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Prairie Wentworth-Nice* (pwentwo1@swarthmore.edu). *A Relaxation of the Total Coloring Game on Trees*. Preliminary report.

We define a new version of the graph coloring game, the *1-relaxed total coloring game with complete defect*. In this game, two players, Alice and Bob, take turns coloring uncolored elements (vertices and edges) of a graph from a set of colors such that any element in the graph is adjacent or incident to at most one element that is the same color as it. Alice wins if at the end of the game all elements of the graph are colored. Bob wins, if at some point in the game there is an uncolored element that cannot be colored. The *1-relaxed total game chromatic number* of G , denoted ${}^1\chi_g''(G)$, is the least number of colors for which Alice has a winning strategy on G . We provide a strategy for Alice which shows that ${}^1\chi_g''(T) \leq \max\{\Delta + 2, 7\}$ for all trees T . (Received September 25, 2017)