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Supplementary file S4 – Mortality model

The regular mortality rates are 0.72% (spruce), 0.54% (pine), 1.12% (birch) of the number of trees yr^{-1} (Eid and Tuhus 2001). Density induced mortality (Hoen et al. 1998) is based on the Hart-Becking spacing index calculated as:

$$S\% = 100\frac{dist}{HD}$$

where $dist = \sqrt{10^4 N}$ is the mean distance between trees (with N being the number of trees ha^{-1}), and HD is the dominant height. With density induced mortality the number of removed (dead) trees corresponds to an increase in the spacing index by 1%. The density induced mortality replaces the regular one when the spacing index drops below site index specific thresholds as shown in Table S4.

Table S4. Hart-Becking spacing index thresholds for different site index ranges.

Site index (m)	S%
>18.5	10.0
(15.5, 18.4)	10.5
(12.5, 15.4)	11.0
(9.5, 12.4)	11.5
(7.0, 9.4)	11.5
<6.9	12.0

In addition to the number of removed trees the mortality is characterized by a relative diameter (i.e., the ratio of the diameter of the trees removed to the diameter of the trees before removal) (Braastad 1982). With regular mortality the relative diameter is between 0.7 and 1 depending on the number of trees ha^{-1} (0.7 for more than 300 trees ha^{-1}, 1 for less than 200 trees ha^{-1}, and a linear interpolation in between)

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