Table 1. Mathematical formulae to calculate loss of mechanical resistance of wood in living trees.

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| Source | Formulae | Threshold | Comments |
| Wagener, 1963 | (d3/D3) x 100 | 33% | Adjusted formula to account for discontinuities in trunks. Applied only to conifers without aggravating defects. |
| Coder ,1989 | (d4/D4) x 100 | 20<x<44% Precaution  x>50% Danger | Based on engineering formula for bending stress in a cylinder. Threshold based in experience. |
| Smiley y Fraedrich, 1992 | (d3+r(D3-d3))/D3x100 | 33% | Modification of Wagener account for cavity openings. Using 33% strength loss as a threshold for action. |
| Mattheck, Gerhardt y Breloer (1992) | t/R | <0.3 | Based on buckling failure in cylinders. Measured t/r for fallen and standing trees. Using a t/r<0.3 as a threshold for action. |

Source: Adapted from Harris et al. (2004 ).