than that, but near the centre, the wood had rotted away.

The diagram shows two records of tree-ring widths. The top one comes from a database at the World Data Center for Paleoclimatology, Boulder, Colorado, USA, and is for a western hemlock in Cyprus Park, North Vancouver. The lower record is what we measured on the tree shown in the photograph using callipers and thumb-tacks. We had to fiddle our results slightly to get a decent match, but it wasn't difficult, and we weren't far out. Apart from mis-counting, errors arise because in some years, unusual weather creates two growth rings (a false ring) instead of the usual one.

A large increase in tree-ring width occurred in 1942, which we attribute to logging of this tree's neighbours. Another very similar looking burst of activity occurred around 1876. For some reason, the growth of the tree was severely stunted from about 1920 until the 1940s, and prior to 1876. Rings were too narrow to measure their width. Not headline news admittedly, but we were quite excited to see for ourselves that this dating method really does work. ◊