**Stands selection and simulation parameters used in the study**

For SM stands, selection criteria included forest type (sugar maple-beech-yellow birch), stand age (80-100 years old), basal area (minimum of 23 m2 ha-1), slope (>50%) and stocking (at 100%). Criteria for SID stands included forest type (aspen or paper birch), stand age (50-70), basal area (minimum of 18 m2 ha-1), slope (>50%) and stocking (at 100%). These criteria provided us with 44 SM and six SID stands. Since the New York FIA database contained only one white spruce plantation, we used it to simulate five different plausible densities of white spruce trees (1000, 1500, 2000, 2500 and 3000 stems ha-1).

In this study, parameters used in the regeneration submodel for SM and SID stands followed those of Nunery and Keeton (2010) (see Table S2). For individual tree selection (ITS) and pre-commercial thinning activities, we selected the parameter values associated with their “ITS\_High Retention” management. For commercial thinning, we used their “ITS\_Low Retention” regeneration numbers and considered their “Clearcut” regeneration reduced by 20% as an approximation for retention harvesting (20% of basal area retained). Regeneration parameters for species not calculated by Nunery and Keeton (2010) were selected from species with the closest shade tolerance value (Appendix A of Niinemets and Valladares (2006)). Similar to other studies using FVS, a limited number of species were regenerated (e.g., Crookston *et al.* 2010). Only the four most abundant species in terms of adult trees initially present were regenerated throughout the simulations and shrubs were not considered for regeneration.

Adjustments were made on the regeneration parameters (Table S2) of the SID stands since values were calculated based on “site-specific average overstory species proportions” (Nunery & Keeton 2010) coming from sugar maple-beech-yellow birch stands. We gave the most abundant of the four species identified for regeneration the suggested parameter (Table S2), but parameters for the other three species were adjusted proportionally to their relative abundance. Since the mean live canopy cover percentages of the chosen SM and SID stands were identical, no further adjustments were made regarding SID regeneration parameters.

In the WSP for both Intensive and Ecosystem, no natural regeneration was allowed to simulate the human practice of understory vegetation removal to ensure plantation success. Natural regeneration was included in No-management by the implementation, at the first time step, of shade-intolerant species likely to colonize such an open space such as white ash, quaking aspen and black cherry. The density gradient of white spruce seedlings was the same as in Intensive and Ecosystem (from 1000 to 3000 stems/ha), and the number of new seedlings from the three other species was divided equally to reach a final density of 3000 stems ha-1.