Supplementary material

Ülo Väli* & Piia Katharina Vaan: Greenish Warbler (*Phylloscopus trochiloides viridanus*): An overlooked indicator of old-growth forest? — Ornis Fennica 97: 165–176.

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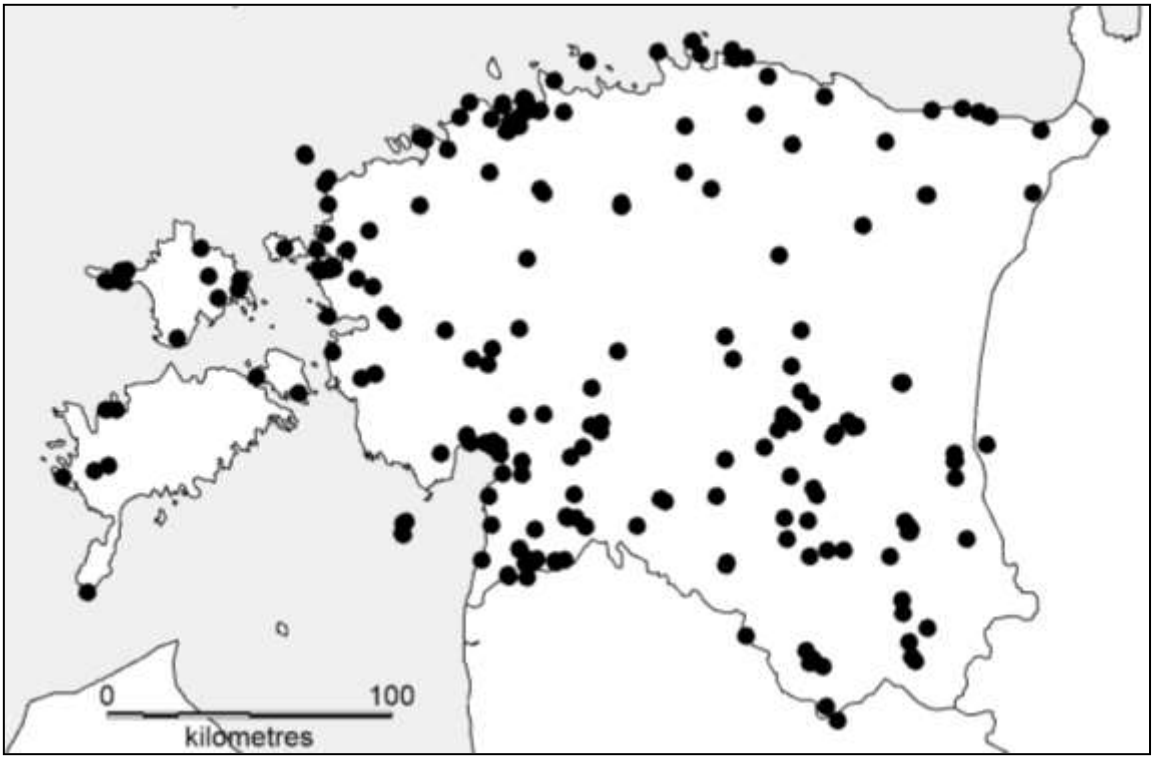
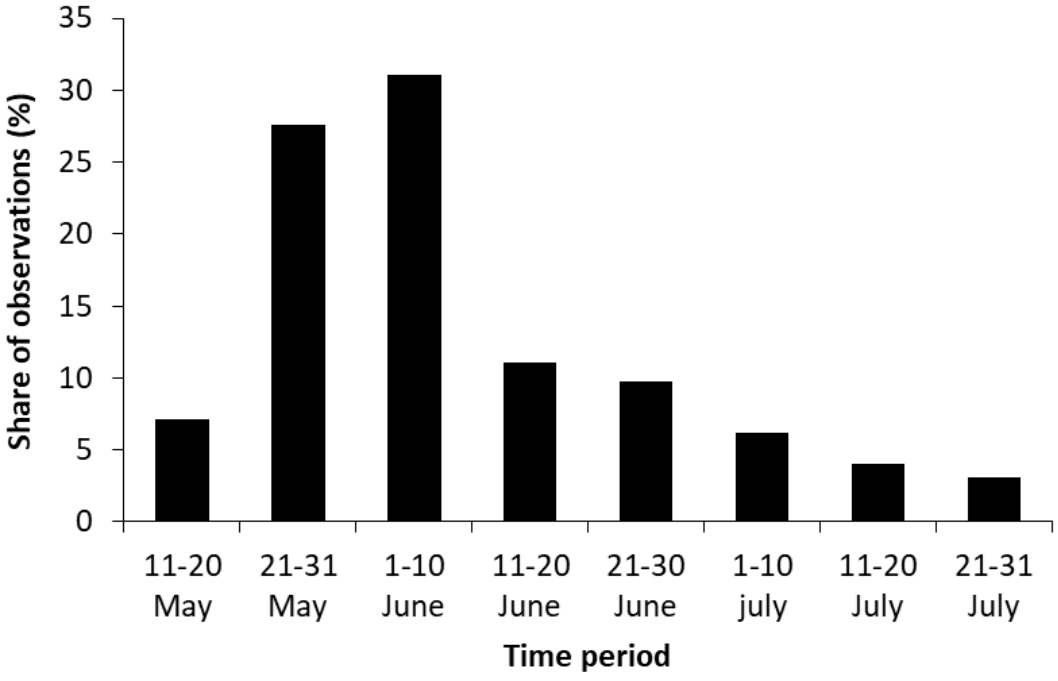


Supplementary Figure 1. The spatial distribution of the analysed records of the Greenish Warbler in Estonia (**B**).



Supplementary Figure 2. Temporal distribution of Greenish Warbler records across the breeding season.

Supplementary Table 1. Correlation matrices of variables describing old-growth and terrain. Spearman's rank correlation coefficients are presented above diagonal and their significance below the diagonal. Only control sites were used in calculations; sample sizes (N) are indicated at the bottom of the two matrices. Significant correlations (after Bonferroni correction) are indicated in bold.

	Age	Soil fertility	Laying dead wood	Standing dead wood	Drainage	Difference of isohypses	Slope
50 m radius							
Age		**0.36**	**0.38**	**0.44**	0.02	-0.13	-0.03
Soil fertility	**0.00**		-0.10	0.06	0.11	**-0.23**	**-0.28**
Laying dead wood	**0.00**	0.16		**0.66**	0.05	0.07	0.07
Standing dead wood	**0.00**	0.40	**0.00**		-0.09	0.06	-0.03
Drainage	0.80	0.12	0.51	0.21		**-0.23**	-0.09
Difference of isohypses	0.06	**0.00**	0.29	0.42	**0.00**		0.14
Slope	0.66	**0.00**	0.30	0.67	0.20	0.04	
N	210	210	210	210	210	208	208
200 m radius							
Age		**0.43**	**0.18**	**0.26**	-0.10	-0.05	-0.02
Soil fertility	**0.00**		**-0.15**	-0.01	0.00	**-0.16**	**-0.38**
Laying dead wood	**0.00**	**0.01**		0.70	0.02	0.05	0.11
Standing dead wood	**0.00**	0.88	0.00		-0.07	0.04	0.06
Drainage	0.09	0.96	0.74	0.28		**-0.25**	-0.14
Difference of isohypses	0.39	**0.01**	0.43	0.52	**0.00**		**0.26**
Slope	0.69	**0.00**	0.07	0.31	0.03	**0.00**	
N	262	262	262	262	262	258	258

Supplementary Table 2. 192 generalized linear models with high support (ΔAICc < 2) describing the importance of 14 main tree species in a 50 m radius around warbler sites. The table includes only 11 tree species, because larch, grey alder and maple were not represented in the models. R^2, coefficient of determination; *AICc*, Akaike information criterion corrected for small values; *ΔAICc*, difference in AICc values of the best model; *w*, model weight; '+' and '–', direction of the effect of explanatory variables.

No.	Intercept	Aspen	Elm	Birch	Spruce	Black Alder	Pine	Linden	Poplar	Willow	Ash	Oak	R^2	*AICc*	*ΔAICc*	*w*
1	-0.83		2545.22		169.38			17905.31			1063.97		0.052	421.17	0.00	0.0098
2	-0.83		2545.22		169.38			17905.31			1063.97		0.052	421.17	0.00	0.0098
3	-0.83		2545.22		169.38			17905.31			1063.97		0.052	421.17	0.00	0.0098
4	-0.83		2545.22		169.38			17905.31			1063.97		0.052	421.17	0.00	0.0098
5	-0.87		2551.09		173.93	225.46		17946.62			1092.43		0.057	421.43	0.26	0.0086
6	-0.87		2551.09		173.93	225.46		17946.62			1092.43		0.057	421.43	0.26	0.0086
7	-0.87		2551.09		173.93	225.46		17946.62			1092.43		0.057	421.43	0.26	0.0086
8	-0.87		2551.09		173.93	225.46		17946.62			1092.43		0.057	421.43	0.26	0.0086
9	-0.82		2543.05		166.86						1053.84		0.045	421.48	0.32	0.0084
10	-0.82		2543.05		166.86						1053.84		0.045	421.48	0.32	0.0084
11	-0.82				166.86			17890.03			1053.84		0.045	421.48	0.32	0.0084
12	-0.82				166.86			17890.03			1053.84		0.045	421.48	0.32	0.0084
13	-0.82		2543.05		166.86						1053.84		0.045	421.48	0.32	0.0084
14	-0.82		2543.05		166.86						1053.84		0.045	421.48	0.32	0.0084
15	-0.82				166.86			17890.03			1053.84		0.045	421.48	0.32	0.0084
16	-0.82				166.86			17890.03			1053.84		0.045	421.48	0.32	0.0084
17	-0.85		2548.79		171.30	222.19					1081.56		0.050	421.78	0.61	0.0072
18	-0.85		2548.79		171.30	222.19					1081.56		0.050	421.78	0.61	0.0072
19	-0.85				171.30	222.19		17930.48			1081.56		0.050	421.78	0.61	0.0072
20	-0.85				171.30	222.19		17930.48			1081.56		0.050	421.78	0.61	0.0072
21	-0.85		2548.79		171.30	222.19					1081.56		0.050	421.78	0.61	0.0072
22	-0.85		2548.79		171.30	222.19					1081.56		0.050	421.78	0.61	0.0072

23	-0.85		171.30	222.19	17930.48			1081.56	0.050	421.78	0.61	0.0072
24	-0.85		171.30	222.19	17930.48			1081.56	0.050	421.78	0.61	0.0072
25	-0.81		164.36					1043.89	0.038	421.79	0.63	0.0072
26	-0.81		164.36					1043.89	0.038	421.79	0.63	0.0072
27	-0.81		164.36					1043.89	0.038	421.79	0.63	0.0072
28	-0.81		164.36					1043.89	0.038	421.79	0.63	0.0072
29	-0.83	2710.19	172.88		19065.85		-110279.44	1061.13	0.056	421.99	0.82	0.0065
30	-0.83	2710.19	172.88		19065.85		-110279.44	1061.13	0.056	421.99	0.82	0.0065
31	-0.83	2710.19	172.88		19065.85		-110279.44	1061.13	0.056	421.99	0.82	0.0065
32	-0.83	2710.19	172.88		19065.85		-110279.44	1061.13	0.056	421.99	0.82	0.0065
33	-0.87	2716.24	173.19	289.64	19108.45	-8144.07		1091.99	0.062	422.02	0.86	0.0064
34	-0.87	2716.24	173.19	289.64	19108.45	-8144.07		1091.99	0.062	422.02	0.86	0.0064
35	-0.87	2716.24	173.19	289.64	19108.45	-8144.07		1091.99	0.062	422.02	0.86	0.0064
36	-0.87	2716.24	173.19	289.64	19108.45	-8144.07		1091.99	0.062	422.02	0.86	0.0064
37	-0.84		168.70	218.96				1070.89	0.043	422.13	0.96	0.0061
38	-0.84		168.70	218.96				1070.89	0.043	422.13	0.96	0.0061
39	-0.84		168.70	218.96				1070.89	0.043	422.13	0.96	0.0061
40	-0.84		168.70	218.96				1070.89	0.043	422.13	0.96	0.0061
41	-0.87	2716.03	177.37	224.45	19106.98		-110157.47	1089.43	0.061	422.28	1.11	0.0057
42	-0.87	2716.03	177.37	224.45	19106.98		-110157.47	1089.43	0.061	422.28	1.11	0.0057
43	-0.87	2716.03	177.37	224.45	19106.98		-110157.47	1089.43	0.061	422.28	1.11	0.0057
44	-0.87	2716.03	177.37	224.45	19106.98		-110157.47	1089.43	0.061	422.28	1.11	0.0057
45	-0.82	2542.73	170.36				-103157.09	1051.03	0.049	422.29	1.12	0.0056
46	-0.82	2542.73	170.36				-103157.09	1051.03	0.049	422.29	1.12	0.0056
47	-0.82		170.36		17887.80		-103157.09	1051.03	0.049	422.29	1.12	0.0056
48	-0.82		170.36		17887.80		-103157.09	1051.03	0.049	422.29	1.12	0.0056
49	-0.82	2542.73	170.36				-103157.09	1051.03	0.049	422.29	1.12	0.0056
50	-0.82	2542.73	170.36				-103157.09	1051.03	0.049	422.29	1.12	0.0056
51	-0.82		170.36		17887.80		-103157.09	1051.03	0.049	422.29	1.12	0.0056
52	-0.82		170.36		17887.80		-103157.09	1051.03	0.049	422.29	1.12	0.0056

53	-0.93		2561.59	184.84		42.75	18020.51			1143.23	0.055	422.33	1.16	0.0055
54	-0.93		2561.59	184.84		42.75	18020.51			1143.23	0.055	422.33	1.16	0.0055
55	-0.93		2561.59	184.84		42.75	18020.51			1143.23	0.055	422.33	1.16	0.0055
56	-0.93		2561.59	184.84		42.75	18020.51			1143.23	0.055	422.33	1.16	0.0055
57	-0.85		2548.66	170.55	286.16			-7628.95		1081.12	0.055	422.36	1.19	0.0054
58	-0.85		2548.66	170.55	286.16			-7628.95		1081.12	0.055	422.36	1.19	0.0054
59	-0.85			170.55	286.16		17929.50	-7628.95		1081.12	0.055	422.36	1.19	0.0054
60	-0.85			170.55	286.16		17929.50	-7628.95		1081.12	0.055	422.36	1.19	0.0054
61	-0.85		2548.66	170.55	286.16			-7628.95		1081.12	0.055	422.36	1.19	0.0054
62	-0.85		2548.66	170.55	286.16			-7628.95		1081.12	0.055	422.36	1.19	0.0054
63	-0.85			170.55	286.16		17929.50	-7628.95		1081.12	0.055	422.36	1.19	0.0054
64	-0.85			170.55	286.16		17929.50	-7628.95		1081.12	0.055	422.36	1.19	0.0054
65	-0.98		2570.07	191.79	241.00	48.37	18080.16			1185.65	0.061	422.37	1.20	0.0054
66	-0.98		2570.07	191.79	241.00	48.37	18080.16			1185.65	0.061	422.37	1.20	0.0054
67	-0.98		2570.07	191.79	241.00	48.37	18080.16			1185.65	0.061	422.37	1.20	0.0054
68	-0.98		2570.07	191.79	241.00	48.37	18080.16			1185.65	0.061	422.37	1.20	0.0054
69	-0.80		2540.66	164.82			17873.24				0.043	422.38	1.21	0.0054
70	-0.80		2540.66	164.82			17873.24				0.043	422.38	1.21	0.0054
71	-0.80		2540.66	164.82			17873.24				0.043	422.38	1.21	0.0054
72	-0.80		2540.66	164.82			17873.24				0.043	422.38	1.21	0.0054
73	-0.81	-139.30	2540.91	169.59			17875.00			1057.16	0.055	422.39	1.23	0.0053
74	-0.81	-139.30	2540.91	169.59			17875.00			1057.16	0.055	422.39	1.23	0.0053
75	-0.81	-139.30	2540.91	169.59			17875.00			1057.16	0.055	422.39	1.23	0.0053
76	-0.81	-139.30	2540.91	169.59			17875.00			1057.16	0.055	422.39	1.23	0.0053
77	-0.83		2709.55	168.27			19061.39	-7597.60		1059.52	0.054	422.52	1.35	0.0050
78	-0.83		2709.55	168.27			19061.39	-7597.60		1059.52	0.054	422.52	1.35	0.0050
79	-0.83		2709.55	168.27			19061.39	-7597.60		1059.52	0.054	422.52	1.35	0.0050
80	-0.83		2709.55	168.27			19061.39	-7597.60		1059.52	0.054	422.52	1.35	0.0050
81	-0.80			167.87					-103177.33	1041.11	0.042	422.58	1.41	0.0049
82	-0.80			167.87					-103177.33	1041.11	0.042	422.58	1.41	0.0049

83	-0.80			167.87				-103177.33	1041.11	0.042	422.58	1.41	0.0049
84	-0.80			167.87				-103177.33	1041.11	0.042	422.58	1.41	0.0049
85	-0.85		2548.45	174.75	221.18			-103037.28	1078.59	0.054	422.61	1.45	0.0048
86	-0.85		2548.45	174.75	221.18			-103037.28	1078.59	0.054	422.61	1.45	0.0048
87	-0.85		2548.45	174.75	221.18			-103037.28	1078.59	0.054	422.61	1.45	0.0048
88	-0.85		2548.45	174.75	221.18			-103037.28	1078.59	0.054	422.61	1.45	0.0048
89	-0.85			174.75	221.18	17928.06		-103037.28	1078.59	0.054	422.61	1.45	0.0048
90	-0.85			174.75	221.18	17928.06		-103037.28	1078.59	0.054	422.61	1.45	0.0048
91	-0.85			174.75	221.18	17928.06		-103037.28	1078.59	0.054	422.61	1.45	0.0048
92	-0.85			174.75	221.18	17928.06		-103037.28	1078.59	0.054	422.61	1.45	0.0048
93	-0.79	-142.19	2538.68	167.10					1047.03	0.048	422.66	1.49	0.0047
94	-0.79	-142.19	2538.68	167.10					1047.03	0.048	422.66	1.49	0.0047
95	-0.79	-142.19		167.10		17859.29			1047.03	0.048	422.66	1.49	0.0047
96	-0.79	-142.19		167.10		17859.29			1047.03	0.048	422.66	1.49	0.0047
97	-0.79	-142.19	2538.68	167.10					1047.03	0.048	422.66	1.49	0.0047
98	-0.79	-142.19	2538.68	167.10					1047.03	0.048	422.66	1.49	0.0047
99	-0.79	-142.19		167.10		17859.29			1047.03	0.048	422.66	1.49	0.0047
100	-0.79	-142.19		167.10		17859.29			1047.03	0.048	422.66	1.49	0.0047
101	-0.79		2538.56	162.37						0.036	422.67	1.50	0.0046
102	-0.79		2538.56	162.37						0.036	422.67	1.50	0.0046
103	-0.79			162.37		17858.44				0.036	422.67	1.50	0.0046
104	-0.79			162.37		17858.44				0.036	422.67	1.50	0.0046
105	-0.79		2538.56	162.37						0.036	422.67	1.50	0.0046
106	-0.79		2538.56	162.37						0.036	422.67	1.50	0.0046
107	-0.79			162.37		17858.44				0.036	422.67	1.50	0.0046
108	-0.79			162.37		17858.44				0.036	422.67	1.50	0.0046
109	-0.84			167.95	282.73		-7629.30		1070.44	0.048	422.69	1.52	0.0046
110	-0.84			167.95	282.73		-7629.30		1070.44	0.048	422.69	1.52	0.0046
111	-0.84			167.95	282.73		-7629.30		1070.44	0.048	422.69	1.52	0.0046
112	-0.84			167.95	282.73		-7629.30		1070.44	0.048	422.69	1.52	0.0046

113	-0.84		2546.24	169.13	218.44		17912.50				0.048	422.73	1.57	0.0045
114	-0.84		2546.24	169.13	218.44		17912.50				0.048	422.73	1.57	0.0045
115	-0.84		2546.24	169.13	218.44		17912.50				0.048	422.73	1.57	0.0045
116	-0.84		2546.24	169.13	218.44		17912.50				0.048	422.73	1.57	0.0045
117	-0.84	-132.81	2546.84	174.01	220.36		17916.73			1085.21	0.060	422.75	1.58	0.0045
118	-0.84	-132.81	2546.84	174.01	220.36		17916.73			1085.21	0.060	422.75	1.58	0.0045
119	-0.84	-132.81	2546.84	174.01	220.36		17916.73			1085.21	0.060	422.75	1.58	0.0045
120	-0.84	-132.81	2546.84	174.01	220.36		17916.73			1085.21	0.060	422.75	1.58	0.0045
121	-0.91		2558.03	180.99		39.39				1125.95	0.048	422.77	1.60	0.0044
122	-0.91		2558.03	180.99		39.39				1125.95	0.048	422.77	1.60	0.0044
123	-0.91			180.99		39.39	17995.47			1125.95	0.048	422.77	1.60	0.0044
124	-0.91			180.99		39.39	17995.47			1125.95	0.048	422.77	1.60	0.0044
125	-0.91		2558.03	180.99		39.39				1125.95	0.048	422.77	1.60	0.0044
126	-0.91		2558.03	180.99		39.39				1125.95	0.048	422.77	1.60	0.0044
127	-0.91			180.99		39.39	17995.47			1125.95	0.048	422.77	1.60	0.0044
128	-0.91			180.99		39.39	17995.47			1125.95	0.048	422.77	1.60	0.0044
129	-0.81			165.75			17883.32	-7088.91		1049.41	0.047	422.81	1.65	0.0043
130	-0.81			165.75			17883.32	-7088.91		1049.41	0.047	422.81	1.65	0.0043
131	-0.81			165.75			17883.32	-7088.91		1049.41	0.047	422.81	1.65	0.0043
132	-0.81			165.75			17883.32	-7088.91		1049.41	0.047	422.81	1.65	0.0043
133	-0.81		2542.09	165.75				-7088.91		1049.41	0.047	422.81	1.65	0.0043
134	-0.81		2542.09	165.75				-7088.91		1049.41	0.047	422.81	1.65	0.0043
135	-0.81		2542.09	165.75				-7088.91		1049.41	0.047	422.81	1.65	0.0043
136	-0.81		2542.09	165.75				-7088.91		1049.41	0.047	422.81	1.65	0.0043
137	-0.96			187.71	236.42	44.82	18053.35			1166.86	0.053	422.86	1.70	0.0042
138	-0.96			187.71	236.42	44.82	18053.35			1166.86	0.053	422.86	1.70	0.0042
139	-0.96			187.71	236.42	44.82	18053.35			1166.86	0.053	422.86	1.70	0.0042
140	-0.96			187.71	236.42	44.82	18053.35			1166.86	0.053	422.86	1.70	0.0042
141	-0.96		2566.26	187.71	236.42	44.82				1166.86	0.053	422.86	1.70	0.0042
142	-0.96		2566.26	187.71	236.42	44.82				1166.86	0.053	422.86	1.70	0.0042

143	-0.96		2566.26		187.71	236.42	44.82				1166.86		0.053	422.86	1.70	0.0042
144	-0.96		2566.26		187.71	236.42	44.82				1166.86		0.053	422.86	1.70	0.0042
145	-0.87		2715.90		176.62	288.51		19106.01	-8142.94	-110141.62	1088.98		0.065	422.89	1.72	0.0042
146	-0.87		2715.90		176.62	288.51		19106.01	-8142.94	-110141.62	1088.98		0.065	422.89	1.72	0.0042
147	-0.87		2715.90		176.62	288.51		19106.01	-8142.94	-110141.62	1088.98		0.065	422.89	1.72	0.0042
148	-0.87		2715.90		176.62	288.51		19106.01	-8142.94	-110141.62	1088.98		0.065	422.89	1.72	0.0042
149	-0.78	-145.05			164.64						1037.08		0.041	422.92	1.75	0.0041
150	-0.78	-145.05			164.64						1037.08		0.041	422.92	1.75	0.0041
151	-0.78	-145.05			164.64						1037.08		0.041	422.92	1.75	0.0041
152	-0.78	-145.05			164.64						1037.08		0.041	422.92	1.75	0.0041
153	-0.84				172.15	217.96				-103059.64	1067.95		0.047	422.94	1.77	0.0041
154	-0.84				172.15	217.96				-103059.64	1067.95		0.047	422.94	1.77	0.0041
155	-0.84				172.15	217.96				-103059.64	1067.95		0.047	422.94	1.77	0.0041
156	-0.84				172.15	217.96				-103059.64	1067.95		0.047	422.94	1.77	0.0041
157	-0.78				159.95								0.029	422.96	1.79	0.0040
158	-0.78				159.95								0.029	422.96	1.79	0.0040
159	-0.78				159.95								0.029	422.96	1.79	0.0040
160	-0.78				159.95								0.029	422.96	1.79	0.0040
161	-0.79		2538.05	-21.97	164.90			17854.92			1029.47		0.053	423.00	1.83	0.0039
162	-0.79		2538.05	-21.97	164.90			17854.92			1029.47		0.053	423.00	1.83	0.0039
163	-0.79		2538.05	-21.97	164.90			17854.92			1029.47		0.053	423.00	1.83	0.0039
164	-0.79		2538.05	-21.97	164.90			17854.92			1029.47		0.053	423.00	1.83	0.0039
165	-0.83		2544.39		170.21			17899.51			1059.50	-257.73	0.053	423.02	1.85	0.0039
166	-0.83		2544.39		170.21			17899.51			1059.50	-257.73	0.053	423.02	1.85	0.0039
167	-0.83		2544.39		170.21			17899.51			1059.50	-257.73	0.053	423.02	1.85	0.0039
168	-0.83		2544.39		170.21			17899.51			1059.50	-257.73	0.053	423.02	1.85	0.0039
169	-0.98		2734.71		190.58	303.01	47.10	19238.38	-8112.66		1182.62		0.065	423.03	1.87	0.0039
170	-0.98		2734.71		190.58	303.01	47.10	19238.38	-8112.66		1182.62		0.065	423.03	1.87	0.0039
171	-0.98		2734.71		190.58	303.01	47.10	19238.38	-8112.66		1182.62		0.065	423.03	1.87	0.0039
172	-0.98		2734.71		190.58	303.01	47.10	19238.38	-8112.66		1182.62		0.065	423.03	1.87	0.0039

173	-0.83	-135.84		171.40	217.01	17900.09		1074.33	0.053	423.05	1.88	0.0038
174	-0.83	-135.84		171.40	217.01	17900.09		1074.33	0.053	423.05	1.88	0.0038
175	-0.83	-135.84		171.40	217.01	17900.09		1074.33	0.053	423.05	1.88	0.0038
176	-0.83	-135.84		171.40	217.01	17900.09		1074.33	0.053	423.05	1.88	0.0038
177	-0.83	-135.84	2544.48	171.40	217.01			1074.33	0.053	423.05	1.88	0.0038
178	-0.83	-135.84	2544.48	171.40	217.01			1074.33	0.053	423.05	1.88	0.0038
179	-0.83	-135.84	2544.48	171.40	217.01			1074.33	0.053	423.05	1.88	0.0038
180	-0.83	-135.84	2544.48	171.40	217.01			1074.33	0.053	423.05	1.88	0.0038
181	-0.83		2544.02	166.57	215.28				0.041	423.06	1.89	0.0038
182	-0.83		2544.02	166.57	215.28				0.041	423.06	1.89	0.0038
183	-0.83		2544.02	166.57	215.28				0.041	423.06	1.89	0.0038
184	-0.83		2544.02	166.57	215.28				0.041	423.06	1.89	0.0038
185	-0.83			166.57	215.28	17896.89			0.041	423.06	1.89	0.0038
186	-0.83			166.57	215.28	17896.89			0.041	423.06	1.89	0.0038
187	-0.83			166.57	215.28	17896.89			0.041	423.06	1.89	0.0038
188	-0.83			166.57	215.28	17896.89			0.041	423.06	1.89	0.0038
189	-0.80			163.26			-7095.59	1039.48	0.041	423.10	1.94	0.0037
190	-0.80			163.26			-7095.59	1039.48	0.041	423.10	1.94	0.0037
191	-0.80			163.26			-7095.59	1039.48	0.041	423.10	1.94	0.0037
192	-0.80			163.26			-7095.59	1039.48	0.041	423.10	1.94	0.0037

Supplementary Table 3. 101 generalized linear models models with high support (ΔAICc < 2) describing the importance of 14 main tree species recorded in a 200 m radius around warbler sites. The table includes only 12 tree species, because aspen and ash were not represented in the models. Abbreviations are similar to those in Table 1.

No	Intercept	*Elm*	Birch	Spruce	Larch	Black Alder	Grey Alder	Pine	Linden	Poplar	Willow	*Oak*	Maple	R^2	*AICc*	*ΔAICc*	*w*
1	-0.15		-9.68			30.65	-17.73	-5.39	172353.29		-13822.56			0.056	561.28	0.00	0.0178
2	-0.10		-9.61				-18.02	-5.55	172248.23		-13853.67			0.051	561.36	0.08	0.0171
3	-0.30		-8.43			31.81	-14.96		173746.65		-13755.67			0.051	561.42	0.13	0.0167
4	-0.35		-8.81			32.08			174522.83		-13902.00			0.046	561.56	0.28	0.0155
5	-0.16		-9.50		1206.01	31.02	-17.52	-5.41	172433.29		-13821.49			0.060	561.63	0.35	0.0150
6	-0.25		-8.31				-15.17		173748.03		-13785.92			0.046	561.66	0.38	0.0147
7	-0.11		-9.43		1203.47		-17.82	-5.57	172329.49		-13853.05			0.055	561.75	0.47	0.0141
8	-0.31		-8.25		1205.51	32.18	-14.75		173830.77		-13754.62			0.055	561.77	0.48	0.0140
9	-0.31	679.37	-8.24			32.18	-14.75		173830.49		-13754.65			0.055	561.77	0.49	0.0140
10	-0.17	674.94	-9.46			31.04	-17.43	-5.19	172480.84		-13819.33			0.059	561.81	0.53	0.0137
11	-0.36		-8.62		1208.34	32.46			174599.07		-13898.85			0.050	561.84	0.56	0.0135
12	-0.36	680.95	-8.62			32.46			174598.81		-13898.89			0.050	561.84	0.56	0.0135
13	-0.31		-8.24			32.19	-14.75		173832.54		-13754.61		1906.30	0.055	561.85	0.57	0.0134
14	-0.30		-8.69						174556.48		-13934.58			0.041	561.88	0.60	0.0132
15	-0.17		-9.46			31.05	-17.42	-5.19	172483.80		-13819.25		1828.87	0.059	561.89	0.61	0.0132
16	-0.36		-8.61			32.47			174600.70		-13898.80		1934.50	0.050	561.92	0.64	0.0130
17	-0.12	673.36	-9.39				-17.73	-5.36	172377.06		-13850.97			0.054	561.93	0.65	0.0129
18	-0.12		-9.39				-17.73	-5.36	172379.83		-13850.90		1801.58	0.054	562.02	0.73	0.0124
19	-0.15		-9.90			37.74	-17.57	-5.47	172269.44	-334.34	-13821.73			0.059	562.03	0.75	0.0122
20	-0.26		-8.13		1202.87		-14.97		173834.53		-13785.31			0.050	562.06	0.77	0.0121
21	-0.26	677.88	-8.12				-14.97		173834.29		-13785.34			0.050	562.06	0.78	0.0121
22	-0.32	679.70	-8.06		1206.10	32.56	-14.54		173915.49		-13753.57			0.059	562.12	0.83	0.0117
23	-0.37	681.27	-8.42		1208.90	32.85			174675.79		-13895.69			0.054	562.12	0.84	0.0117

24	-0.26		-8.12			-14.97		173836.23		-13785.30	1880.12	0.049	562.14	0.86	0.0116
25	-0.18	675.26	-9.28	1206.54	31.42	-17.23	-5.21	172561.89		-13818.23		0.063	562.16	0.87	0.0115
26	-0.32		-8.06	1206.11	32.57	-14.54		173917.56		-13753.52	1912.20	0.058	562.20	0.91	0.0113
27	-0.24		-9.86		31.20		-4.26	173513.16		-13972.33		0.049	562.20	0.91	0.0113
28	-0.37		-8.42	1208.92	32.86			174677.70		-13895.60	1940.18	0.054	562.20	0.91	0.0113
29	-0.32	679.71	-8.05		32.57	-14.54		173917.28		-13753.55	1912.25	0.058	562.20	0.92	0.0113
30	-0.31		-8.50	1205.72				174635.66		-13931.92		0.045	562.20	0.92	0.0113
31	-0.37	681.28	-8.41		32.85			174677.45		-13895.64	1940.23	0.054	562.20	0.92	0.0113
32	-0.31	679.48	-8.50					174635.45		-13931.96		0.045	562.21	0.92	0.0112
33	-0.30		-8.63		38.83	-14.77		173672.90	-328.26	-13753.93		0.054	562.22	0.94	0.0112
34	-0.18		-9.28	1206.56	31.42	-17.22	-5.21	172564.88		-13818.14	1834.46	0.063	562.24	0.95	0.0111
35	-0.31		-8.49					174637.25		-13931.88	1908.25	0.044	562.29	1.00	0.0108
36	-0.35		-9.01		39.25			174432.59	-345.83	-13898.35		0.049	562.29	1.01	0.0108
37	-0.13	673.65	-9.22	1203.96		-17.53	-5.38	172459.38		-13850.33		0.058	562.32	1.04	0.0106
38	-0.19		-9.79				-4.41	173457.80		-14006.51		0.044	562.39	1.11	0.0103
39	-0.16		-9.73	1206.07	38.12	-17.37	-5.49	172348.77	-334.66	-13820.67		0.063	562.39	1.11	0.0102
40	-0.13		-9.21	1203.97		-17.53	-5.38	172462.19		-13850.26	1806.66	0.058	562.41	1.12	0.0102
41	-0.18	675.43	-9.23		31.44	-17.13	-4.99	172613.42		-13815.94	1837.24	0.063	562.41	1.13	0.0102
42	-0.27	678.19	-7.94	1203.42		-14.77		173921.68		-13784.70		0.053	562.45	1.17	0.0099
43	-0.25		-9.68	1209.16	31.57		-4.29	173583.01		-13969.46		0.053	562.47	1.18	0.0099
44	-0.38	681.60	-8.22	1209.49	33.24			174755.22		-13892.39	1945.98	0.058	562.48	1.19	0.0098
45	-0.32	679.77	-8.31	1206.24				174715.39		-13929.26		0.049	562.53	1.25	0.0096
46	-0.27		-7.94	1203.43		-14.76		173923.64		-13784.66	1885.52	0.053	562.53	1.25	0.0095
47	-0.27	678.20	-7.93			-14.76		173923.40		-13784.69	1885.57	0.053	562.54	1.25	0.0095
48	-0.33	680.05	-7.87	1206.71	32.96	-14.33		174003.21		-13752.43	1918.22	0.062	562.54	1.26	0.0095
49	-0.17	674.89	-9.68		38.13	-17.28	-5.27	172395.97	-334.38	-13818.51		0.062	562.57	1.29	0.0094
50	-0.31		-8.45	1205.56	39.22	-14.56		173756.45	-328.57	-13752.89		0.058	562.58	1.29	0.0093
51	-0.13	673.81	-9.17			-17.44	-5.17	172510.74		-13848.14	1809.31	0.058	562.58	1.30	0.0093
52	-0.36		-8.82	1208.36	39.64			174508.24	-345.97	-13895.20		0.053	562.58	1.30	0.0093
53	-0.31	679.39	-8.44		39.22	-14.56		173756.15	-328.56	-13752.92		0.058	562.58	1.30	0.0093

54	-0.36	680.96	-8.81		39.63			174507.97	-345.96	-13895.24		0.053	562.59	1.30	0.0093
55	-0.32		-8.30	1206.25				174717.20		-13929.18	1913.45	0.048	562.61	1.33	0.0092
56	-0.26	677.71	-9.63		31.59		-4.07	173628.46		-13966.48		0.053	562.61	1.33	0.0092
57	-0.32	679.78	-8.30					174717.00		-13929.22	1913.50	0.048	562.61	1.33	0.0092
58	-0.16		-9.63		31.57	-18.78	-5.47	172477.94				0.048	562.63	1.35	0.0091
59	-0.17		-9.68		38.14	-17.27	-5.27	172398.91	-334.38	-13818.43	1828.11	0.062	562.65	1.37	0.0090
60	-0.31		-8.44		39.23	-14.55		173758.19	-328.56	-13752.88	1906.74	0.057	562.66	1.38	0.0090
61	-0.36		-8.81		39.64			174509.85	-345.97	-13895.15	1934.62	0.053	562.66	1.38	0.0089
62	-0.26		-9.63		31.60		-4.07	173631.21		-13966.33	1877.11	0.053	562.69	1.41	0.0088
63	-0.20		-9.61	1206.63			-4.44	173529.73		-14004.14		0.048	562.70	1.42	0.0088
64	-0.19	675.76	-9.05	1207.10	31.82	-16.92	-5.01	172695.58		-13814.80	1842.91	0.066	562.75	1.47	0.0085
65	-0.11		-9.56			-19.12	-5.63	172373.15				0.043	562.85	1.56	0.0081
66	-0.21	676.14	-9.56				-4.24	173575.51		-14001.27		0.048	562.85	1.57	0.0081
67	-0.31		-8.34		32.76	-15.87		173904.86				0.043	562.86	1.58	0.0081
68	-0.37	681.28	-8.62	1208.92	40.02			174584.37	-346.11	-13892.04		0.057	562.87	1.59	0.0081
69	-0.24		-10.08		38.42		-4.35	173409.14	-353.36	-13970.11		0.052	562.88	1.60	0.0080
70	-0.27	678.01	-9.44	1209.66	31.97		-4.10	173699.14		-13963.55		0.057	562.88	1.60	0.0080
71	-0.09		-9.72			-17.98	-5.62	172181.98	-213.06	-13857.11		0.052	562.90	1.62	0.0079
72	-0.18	675.22	-9.50	1206.60	38.52	-17.07	-5.29	172476.35	-334.69	-13817.42		0.066	562.93	1.64	0.0078
73	-0.28	678.51	-7.75	1203.98		-14.56		174011.73		-13784.03	1891.04	0.057	562.93	1.64	0.0078
74	-0.21		-9.55				-4.23	173578.11		-14001.14	1849.65	0.048	562.93	1.65	0.0078
75	-0.33	680.08	-8.11	1206.77				174797.73		-13926.48	1918.75	0.052	562.94	1.65	0.0078
76	-0.32	679.72	-8.26	1206.15	39.61	-14.35		173840.60	-328.87	-13751.85		0.061	562.94	1.65	0.0078
77	-0.37		-8.62	1208.94	40.03			174586.28	-346.12	-13891.95	1940.31	0.057	562.95	1.66	0.0078
78	-0.17		-9.45	1206.75	31.95	-18.58	-5.48	172558.51				0.052	562.95	1.67	0.0077
79	-0.37	681.29	-8.61		40.03			174586.02	-346.10	-13891.99	1940.36	0.057	562.95	1.67	0.0077
80	-0.27		-9.44	1209.67	31.98		-4.10	173701.92		-13963.41	1882.35	0.057	562.96	1.68	0.0077
81	-0.14	674.11	-8.99	1204.47		-17.24	-5.19	172594.19		-13847.47	1814.47	0.061	562.97	1.69	0.0077
82	-0.18		-9.50	1206.61	38.53	-17.06	-5.29	172479.33	-334.69	-13817.33	1833.70	0.066	563.01	1.72	0.0075
83	-0.32		-8.26	1206.17	39.62	-14.34		173842.66	-328.88	-13751.80	1912.65	0.061	563.01	1.73	0.0075

84	-0.32	679.73	-8.25			39.62	-14.35		173842.37	-328.86	-13751.83		1912.69	0.061	563.02	1.74	0.0075
85	-0.27	678.17	-9.39			32.00		-3.88	173748.20		-13960.37		1885.10	0.056	563.10	1.82	0.0072
86	-0.18	675.29	-9.41			31.96	-18.48	-5.27	172606.14					0.052	563.13	1.85	0.0071
87	-0.25		-9.90		1209.19	38.80		-4.38	173478.33	-353.56	-13967.24			0.056	563.16	1.88	0.0070
88	-0.21	676.41	-9.38		1207.08			-4.27	173648.29		-13998.86			0.052	563.17	1.88	0.0070
89	-0.18	675.39	-9.46			38.54	-16.97	-5.07	172527.52	-334.41	-13815.14		1836.48	0.065	563.18	1.90	0.0069
90	-0.32		-8.16		1206.30	33.14	-15.65		173989.32					0.047	563.18	1.90	0.0069
91	-0.32	679.81	-8.15			33.14	-15.65		173989.02					0.047	563.19	1.91	0.0069
92	-0.12		-9.38		1204.15		-18.92	-5.65	172455.10					0.047	563.21	1.93	0.0068
93	-0.18		-9.40			31.97	-18.47	-5.27	172609.12				1834.92	0.052	563.22	1.93	0.0068
94	-0.38	681.61	-8.42		1209.51	40.43			174663.22	-346.26	-13888.73		1946.12	0.061	563.24	1.95	0.0067
95	-0.25		-8.40				-15.10		173702.62	-202.80	-13788.44			0.047	563.25	1.96	0.0067
96	-0.15		-9.67			31.95	-17.89	-5.45	172282.84		-13823.35	-15.37		0.056	563.25	1.96	0.0067
97	-0.21		-9.37		1207.09			-4.26	173650.92		-13998.73		1854.40	0.052	563.25	1.96	0.0067
98	-0.26		-8.21				-16.12		173910.79					0.038	563.25	1.97	0.0067
99	-0.37		-8.76			33.10			174740.33					0.038	563.26	1.98	0.0066
100	-0.32		-8.15			33.15	-15.65		173991.08				1914.16	0.047	563.27	1.98	0.0066
101	-0.32		-8.59	2.16		31.58	-15.08		172880.91		-13746.33			0.051	563.28	2.00	0.0066