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Abstract

Striking a balance: Safe sampling of partial stem cross-sections in British Columbia

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Dating cambial injury on a tree is an important objective of ecological research that determines the timing of disturbances such as fire, insect outbreaks, tree falls, or human modification of trees. To accurately date cambial scars requires either a full or partial cross-section of the wounded area so that the scar morphology can be observed, the scar tip(s) identified, and ring widths cross-dated to assign an exact year and (or) season to each scar. Partial cross-sections are less destructive; however, they are rarely used in British Columbia due to potential violations of existing standard-of-care procedures regarding wildlife/danger trees. We outline new safety criteria, sampling procedures, and documentation required to safely extract partial cross-sections. Based on British Columbia Wildlife/Danger Tree Assessment methods, the three safety criteria are: (1) area removed should not exceed 25% of total cross-sectional area, (2) circumference removed should not exceed 25% of total circumference, and (3) shell thickness remaining after sampling is greater than 30% of the radius of the tree. Documenting the location of partially sectioned trees is critical, as it allows management agencies to inform future forest users of the location and condition of the modified trees.

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