Table S1. Characteristic of individual growth developmental stages of stands represented in the study area and their relation to age of stand and forest management practices.

Stand characteristics	**Growth developmental stages**							
	Natural seeding, advance growth and young plantation	**Young growth**	**Small pole stage**	**Pole-stage stand**	**Upcoming large-diameter stand**	**Large-diameter stand**	**Overmature large-diameter stand**	
Age of stand (yrs)	1-10	10-25	25-40	40-60	61-80	81-120	120 and more	
Age groups used in research (yrs)	-	10-60			61-80	81-120	121-140	141 and more
Phase	Care of stand	Stand tending			Care of stand	Regeneration of stands (can begin from 80 years)		
Forest management practice	Thinning out (of seedlings), reinforcement planting, interplanting	Cleaning (juvenile thinning)	Thinning		Opening up the stand	Regeneration of stands: rotation period - spruce 100-130 years; - beech 120-140 years; - oak 130-160 years		
Aim of forest management practices	Reduce density of advance growth, maintain the required species composition	Regulate tree species composition and spatial distribution	Increase ecological stability, resilience of stands and also to support the growth of promising individual trees		Support increments of trees	Regeneration of stands - artificial or natural regeneration		
Number of samples	-	36			99	202	35	29

Table S2. Descriptive statistics of a dataset of 401 samples for input variables including climate and soil conditions within study area.

Variable	Spruce stands						Deciduous stands					
	Min	**Max**	**Mean**	**Median**	**SD**	**SEM**	**Min**	**Max**	**Mean**	**Median**	**SD**	**SEM**
Elevation (m a.s.l.)	250.0	650.0	488.0	495.0	97.5	6.1	250.0	650.0	456.0	460.0	107.9	8.8
MAAT (°C)	5.5	8.3	7.0	7.0	0.5	0.0	5.6	8.3	7.3	7.4	0.7	0.1
MAP (mm)	501.9	1129.6	720.2	702.2	98.9	6.2	479.6	1031.4	692.7	669.3	115.0	9.4
Thickness of O horizon	1.0	18.0	5.9	5.0	2.7	0.2	1.0	35.0	3.8	3.0	3.4	0.3
Thickness of A horizon	5.0	40.0	14.4	13.0	6.5	0.4	3.0	65.0	13.9	10.0	8.6	0.7
Prevail humus form	Moder						Moder					
Dominant soil group	Cambisols						Cambisols					
Age of stand	12.0	160.0	90.3	90.5	23.6	1.4	15.0	185.0	102.4	100.0	35.7	2.9
Density of stocking	0.7	1.0	-	0.8	-	-	0.7	1.0	-	0.9	-	-
Canopy	50.0	100.0	-	80.0	-	-	60.0	100.0	-	90.0	-	-
SOC (Mg C ha^{-1}) in the O horizon	1.2	39.6	13.5	12.0	7.7	0.5	1.2	43.7	7.5	5.9	6.1	0.5
SOC (Mg C ha^{-1}) in the A horizon	2.3	108.2	24.1	19.7	17.4	1.1	3.3	119.4	31.8	24.4	23.3	1.9
N	252						149					

Min: minimum value. Max: maximum value. SD: standard deviation. SEM: standard error of mean. N: number of samples. MAAT: mean annual air temperature. MAP: mean annual precipitation