Table S1. Mean environmental factors in different gap sizes from 3000 to 3500 m.

Elevation	Gap Size	PPFD_C	PPFD_O	AMT	DAMT	GST	NGST	AH	ST10	ST20	SC10	SC20	SN10	SN20	SCN10	SCN20
3000–3100	Large gap	546.00	274.00	2.80	3.88	17.91	−9.77	90.47	3.52	3.85	22.56	7.94	0.69	0.45	32.58	17.69
	Medium gap	419.00	261.33	2.29	5.17	19.06	−5.19	93.18	3.31	3.55	14.89	9.57	0.68	0.45	21.08	21.21
	Small gap	359.33	249.00	2.56	4.87	17.51	−6.18	93.97	3.30	3.30	9.26	8.10	0.52	0.42	18.05	19.28
	Understory	53.33	41.67	2.72	4.45	17.51	−5.62	93.41	3.65	3.70	8.47	7.36	0.50	0.48	16.87	15.41
3100–3200	Large gap	563.33	281.33	2.13	3.76	16.47	−9.31	92.58	2.85	3.10	12.12	7.67	0.58	0.40	21.22	19.08
	Medium gap	427.00	254.67	1.96	4.72	17.56	−6.28	93.54	2.91	3.12	7.93	8.83	0.55	0.43	14.37	20.44
	Small gap	366.00	248.00	2.17	4.78	16.72	−6.82	93.48	2.84	2.84	4.48	7.15	0.42	0.40	10.56	17.66
	Understory	50.67	43.00	2.33	4.36	17.25	−6.51	93.29	2.79	2.84	6.91	6.76	0.38	0.35	18.52	19.83
3200–3300	Large gap	580.00	281.33	2.09	3.67	15.60	−8.42	93.45	2.35	2.56	9.06	6.98	0.47	0.40	19.07	17.66
	Medium gap	441.00	261.00	1.91	4.16	15.67	−7.58	93.80	2.39	2.57	8.15	7.90	0.44	0.39	18.97	20.09
	Small gap	376.33	253.33	2.02	4.71	15.72	−7.38	92.91	2.36	2.36	7.90	5.55	0.34	0.35	23.57	15.70
	Understory	57.33	49.00	1.45	4.46	16.37	−7.07	92.54	2.24	2.30	6.51	6.25	0.33	0.31	19.51	20.34
3300–3400	Large gap	590.33	275.67	1.85	3.56	14.18	−8.69	93.48	1.89	2.04	8.77	6.54	0.38	0.39	23.55	16.52
	Medium gap	450.67	262.33	1.69	3.68	14.17	−8.89	94.63	1.95	2.09	7.95	6.11	0.36	0.37	22.40	16.54
	Small gap	379.67	248.00	1.90	4.62	14.98	−8.14	92.65	2.02	2.02	5.72	4.62	0.33	0.30	17.58	15.33
	Understory	57.67	51.00	1.42	4.38	16.39	−8.64	93.60	1.89	1.98	6.24	5.94	0.24	0.21	26.35	28.02
3400–3500	Large gap	616.67	274.00	1.19	3.49	13.52	−8.28	91.58	1.36	1.46	5.49	6.17	0.38	0.38	14.28	16.36
	Medium gap	465.00	256.33	1.42	3.26	12.71	−9.88	94.82	1.59	1.70	6.78	6.12	0.28	0.34	23.62	17.73
	Small gap	388.67	240.00	1.39	4.56	14.23	−8.51	92.30	1.51	1.51	6.21	3.93	0.31	0.22	21.25	18.00
	Understory	55.33	52.67	0.71	4.46	14.37	−8.56	93.66	1.54	1.60	5.27	4.95	0.20	0.18	27.11	28.46

RD_Ab_se = *Abies* seedling regeneration density; RD_Ab_sa = *Abies* sapling regeneration density; RD_Ab_st= *Abies* small tree regeneration density; RD_Be_se = *Betula* seedling regeneration density; RD_Be_sa= *Betula* sapling regeneration density; RD_Be_st= *Betula* small tree regeneration density; RD_Ac_se = *Acer* seedling regeneration density; RD_Ac_sa = *Acer* sapling regeneration density; RD_ Ac _st = *Acer* small tree regeneration density; PPFD_C = photosynthetic photon flux density on Cloudless days; PPFD_O = photosynthetic photon flux density on overcast days; AMT = air annual mean temperature; DAMT = annual average temperature difference between day and night; GST = annual mean temperature of growing season; NGST = annual mean temperature of non-growing season; AH = air relative humidity; ST10 = soil temperature (0–10cm); ST20 = soil temperature (10–20cm); SC10 =soil total C (0–10cm); SC20 = soil total C (10–20cm); SN10 = soil total N (0–10cm); SN20 = soil total N (10–20cm); SCN10 = soil C/N ratio (0–10cm); SCN20 = soil C/N ratio (10–20cm).