

## Supplementary material

**Table S1.** Structural and abiotic attributes of the sampled sites

Site	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11
Merchantable tree density (n·ha <sup>-1</sup> )	1100	1250	1275	1875	950	1025	1575	50	450	1325	975
Basal area (m <sup>2</sup> ·ha <sup>-1</sup> )	30.63	25.19	35.45	21.75	20.13	14.52	29.73	0.36	5.52	20.57	15.18
Sapling density (n·ha <sup>-1</sup> )	1100	1050	275	2400	1125	1200	3200	4050	1225	650	8550
Maximum height (m)	13.4	20.3	19.4	14.4	19.1	16.2	16.7	7.9	13.9	17.5	17.7
Balsam fir proportion (%)	12.59	0	39.64	0	0	0	0	0	0	2.8	51.38
Coarse woody debris volume (m <sup>3</sup> ha <sup>-1</sup> )	22.22	36.85	32.78	5.33	31.85	25.56	1.57	0	3.45	40.5	197
Cohort basal area proportion	0	0.54	0.98	0	0.12	0.12	0	0	0.15	0.83	0.92
Min. time since the last fire (years)	86	219	206	195	184	193	89	89	218	286	189
Weibull's shape parameter	1.26	1.44	2.75	1.38	0.74	1.19	0.69	1.29	1.05	2.67	0.97
Slope (%)	35	8	3	0	10	7	5	0	0	27	18
Depth of the organ. horizon (cm)	12	39	40	16	40	45	13	65	38	25	45

  

Site	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 19	Site 20	Site 21
Merchantable tree density (n·ha <sup>-1</sup> )	675	675	500	1125	950	850	700	850	600	825
Basal area (m <sup>2</sup> ·ha <sup>-1</sup> )	18.48	6.84	7.1	28.29	12.67	17.68	14.27	16.09	20.7	13.2
Sapling density (n·ha <sup>-1</sup> )	1750	2150	1800	2525	3650	2800	1175	2250	2750	375
Maximum height (m)	22.6	16.9	15.8	21.2	17.8	23.4	19.4	21.5	21.6	13.9
Balsam fir proportion (%)	25.15	0.01	0.01	78.56	0	15.59	1.58	20.34	18.06	0
Coarse woody debris volume (m <sup>3</sup> ha <sup>-1</sup> )	134.4	92.13	13.01	71.46	27.87	58.82	56	105.4	70.93	7.31
Cohort basal area proportion	1	0.86	0.75	0.83	0.85	0.92	0.93	0.63	0.65	0.09
Min. time since the last fire (years)	263	281	256	277	279	283	266	193	238	91
Weibull's shape parameter	0.72	1.14	0.89	0.69	0.76	0.97	0.89	0.9	0.73	1.83
Slope (%)	19	0	0	18	2	26	5	7	22	13
Depth of the organ. horizon (cm)	17	34	20	31	50	43	15	20	14	15

**Table S2.** Number of tree sampled per site and species

Species	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11
Black spruce (n)	15	33	50	40	37	37	44	43	18	20	24
Balsam fir (n)	3	0	12	0	0	0	0	0	0	3	16
Jack pine (n)	0	0	0	3	0	0	0	0	0	0	0
Total	18	33	62	43	37	37	44	43	18	23	40

  

Species	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18	Site 19	Site 20	Site 21
Black spruce (n)	26	30	15	23	34	37	37	36	10	16
Balsam fir (n)	15	0	0	29	0	8	2	13	13	0
Jack pine (n)	0	0	0	0	0	0	0	0	0	16
Total	41	30	15	52	34	45	39	49	23	32

**Table S3.** Growth pattern frequencies, structural attributes, successional attributes, and environmental attributes of the site constituting the stand cluster rejected for the analysis.

Type	Attribute	Stand Cluster 5 (n = 1)
Growth pattern frequency	High-descending (%)	2.32
	Low-descending (%)	86.05
	Bell (%)	0
	Linear (%)	2.32
	Low-ascending (%)	9.3
Structural	High-ascending (%)	0
	Merchantable tree density (n/ha)	1875
	Basal area (m <sup>2</sup> /ha)	21.75
	Sapling density (n/ha)	2400
	Maximum height (m)	14.4
	Balsam fir proportion (%)	0
Successional	Coarse woody debris volume (m <sup>3</sup> /ha)	5.34
	Min. time since the last fire (year)	113
Environmental	Cohort basal area proportion	0.08
	Slope (%)	0.11
	Depth of the organic horizon (cm)	16

**Table S4.** Jack pine absolute and relative of frequencies by species and growth pattern

<b>Growth pattern</b>	<b>Jack pine (# of samples and frequency)</b>
High-descending	4 21%
Low-descending	15 79%
Bell	0 0%
Linear	0 0%
Low-ascending	0 0%
High-ascending	0 0%
<b>Total</b>	19 100%

**Figure S1.** Examples of raw tree ring-width chronologies (left) and of the corresponding 20-segment chronologies (right) for different forms of radial growth patterns observed for the sampled trees.

