

Supplementary file 4: Table 1. Result of the automated model selection approach identifying environmental variables that affected the cover of *Impatiens glandulifera* in summer 2016 and spring 2017. The approach started with one global model stating that the cover of *I. glandulifera* depended on all predictor variables listed in the table (light, indices for constantly wet soils, cover of *Alnus glutinosa* (Aln.glu), Ellenberg indicator value N (eiv N), index for periodically wet soils, cover of *Acer pseudoplatanus* (Acer.pse), tree species number, cover of *Fraxinus excelsior* (Fra.exc), *Salix fragilis* (Sal.fra), *Betula pendula* (Bet.pen), soil water content (squared), and Ellenberg value R (eiv R) and using site as random factor. Next a set of models with combinations of all parameters was generated from the global model and weighted by their AICc. In the table, the best models with delta AICc < 2 are shown giving the estimates of the contained predictors, numerator degrees of freedom (df), AICc, delta AICc (delta) and AICc weight. For each predictor the relative importance [%] was calculated as the sum of AICc weights of all those models with a $\Delta AICc > 2$ including the variable. The number (N) of models containing the particular variable is also given.

		predictors													result			
		Intercept	light ^2	index constantly wet	Aln. glu	eiv N	index periodically wet	Acer pse	tree species number	Fra. exc	Sal. fra	Bet. pen	soil water content ^2	eiv R	df	AICc	delta	weight
summer 2016 (n = 114)	model 1	0.20	-0.25	-0.25		0.23	0.29	-0.32	0.22	-0.22					10	311.21	0.00	0.21
	model 2	0.18	-0.22	-0.25		0.25	0.28	-0.32		-0.22				9	311.44	0.22	0.19	
	model 3	0.19	-0.25	-0.36	-0.25		0.29	-0.23						8	311.48	0.26	0.18	
	model 4	0.19	-0.25	-0.33	-0.28		0.33							7	312.81	1.60	0.09	
	model 5	0.20	-0.26	-0.34			0.27	-0.30	0.24	-0.19				9	312.92	1.71	0.09	
	model 6	0.18	-0.26			0.32	0.28	-0.29	0.23	-0.22				9	313.10	1.89	0.08	
	model 7	0.20	-0.27	-0.34	-0.21		0.30	-0.25	0.18					9	313.14	1.93	0.08	
	model 8	0.20	-0.26	-0.33			0.31	-0.28	0.23					8	313.15	1.93	0.08	
	importance		100	92	36	48	100	91	54	56								
N		8	7	3	3	8	7	5	4									
spring 2017 (n = 111)	model 1	-0.02		-0.30							0.31			5	303.26	0.00	0.27	
	model 2	0.16	-0.17	-0.27							0.28			6	303.46	0.19	0.25	
	model 3	0.26	-0.27	-0.26	-0.28							-0.25		7	304.53	1.27	0.15	
	model 4	0.18	-0.24	-0.3	-0.28									6	305.00	1.74	0.12	
	model 5	0.27	-0.28		-0.24	0.24						-0.28		7	305.12	1.85	0.11	
	model 6	0.16	-0.18			0.24					0.23			6	305.18	1.91	0.11	
	importance		73	79	37	21					63	25						
N		5	4	3	2					3	2							