

# Dating Some Quaternary Changes in Sedimentation in the Tantramar Marsh of New Brunswick

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Volume 5, Number 1, April 1969

URI: [https://id.erudit.org/iderudit/ageo05\\_1rep01](https://id.erudit.org/iderudit/ageo05_1rep01)

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Publisher(s)

Maritime Sediments Editorial Board

ISSN

0843-5561 (print)

1718-7885 (digital)

[Explore this journal](#)

Cite this article

MacNeill, R. H. (1969). Dating Some Quaternary Changes in Sedimentation in the Tantramar Marsh of New Brunswick. *Atlantic Geology*, 5(1), 1–2.

## Reports

### Dating Some Quaternary Changes in Sedimentation in the Tantramar Marsh of New Brunswick\*

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During the construction of the control dam near Sackville, New Brunswick by MMRA the sediment was excavated to bedrock below the dam site. This gave a good exposure of the structure of the Tantramar Marsh sediments at that point.

Several deep cut-and-fill areas appeared, and these contained rather distinctive sediments. Most of these sediments appeared to be barren of macro-fossils, but one of the filled sections did contain some, as yet unidentified, pelecypod shells. Another one contained wood (spruce and birch) as well as eel grass, together with spruce cones and other debris. It appears that this may have been deposited in a small sheltered area or backwash and then became covered by the sediments accumulating in the channel. The wood was found at two distinct levels, 22 feet and 25 feet respectively below the present level of the marsh (Plate 1). One sample, No. 3799/37 indicated an age of  $3430 \pm 110$  years B. P. and the other one an age of  $3290 \pm 100$  years B. P.

Since the sediment in which these two samples were found has been cut by a deep channel, that channel filled, and that filling again cut and filled, it will be seen that the Tantramar Marsh area was one of very active erosion and deposition during the last several thousand years. From the evidence seen, this channel meandered considerably during the time shown, and in each instance of cut-and-fill the erosion appeared to reach to bedrock. There must have been very rapid waters moving through this section of the Tantramar Marsh area.

C<sup>14</sup> dating was supported by a Research Grant from the Geological Survey of Canada and field work was supported by the Nova Scotia Research Foundation as part of the Pleistocene Geology Program. This aid is gratefully acknowledged.

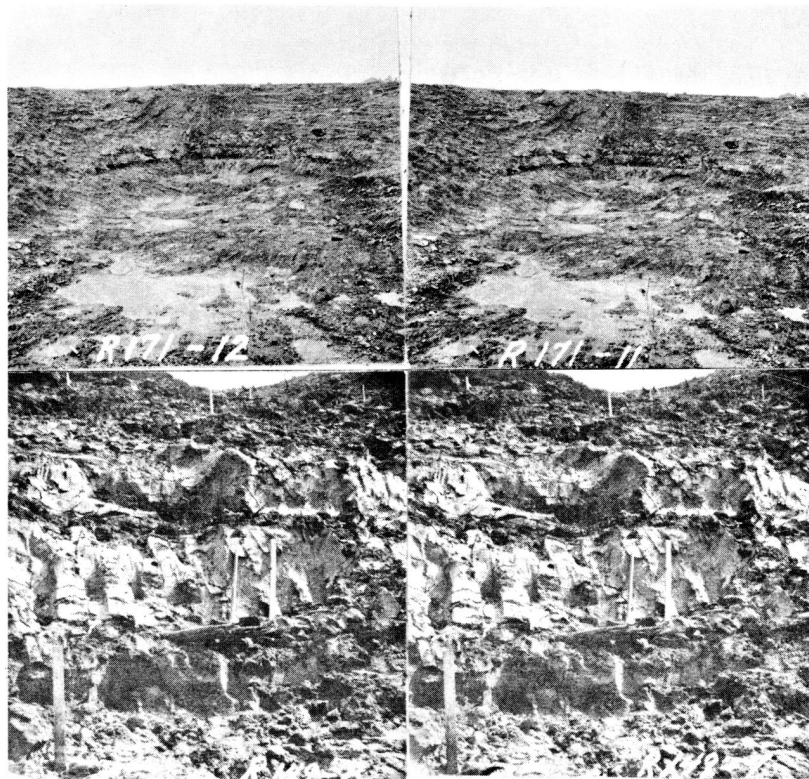


Photo 1. Stereoscopic pair, facing S.W. General view of the area containing the two levels of plant debris, Tantramar Marsh, New Brunswick.

Photo 2. Stereoscopic view. Shows details of sediments and plant debris. Tantramar Marsh, New Brunswick.

PLATE 1  
(All photos by the author)

\*Manuscript received March 17, 1969.

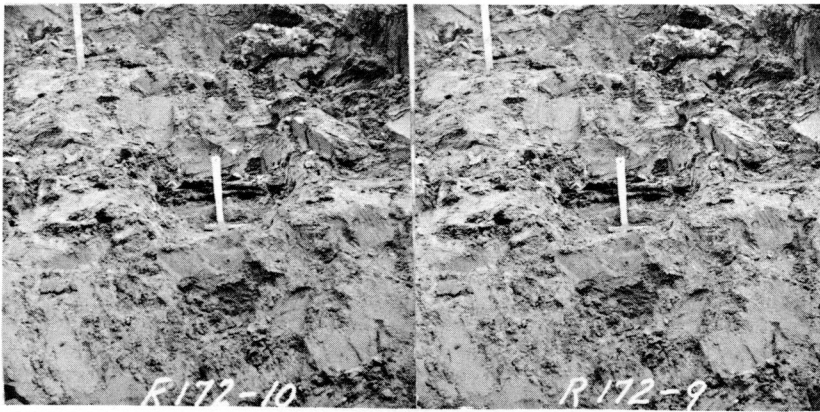


Photo 3. Stereoscopic view showing details of sedimentation and the wood used for C14 dating. Tantramar Marsh, New Brunswick.

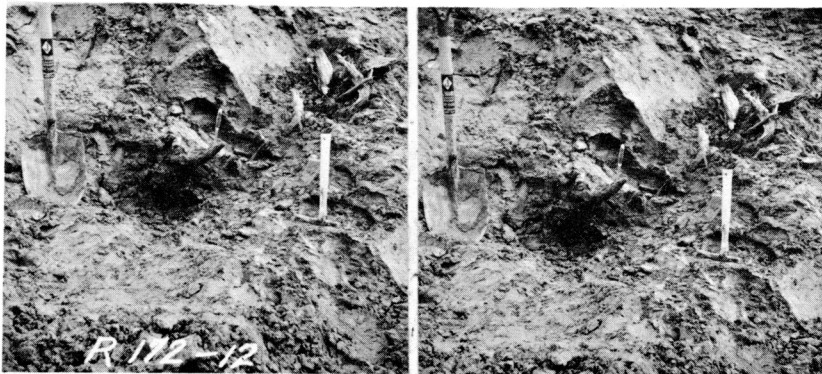


Photo 4. Stereoscopic view of plant debris in place. Tantramar Marsh, New Brunswick.

PLATE 1  
(All photos by the author)