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Planning for restorative forests: describing stress-reducing qualities of forest stands using available forest stand data

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Abstract

Research suggests that certain forest environments can contribute to lower stress levels in humans. This might be increasingly important to consider given the rising prevalence of stress-related diseases and illness absence. To make it feasible to plan for forest management strategies that take such restorative effects into account, it would seem to be important to identify the precise physical properties that contribute to the restorative qualities of forest stands. It would also be useful if forest stand data typically already collected by forest owners could be used for this purpose. In the present study, forest stands in northern, central, and southern Sweden were visited and assessed regarding their restorative potential. These assessments were analysed together with available forest stand data for each region using statistical models. Our results indicate that of the available forest stand data parameters, the most important individual indicators of forest stands' restorative qualities were tree age, tree sparsity, and tree height. Models based on these parameters explained 30–40 % of the variation in restorative qualities among the evaluated stands, indicating that they can be useful in planning and modelling scenarios where restorative properties of forest stands are considered.

Keywords

Restoration; Stress reduction; Recreation; Forest planning; Multiple use