

# Chapter 3

## Appendix 1

### Confidence sets of models resulting from the information-theoretic approach and multi-model inference.

Table S1. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of closed forest canopy birds in the summer (shading indicates inclusion of the variable in each model).

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights			
1	8																																				
2	7																																				
<i>model average<sup>e</sup></i>																																					
	$\beta$				0.93									0.75				0.23				1.19	1.24					0.71	-2.33								
	variance				0.10									0.06				0.10				0.16	0.08					0.04	0.14								
	relative importance				1.00									1.00				0.52				1.00	1.00					1.00	1.00								
	95% CI				0.62									0.50				0.60				0.78	0.54					0.41	0.73								



**Table S3. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for species richness of closed forest canopy birds in the summer (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights	
1	6																												243.15	0.00	1.000	0.35	0.35		
2	7																												243.56	0.41	0.815	0.28	0.63		
3	5																												245.22	2.07	0.355	0.12	0.75		
4	6																												245.64	2.48	0.289	0.10	0.85		
5	5																												245.98	2.83	0.243	0.08	0.94		
<i>model average<sup>e</sup></i>																																			
	$\beta$													0.05						-0.07	0.02								0.23			0.34	0.26		
	variance													0.00						0.00	0.00								0.00			0.00	0.00		
	relative importance													0.76						0.91	0.41								1.00			1.00	1.00		
	95% CI													0.07						0.08	0.06								0.08			0.07	0.06		

**Table S4. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for species richness of closed forest canopy birds in the winter (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights	
1	5																													169.86	0.00	1.000	0.36	0.36	
2	6																														170.65	0.79	0.673	0.24	0.60
3	6																														170.77	0.92	0.633	0.23	0.83
4	7																														171.57	1.71	0.425	0.15	0.98
<i>model average<sup>e</sup></i>																																			
	$\beta$													0.01								0.01	-0.09	0.29				0.20	0.17						
	variance													0.00								0.00	0.00	0.00				0.00	0.00						
	relative importance													0.39								0.40	1.00	1.00				1.00	1.00						
	95% CI													0.04								0.05	0.06	0.06				0.06	0.05						

**Table S5. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of open forest or wood edge birds in the summer, model (a) (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights
1	14	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1531.04	0.00	1.000	0.01	0.01	
2	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1531.28	0.24	0.888	0.01	0.03	
3	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1531.46	0.42	0.811	0.01	0.04	
4	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1531.52	0.48	0.788	0.01	0.05	
5	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1531.53	0.48	0.785	0.01	0.06	
6	15	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1531.62	0.57	0.751	0.01	0.07	
7	14	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1531.84	0.80	0.671	0.01	0.08	
8	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1531.86	0.82	0.664	0.01	0.09	
9	11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1531.92	0.88	0.645	0.01	0.10	
10	14	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.06	1.02	0.602	0.01	0.11	
11	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.08	1.04	0.594	0.01	0.11	
12	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.20	1.15	0.561	0.01	0.12	
13	14	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.30	1.26	0.533	0.01	0.13	
14	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.30	1.26	0.532	0.01	0.14	
15	10	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.35	1.31	0.520	0.01	0.14	
16	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.35	1.31	0.520	0.01	0.15	
17	11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.36	1.32	0.517	0.01	0.16	
18	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.37	1.33	0.515	0.01	0.17	
19	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.38	1.34	0.512	0.01	0.17	
20	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.38	1.34	0.511	0.01	0.18	
21	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.39	1.35	0.510	0.01	0.19	
22	11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.40	1.36	0.508	0.01	0.19	
23	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.49	1.44	0.486	0.01	0.20	
24	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.51	1.46	0.481	0.01	0.21	
25	11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.62	1.58	0.454	0.01	0.21	
26	11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.64	1.59	0.451	0.01	0.22	
27	10	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.66	1.62	0.446	0.01	0.23	
28	11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.67	1.63	0.442	0.01	0.23	
29	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.69	1.65	0.438	0.01	0.24	
30	14	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.70	1.66	0.437	0.01	0.25	
31	11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.76	1.72	0.424	0.01	0.25	
32	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.77	1.73	0.422	0.01	0.26	
33	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.81	1.76	0.414	0.01	0.26	
34	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.84	1.79	0.408	0.01	0.27	
35	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.87	1.83	0.401	0.01	0.27	
36	11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.89	1.85	0.397	0.01	0.28	
37	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.92	1.87	0.392	0.01	0.29	
38	13	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.93	1.88	0.390	0.01	0.29	
39	11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.94	1.89	0.388	0.01	0.30	
40	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.96	1.91	0.384	0.01	0.30	
41	10	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.96	1.92	0.384	0.01	0.31	
42	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.96	1.92	0.383	0.01	0.31	
43	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.97	1.93	0.381	0.01	0.32	
44	11	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1532.97	1.93	0.381	0.01	0.32	
45	12	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1533.03	1.99	0.371	0.01	0.33	

46	14							1533.06	2.01	0.366	0.01	0.33
47	12							1533.06	2.02	0.365	0.01	0.34
48	11							1533.10	2.06	0.357	0.00	0.34
49	12							1533.13	2.09	0.351	0.00	0.35
50	10							1533.22	2.18	0.337	0.00	0.35
51	13							1533.22	2.18	0.336	0.00	0.36
52	10							1533.25	2.20	0.332	0.00	0.36
53	12							1533.26	2.21	0.331	0.00	0.37
54	11							1533.30	2.26	0.323	0.00	0.37
55	12							1533.34	2.29	0.318	0.00	0.38
56	11							1533.34	2.30	0.316	0.00	0.38
57	11							1533.40	2.36	0.307	0.00	0.38
58	12							1533.41	2.36	0.307	0.00	0.39
59	12							1533.41	2.37	0.306	0.00	0.39
60	12							1533.41	2.37	0.306	0.00	0.40
61	10							1533.44	2.40	0.301	0.00	0.40
62	13							1533.45	2.41	0.300	0.00	0.41
63	12							1533.46	2.41	0.299	0.00	0.41
64	12							1533.52	2.48	0.289	0.00	0.41
65	10							1533.54	2.49	0.287	0.00	0.42
66	10							1533.54	2.50	0.287	0.00	0.42
67	14							1533.55	2.51	0.285	0.00	0.43
68	9							1533.57	2.52	0.283	0.00	0.43
69	11							1533.57	2.53	0.282	0.00	0.43
70	10							1533.58	2.53	0.282	0.00	0.44
71	13							1533.62	2.57	0.276	0.00	0.44
72	13							1533.67	2.63	0.269	0.00	0.45
73	12							1533.68	2.64	0.267	0.00	0.45
74	10							1533.71	2.67	0.263	0.00	0.45
75	11							1533.72	2.68	0.262	0.00	0.46
76	11							1533.73	2.69	0.261	0.00	0.46
77	14							1533.74	2.70	0.260	0.00	0.46
78	12							1533.77	2.73	0.256	0.00	0.47
79	13							1533.79	2.75	0.253	0.00	0.47
80	13							1533.80	2.75	0.252	0.00	0.47
81	13							1533.83	2.79	0.248	0.00	0.48
82	11							1533.84	2.79	0.247	0.00	0.48
83	11							1533.84	2.80	0.247	0.00	0.48
84	11							1533.88	2.84	0.242	0.00	0.49
85	10							1533.89	2.84	0.241	0.00	0.49
86	9							1533.89	2.84	0.241	0.00	0.49
87	13							1533.93	2.88	0.237	0.00	0.50
88	9							1533.95	2.90	0.234	0.00	0.50
89	10							1533.96	2.91	0.233	0.00	0.50
90	9							1533.97	2.93	0.231	0.00	0.51
91	12							1534.00	2.95	0.228	0.00	0.51
92	11							1534.00	2.95	0.228	0.00	0.51
93	12							1534.01	2.96	0.227	0.00	0.52
94	10							1534.01	2.97	0.226	0.00	0.52
95	13							1534.03	2.99	0.224	0.00	0.52
96	9							1534.05	3.00	0.223	0.00	0.53
97	11							1534.05	3.01	0.222	0.00	0.53
98	12							1534.05	3.01	0.222	0.00	0.53
99	10							1534.05	3.01	0.222	0.00	0.54
100	13							1534.08	3.04	0.219	0.00	0.54
101	11							1534.11	3.06	0.216	0.00	0.54

102	13							1534.11	3.07	0.216	0.00	0.55
103	12							1534.13	3.09	0.213	0.00	0.55
104	11							1534.19	3.15	0.207	0.00	0.55
105	11							1534.20	3.16	0.206	0.00	0.55
106	11							1534.21	3.17	0.205	0.00	0.56
107	12							1534.21	3.17	0.205	0.00	0.56
108	11							1534.22	3.18	0.204	0.00	0.56
109	12							1534.24	3.19	0.203	0.00	0.57
110	11							1534.24	3.19	0.202	0.00	0.57
111	11							1534.25	3.21	0.201	0.00	0.57
112	12							1534.26	3.21	0.201	0.00	0.57
113	12							1534.28	3.24	0.198	0.00	0.58
114	11							1534.29	3.25	0.197	0.00	0.58
115	10							1534.30	3.26	0.196	0.00	0.58
116	12							1534.30	3.26	0.196	0.00	0.58
117	9							1534.33	3.29	0.193	0.00	0.59
118	10							1534.34	3.30	0.192	0.00	0.59
119	11							1534.36	3.31	0.191	0.00	0.59
120	13							1534.38	3.33	0.189	0.00	0.60
121	12							1534.38	3.34	0.188	0.00	0.60
122	11							1534.39	3.34	0.188	0.00	0.60
123	10							1534.42	3.37	0.185	0.00	0.60
124	12							1534.42	3.38	0.185	0.00	0.61
125	11							1534.46	3.41	0.181	0.00	0.61
126	12							1534.46	3.41	0.181	0.00	0.61
127	10							1534.47	3.43	0.180	0.00	0.61
128	11							1534.48	3.44	0.179	0.00	0.62
129	11							1534.48	3.44	0.179	0.00	0.62
130	13							1534.49	3.45	0.178	0.00	0.62
131	9							1534.51	3.47	0.177	0.00	0.62
132	11							1534.54	3.50	0.174	0.00	0.63
133	13							1534.54	3.50	0.174	0.00	0.63
134	11							1534.58	3.54	0.171	0.00	0.63
135	14							1534.59	3.54	0.170	0.00	0.63
136	9							1534.59	3.55	0.169	0.00	0.64
137	11							1534.59	3.55	0.169	0.00	0.64
138	9							1534.60	3.55	0.169	0.00	0.64
139	13							1534.62	3.58	0.167	0.00	0.64
140	13							1534.62	3.58	0.167	0.00	0.64
141	13							1534.63	3.58	0.167	0.00	0.65
142	9							1534.64	3.60	0.165	0.00	0.65
143	11							1534.67	3.62	0.163	0.00	0.65
144	10							1534.67	3.62	0.163	0.00	0.65
145	12							1534.72	3.67	0.159	0.00	0.66
146	10							1534.72	3.68	0.159	0.00	0.66
147	10							1534.74	3.70	0.157	0.00	0.66
148	12							1534.75	3.71	0.157	0.00	0.66
149	11							1534.77	3.73	0.155	0.00	0.67
150	8							1534.77	3.73	0.155	0.00	0.67
151	11							1534.80	3.75	0.153	0.00	0.67
152	12							1534.80	3.76	0.153	0.00	0.67
153	12							1534.80	3.76	0.153	0.00	0.67
154	12							1534.81	3.77	0.152	0.00	0.68
155	10							1534.84	3.80	0.150	0.00	0.68
156	12							1534.85	3.81	0.149	0.00	0.68
157	10							1534.85	3.81	0.149	0.00	0.68



**Table S6. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of open forest or wood edge birds in the summer, model (c) (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICC <sup>c</sup>	$\Delta AICC^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights
1	13																												1533.16	0.00	1.000	0.04	0.04	
2	12																												1533.69	0.53	0.767	0.03	0.08	
3	12																												1534.08	0.92	0.630	0.03	0.11	
4	12																												1534.18	1.03	0.598	0.03	0.13	
5	11																												1534.19	1.03	0.596	0.03	0.16	
6	11																												1534.27	1.11	0.573	0.03	0.19	
7	10																												1534.41	1.25	0.535	0.02	0.21	
8	10																												1534.82	1.67	0.435	0.02	0.23	
9	12																												1534.83	1.68	0.432	0.02	0.25	
10	10																												1534.94	1.79	0.409	0.02	0.27	
11	11																												1534.98	1.83	0.401	0.02	0.28	
12	11																												1534.98	1.83	0.401	0.02	0.30	
13	11																												1535.05	1.90	0.388	0.02	0.32	
14	12																												1535.25	2.09	0.352	0.02	0.33	
15	9																												1535.50	2.35	0.309	0.01	0.35	
16	10																												1535.58	2.42	0.298	0.01	0.36	
17	11																												1535.64	2.48	0.289	0.01	0.37	
18	11																												1535.69	2.53	0.282	0.01	0.39	
19	10																												1535.82	2.66	0.264	0.01	0.40	
20	11																												1535.83	2.67	0.263	0.01	0.41	
21	12																												1535.89	2.74	0.254	0.01	0.42	
22	9																												1535.92	2.77	0.251	0.01	0.43	
23	11																												1535.94	2.78	0.249	0.01	0.44	
24	11																												1535.96	2.80	0.246	0.01	0.45	
25	9																												1535.97	2.81	0.245	0.01	0.46	
26	9																												1536.02	2.87	0.238	0.01	0.48	
27	10																												1536.08	2.92	0.232	0.01	0.49	
28	10																												1536.10	2.95	0.229	0.01	0.50	
29	11																												1536.19	3.03	0.220	0.01	0.51	
30	9																												1536.31	3.15	0.207	0.01	0.51	
31	11																												1536.34	3.19	0.203	0.01	0.52	
32	11																												1536.39	3.24	0.198	0.01	0.53	
33	11																												1536.68	3.52	0.172	0.01	0.54	
34	10																												1536.69	3.53	0.171	0.01	0.55	
35	10																												1536.72	3.57	0.168	0.01	0.56	
36	8																												1536.84	3.69	0.158	0.01	0.56	
37	10																												1536.86	3.70	0.157	0.01	0.57	
38	10																												1537.05	3.89	0.143	0.01	0.58	
39	12																												1537.14	3.98	0.136	0.01	0.58	
40	8																												1537.18	4.03	0.133	0.01	0.59	
41	10																												1537.22	4.07	0.131	0.01	0.59	
42	11																												1537.24	4.08	0.130	0.01	0.60	
43	10																												1537.25	4.10	0.129	0.01	0.61	

*model*  
*average*<sup>e</sup>

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$\beta$	0.07	-0.38	-0.10		-0.05	0.15	0.21	0.06	0.23	0.13	0.14		0.10	2.76
variance	0.01	0.01	0.01		0.01	0.01	0.00	0.01	0.01	0.01	0.01		0.01	0.00
relative														
importance	0.60	1.00	0.77		0.49	0.95	1.00	0.52	1.00	0.86	0.93		0.77	1.00
95% CI	0.15	0.16	0.15		0.14	0.14	0.13	0.16	0.15	0.17	0.14		0.16	0.11

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**Table S7. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of open forest or wood edge birds in the winter (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICC <sup>c</sup>	$\Delta AICC^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights	
1	13			■					■		■		■	■				■	■								■			1724.65	0.00	1.000	0.50	0.50	
2	12			■					■		■		■	■				■	■								■			1727.76	3.11	0.211	0.10	0.60	
3	12			■					■		■		■	■				■	■								■			1728.21	3.56	0.168	0.08	0.68	
4	12			■					■		■		■	■				■	■								■			1728.33	3.68	0.159	0.08	0.76	
<i>model average<sup>e</sup></i>																																			
	$\beta$			-0.13					0.16		0.31		0.10	0.16	0.30			-0.31	0.18							0.36	0.19	3.31							
	variance			0.01					0.00		0.00		0.00	0.00	0.00			0.00	0.00							0.01	0.00	0.00							
	relative importance			0.89					1.00		1.00		0.86	1.00	1.00			1.00	1.00							1.00	1.00	1.00							
	95% CI			0.14					0.11		0.13		0.13	0.13	0.12			0.14	0.12							0.15	0.11	0.10							

**Table S8. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for species richness of open forest or wood edge birds in the summer (shading indicates inclusion of the variable in each model).**

model no.	<i>K</i> <sup>b</sup>	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	ΔAICc <sup>d</sup>	Relative likelihood	Akaike weights	Cumulative Akaike weights
1	9	■	■	■						■						■													814.05	0.00	1.000	0.20	0.20	
2	8	■	■	■						■						■													814.74	0.69	0.708	0.14	0.34	
3	8	■	■	■						■						■												814.80	0.75	0.687	0.14	0.48		
4	10	■	■	■						■						■											■	814.94	0.89	0.640	0.13	0.61		
5	9	■	■	■						■						■												814.99	0.94	0.624	0.13	0.74		
6	7	■	■	■						■						■												815.19	1.14	0.565	0.11	0.85		
7	8	■	■	■						■						■											■	816.13	2.08	0.353	0.07	0.92		
8	9	■	■	■						■						■											■	816.22	2.17	0.338	0.07	0.99		
<i>model average</i> <sup>e</sup>																																		
β		0.46	-0.13	-0.71						0.89						0.68	-0.16							0.57			0.06	4.09						
variance relative importance		0.02	0.03	0.02						0.02						0.03	0.03							0.02			0.01	0.02						
95% CI		0.25	0.33	0.27						0.28						0.35	0.36							0.30			0.21	0.25						



**Table S10. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of shrub layer and scrubland birds in the summer (shading indicates inclusion of the variable in each model).**

model no.	Kb	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta$ AICc <sup>d</sup>	Relative likelihood	Akaike weights	Cumulative Akaike weights	
1	10	■								■						■					■						■		1212.84	0.00	1.000	0.30	0.30		
2	9																												1213.22	0.38	0.825	0.25	0.56		
3	8																												1213.70	0.86	0.650	0.20	0.75		
4	9	■																											1214.97	2.13	0.344	0.10	0.86		
<i>model average<sup>e</sup></i>																																			
$\beta$		0.21								0.25						0.22				0.09	0.43	-0.30	0.06				0.48	1.88							
variance		0.01								0.01						0.00				0.01	0.01	0.01	0.01				0.00	0.00							
relative importance		1.00								1.00						1.00				0.65	1.00	1.00	0.48				1.00	1.00							
95% CI		0.15								0.15						0.14				0.18	0.18	0.20	0.19				0.14	0.13							

**Table S11. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of shrub layer and scrubland birds in the winter, model (b) (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICC <sup>c</sup>	$\Delta AICC^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights	
1	10	■		■					■									■				■					■			1072.69	0.00	1.000	0.14	0.14	
2	9			■					■									■				■					■			1073.14	0.45	0.798	0.11	0.26	
3	10			■					■									■			■						■			1073.16	0.46	0.793	0.11	0.37	
4	11			■					■									■			■						■			1073.47	0.78	0.677	0.10	0.47	
5	11	■		■					■						■			■			■						■			1074.53	1.84	0.399	0.06	0.53	
6	9			■					■									■			■						■			1074.88	2.18	0.336	0.05	0.57	
7	10			■					■									■			■						■			1074.88	2.19	0.334	0.05	0.62	
8	10	■		■					■									■			■						■			1074.99	2.30	0.316	0.05	0.67	
9	11	■		■					■									■			■						■			1075.15	2.46	0.293	0.04	0.71	
10	9			■					■									■			■						■			1075.41	2.72	0.257	0.04	0.75	
11	12	■		■					■									■			■						■			1075.45	2.76	0.252	0.04	0.78	
12	9	■		■					■									■			■						■			1076.75	4.06	0.131	0.02	0.80	
13	8			■					■									■			■						■			1076.79	4.09	0.129	0.02	0.82	
<i>model average<sup>e</sup></i>																																			
$\beta$		-0.08		-0.13					-0.04						0.00			-0.22			0.04	-0.35	-0.31				0.26	0.25	1.72						
variance		0.00		0.00					0.00						0.00			0.00			0.00	0.01	0.01				0.00	0.00	0.00						
relative importance		0.82		0.98					0.51						0.22			1.00			0.49	1.00	1.00				1.00	1.00	1.00						
95% CI		0.12		0.10					0.11						0.02			0.13			0.12	0.18	0.16				0.13	0.10	0.09						

**Table S12. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of shrub layer and scrubland birds in the winter, model (c) (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights	
1	13	■		■					■							■		■			■									1059.00	0.00	1.000	0.22	0.22	
2	12			■					■							■		■			■									1059.59	0.59	0.746	0.17	0.39	
3	12			■					■							■		■			■									1060.93	1.93	0.381	0.08	0.47	
4	11	■		■					■							■		■			■									1061.25	2.25	0.325	0.07	0.54	
5	12			■					■							■		■			■									1061.49	2.49	0.288	0.06	0.61	
6	12			■					■							■		■			■									1062.36	3.35	0.187	0.04	0.65	
7	10	■		■					■							■		■			■									1063.01	4.00	0.135	0.03	0.68	
<i>model average<sup>e</sup></i>																																			
$\beta$		-0.09	-0.20						-0.10							0.10	-0.18			0.07	-0.31	-0.22					-0.33	0.30	0.18	1.70					
variance		0.00	0.00						0.00							0.01	0.00			0.01	0.01	0.01					0.01	0.01	0.00	0.00					
relative importance		0.88	1.00						0.86							0.79	1.00			0.61	1.00	1.00					1.00	1.00	1.00	1.00					
95% CI		0.11	0.11						0.12							0.14	0.13			0.15	0.18	0.16					0.18	0.14	0.10	0.09					

**Table S13. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for species richness of shrub layer and scrubland birds in the summer (shading indicates inclusion of the variable in each model).**

model no.	<i>K</i> <sup>b</sup>	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	ΔAICc <sup>d</sup>	Relative likelihood	Akaike weights	Cumulative Akaike weights	
1	11																													536.47	0.00	1.000	0.15	0.15	
2	10																													536.65	0.18	0.914	0.14	0.29	
3	9																													537.42	0.95	0.622	0.10	0.39	
4	10																													538.54	2.07	0.355	0.05	0.44	
5	10																													538.78	2.31	0.314	0.05	0.49	
6	9																													538.86	2.39	0.302	0.05	0.54	
7	10																													538.93	2.46	0.292	0.04	0.58	
8	9																													539.08	2.61	0.271	0.04	0.63	
9	8																													539.48	3.01	0.222	0.03	0.66	
10	10																													540.38	3.91	0.141	0.02	0.68	
11	10																													540.45	3.98	0.137	0.02	0.70	
12	9																													540.52	4.05	0.132	0.02	0.72	
13	9																													540.56	4.09	0.129	0.02	0.74	
<i>model average<sup>e</sup></i>																																			
	$\beta$			-0.16						0.17					0.31		-0.24		0.11	0.20	-0.20	0.07					0.12	1.41							
	variance			0.01						0.01					0.01		0.01		0.01	0.01	0.01	0.01					0.01	0.00							
	relative importance			0.97						0.91					1.00		1.00		0.73	0.93	0.97	0.49					0.81	1.00							
	95% CI			0.14						0.18					0.14		0.17		0.19	0.18	0.17	0.19					0.16	0.12							

**Table S14. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for species richness of shrub layer and scrubland birds in the winter (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights	
1	10			■					■									■												469.53	0.00	1.000	0.39	0.39	
2	9																					■					■			471.46	1.94	0.380	0.15	0.54	
3	9																										■	■		472.12	2.59	0.274	0.11	0.64	
4	9			■																										472.13	2.61	0.271	0.11	0.75	
5	8																											■		473.59	4.06	0.131	0.05	0.80	
<i>model average<sup>e</sup></i>																																			
	$\beta$			-0.14				-0.23										-0.20				-0.14	-0.32			-0.14	0.29	0.11	1.82						
	variance			0.01				0.00										0.00				0.01	0.01			0.01	0.00	0.01	0.00						
	relative importance			0.94				1.00										1.00				0.87	1.00			0.80	1.00	0.82	1.00						
	95% CI			0.14				0.12										0.13				0.17	0.17			0.19	0.14	0.15	0.11						

**Table S15. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of dense herbaceous vegetation birds in the summer, model (d) (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights
1	10																												895.26	0.00	1.000	0.02	0.02	
2	9																													895.41	0.15	0.929	0.01	0.03
3	9																													895.97	0.71	0.702	0.01	0.04
4	8																													896.14	0.87	0.646	0.01	0.05
5	10																													896.33	1.07	0.586	0.01	0.06
6	11																													896.36	1.10	0.577	0.01	0.07
7	11																													896.38	1.12	0.572	0.01	0.08
8	7																													896.42	1.15	0.562	0.01	0.09
9	10																													896.49	1.23	0.540	0.01	0.10
10	8																													896.53	1.27	0.530	0.01	0.11
11	11																													896.57	1.30	0.521	0.01	0.12
12	11																													896.59	1.33	0.514	0.01	0.12
13	10																													896.62	1.35	0.508	0.01	0.13
14	8																													896.65	1.39	0.500	0.01	0.14
15	10																													896.72	1.46	0.482	0.01	0.15
16	8																													896.81	1.54	0.463	0.01	0.16
17	9																													896.83	1.56	0.458	0.01	0.16
18	9																													896.94	1.68	0.432	0.01	0.17
19	10																													896.96	1.70	0.428	0.01	0.18
20	9																													897.07	1.81	0.405	0.01	0.18
21	12																													897.08	1.81	0.404	0.01	0.19
22	9																													897.10	1.83	0.400	0.01	0.20
23	11																													897.18	1.92	0.384	0.01	0.20
24	11																													897.18	1.92	0.383	0.01	0.21
25	10																													897.19	1.92	0.382	0.01	0.21
26	10																													897.36	2.10	0.350	0.01	0.22
27	12																													897.39	2.12	0.346	0.01	0.23
28	10																													897.42	2.16	0.340	0.01	0.23
29	11																													897.44	2.17	0.338	0.01	0.24
30	12																													897.47	2.20	0.333	0.01	0.24
31	9																													897.56	2.29	0.318	0.01	0.25
32	9																													897.63	2.37	0.306	0.00	0.25
33	12																													897.63	2.37	0.306	0.00	0.26
34	12																													897.64	2.38	0.305	0.00	0.26
35	11																													897.64	2.38	0.304	0.00	0.27
36	11																													897.66	2.40	0.302	0.00	0.27
37	8																													897.67	2.40	0.301	0.00	0.28
38	10																													897.68	2.42	0.298	0.00	0.28
39	10																													897.69	2.43	0.297	0.00	0.29
40	9																													897.70	2.43	0.296	0.00	0.29
41	9																													897.70	2.44	0.296	0.00	0.30
42	12																													897.71	2.45	0.294	0.00	0.30
43	10																													897.76	2.50	0.286	0.00	0.30
44	11																													897.82	2.55	0.279	0.00	0.31
45	10																													897.88	2.62	0.270	0.00	0.31



102	12							898.71	3.45	0.178	0.00	0.51
103	10							898.73	3.46	0.177	0.00	0.52
104	12							898.73	3.47	0.176	0.00	0.52
105	9							898.77	3.51	0.173	0.00	0.52
106	11							898.80	3.54	0.170	0.00	0.52
107	12							898.81	3.54	0.170	0.00	0.53
108	9							898.83	3.56	0.168	0.00	0.53
109	10							898.83	3.56	0.168	0.00	0.53
110	11							898.84	3.57	0.167	0.00	0.53
111	10							898.86	3.60	0.166	0.00	0.54
112	10							898.86	3.60	0.166	0.00	0.54
113	11							898.86	3.60	0.165	0.00	0.54
114	10							898.90	3.64	0.162	0.00	0.54
115	10							898.92	3.65	0.161	0.00	0.55
116	14							898.92	3.65	0.161	0.00	0.55
117	11							898.92	3.66	0.161	0.00	0.55
118	12							898.93	3.67	0.160	0.00	0.56
119	7							898.93	3.67	0.159	0.00	0.56
120	12							898.95	3.69	0.158	0.00	0.56
121	10							898.96	3.70	0.157	0.00	0.56
122	11							898.98	3.72	0.156	0.00	0.57
123	15							898.99	3.73	0.155	0.00	0.57
124	12							899.00	3.73	0.155	0.00	0.57
125	14							899.00	3.73	0.155	0.00	0.57
126	12							899.04	3.77	0.152	0.00	0.58
127	11							899.05	3.79	0.150	0.00	0.58
128	12							899.06	3.79	0.150	0.00	0.58
129	11							899.11	3.85	0.146	0.00	0.58
130	11							899.14	3.87	0.144	0.00	0.58
131	13							899.15	3.89	0.143	0.00	0.59
132	13							899.16	3.89	0.143	0.00	0.59
133	13							899.17	3.91	0.142	0.00	0.59
134	13							899.18	3.91	0.141	0.00	0.59
135	13							899.18	3.92	0.141	0.00	0.60
136	9							899.19	3.93	0.140	0.00	0.60
137	10							899.20	3.94	0.140	0.00	0.60
138	10							899.20	3.94	0.140	0.00	0.60
139	9							899.24	3.98	0.137	0.00	0.61
140	11							899.25	3.99	0.136	0.00	0.61
141	12							899.26	4.00	0.136	0.00	0.61
142	9							899.26	4.00	0.136	0.00	0.61
143	11							899.26	4.00	0.135	0.00	0.61
144	12							899.26	4.00	0.135	0.00	0.62
145	10							899.27	4.01	0.135	0.00	0.62
146	12							899.30	4.03	0.133	0.00	0.62
147	11							899.32	4.06	0.131	0.00	0.62
148	11							899.33	4.07	0.131	0.00	0.62
149	9							899.34	4.08	0.130	0.00	0.63
150	10							899.35	4.08	0.130	0.00	0.63
151	7							899.36	4.10	0.129	0.00	0.63
152	10							899.37	4.11	0.128	0.00	0.63
153	11							899.37	4.11	0.128	0.00	0.64
154	13							899.39	4.12	0.127	0.00	0.64
155	11							899.39	4.13	0.127	0.00	0.64
156	10							899.40	4.14	0.126	0.00	0.64
157	11							899.41	4.15	0.126	0.00	0.64

158	10															899.42	4.15	0.125	0.00	0.65
159	11															899.42	4.16	0.125	0.00	0.65
160	11															899.42	4.16	0.125	0.00	0.65

*model*

*average<sup>e</sup>*

$\beta$	-0.04	-0.09	-0.07	0.09	-0.02	0.19	0.21	-0.03	0.37	-0.01	-0.29	-0.05	0.27	0.96
variance	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.02	0.00	0.01	0.01	0.01	0.01
relative importance	0.34	0.62	0.54	0.67	0.26	0.98	0.95	0.32	1.00	0.20	1.00	0.38	1.00	1.00
95% CI	0.13	0.20	0.18	0.18	0.08	0.17	0.20	0.11	0.27	0.06	0.21	0.17	0.17	0.17

**Table S16. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of dense herbaceous vegetation birds in the summer, model (b) (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights	
1	10																													897.59	0.00	1.000	0.16	0.16	
2	9																													898.71	1.12	0.571	0.09	0.24	
3	9																													898.89	1.31	0.520	0.08	0.33	
4	8																													899.83	2.24	0.326	0.05	0.38	
5	9																													900.12	2.53	0.282	0.04	0.42	
6	9																													900.12	2.53	0.282	0.04	0.46	
7	8																													900.26	2.67	0.263	0.04	0.51	
8	8																													900.26	2.67	0.263	0.04	0.55	
9	8																													900.26	2.68	0.262	0.04	0.59	
10	7																													900.69	3.10	0.212	0.03	0.62	
11	9																													900.83	3.24	0.198	0.03	0.65	
12	8																													900.86	3.27	0.195	0.03	0.68	
13	7																													900.89	3.30	0.192	0.03	0.71	
14	8																													901.24	3.65	0.161	0.03	0.74	
<i>model average<sup>e</sup></i>																																			
	$\beta$			-0.10	-0.09	0.17	0.13						0.20	0.19				0.40											0.29	0.97					
	variance			0.01	0.01	0.01	0.01						0.01	0.01				0.02											0.01	0.01					
	relative importance			0.65	0.57	0.82	0.80						1.00	0.88				1.00										1.00	1.00						
	95% CI			0.20	0.20	0.22	0.19						0.16	0.21				0.27										0.17	0.17						



**Table S18. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for species richness of dense herbaceous vegetation birds in the summer (shading indicates inclusion of the variable in each model).**

model no.	<i>K</i> <sup>b</sup>	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	ΔAICc <sup>d</sup>	Relative likelihood	Akaike weights	Cumulative Akaike weights		
1	8																														585.71	0.00	1.000	0.36	0.36	
2	7																															586.33	0.62	0.732	0.26	0.62
3	7																															586.38	0.67	0.716	0.26	0.87
4	6																															587.95	2.24	0.326	0.12	0.99
<i>model average<sup>e</sup></i>																																				
	β			-0.32									0.25					0.08						-0.36	-0.08			0.37	1.47							
	variance			0.01									0.01					0.01						0.01	0.01			0.01	0.01							
	relative importance			1.00									1.00					0.62						1.00	0.62			1.00	1.00							
	95% CI			0.14									0.15					0.18						0.15	0.17			0.16	0.14							

**Table S19. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for species richness of dense herbaceous vegetation birds in the winter, model (d) (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights		
1	12																													399.03	0.00	1.000	0.06	0.06		
2	11																													399.15	0.11	0.944	0.06	0.12		
3	13																													399.74	0.70	0.703	0.04	0.16		
4	10																													399.79	0.76	0.685	0.04	0.20		
5	11																													399.82	0.79	0.675	0.04	0.25		
6	12																													400.04	1.01	0.603	0.04	0.28		
7	12																													400.69	1.66	0.437	0.03	0.31		
8	11																													400.83	1.80	0.407	0.02	0.33		
9	13																													400.92	1.88	0.390	0.02	0.36		
10	12																													401.11	2.08	0.354	0.02	0.38		
11	12																													401.52	2.49	0.288	0.02	0.40		
12	14																													401.54	2.51	0.285	0.02	0.42		
13	11																													401.63	2.60	0.273	0.02	0.43		
14	11																													401.88	2.85	0.240	0.01	0.45		
15	10																													401.95	2.92	0.232	0.01	0.46		
16	13																													401.97	2.93	0.231	0.01	0.48		
17	11																													402.01	2.98	0.225	0.01	0.49		
18	11																													402.07	3.04	0.219	0.01	0.50		
19	10																													402.15	3.12	0.210	0.01	0.52		
20	10																													402.16	3.13	0.209	0.01	0.53		
21	13																													402.27	3.24	0.198	0.01	0.54		
22	9																													402.35	3.32	0.190	0.01	0.55		
23	12																													402.45	3.42	0.181	0.01	0.56		
24	10																													402.58	3.55	0.170	0.01	0.57		
25	12																													402.59	3.56	0.168	0.01	0.58		
26	11																													402.61	3.58	0.167	0.01	0.59		
27	11																													403.17	4.14	0.126	0.01	0.60		
<i>model average<sup>e</sup></i>																																				
	$\beta$	-0.12	-0.03									-0.17	0.17				-0.13	0.01				-0.15			-0.14	-0.04	-0.06	0.23	0.14	0.71						
	variance	0.00	0.00								0.00	0.00					0.00	0.00				0.00			0.01	0.00	0.01	0.00	0.00	0.00						
	relative importance											1.00	1.00				0.92	0.22				0.99			0.92	0.58	0.58	1.00	1.00	1.00						
	95% CI											0.10	0.12				0.13	0.04				0.12			0.14	0.10	0.14	0.13	0.10	0.09						

**Table S20. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for species richness of dense herbaceous vegetation birds in the winter, model (b) (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights		
1	11																														400.32	0.00	1.000	0.18	0.18	
2	10																														400.87	0.55	0.760	0.14	0.32	
3	12																														402.03	1.71	0.426	0.08	0.40	
4	11																														402.83	2.51	0.284	0.05	0.45	
5	9																														403.30	2.99	0.225	0.04	0.49	
6	10																														403.91	3.59	0.166	0.03	0.52	
7	10																														404.21	3.89	0.143	0.03	0.55	
8	9																														404.29	3.97	0.137	0.02	0.57	
9	9																														404.39	4.07	0.131	0.02	0.60	
<i>model average<sup>e</sup></i>																																				
	$\beta$			-0.04								-0.13		0.23	0.12		-0.14	0.01									-0.14	0.20	0.17	0.71						
	variance			0.00								0.00		0.00	0.00		0.00	0.00								0.00	0.00	0.00	0.00							
	relative importance			0.48								1.00		1.00	0.96		0.96	0.27									0.96	1.00	1.00	1.00						
	95% CI			0.11								0.10		0.12	0.12		0.13	0.05									0.12	0.13	0.10	0.09						

**Table S21. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of open steppic habitat birds in the summer (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights
1	12																												603.79	0.00	1.000	0.05	0.05	
2	13																													603.99	0.20	0.907	0.05	0.10
3	9																													604.76	0.96	0.617	0.03	0.13
4	10																													605.77	1.98	0.372	0.02	0.15
5	10																													606.01	2.21	0.331	0.02	0.17
6	10																													606.07	2.27	0.321	0.02	0.19
7	10																													606.13	2.33	0.311	0.02	0.20
8	10																													606.13	2.33	0.311	0.02	0.22
9	13																													606.24	2.45	0.294	0.02	0.24
10	11																													606.30	2.50	0.286	0.02	0.25
11	14																													606.31	2.51	0.285	0.02	0.27
12	8																													606.37	2.57	0.276	0.01	0.28
13	11																													606.41	2.61	0.271	0.01	0.30
14	12																													606.44	2.65	0.266	0.01	0.31
15	8																													606.47	2.68	0.262	0.01	0.32
16	11																													606.47	2.68	0.262	0.01	0.34
17	10																													606.48	2.69	0.261	0.01	0.35
18	11																													606.50	2.70	0.259	0.01	0.37
19	9																													606.56	2.77	0.251	0.01	0.38
20	8																													606.70	2.90	0.234	0.01	0.39
21	9																													606.95	3.16	0.206	0.01	0.40
22	11																													606.97	3.17	0.204	0.01	0.41
23	12																													607.02	3.22	0.200	0.01	0.42
24	11																													607.04	3.24	0.198	0.01	0.43
25	9																													607.04	3.24	0.197	0.01	0.45
26	11																													607.06	3.26	0.196	0.01	0.46
27	10																													607.11	3.32	0.190	0.01	0.47
28	9																													607.14	3.35	0.188	0.01	0.48
29	12																													607.19	3.40	0.183	0.01	0.49
30	9																													607.24	3.45	0.178	0.01	0.49
31	10																													607.40	3.61	0.165	0.01	0.50
32	11																													607.41	3.62	0.164	0.01	0.51
33	11																													607.46	3.67	0.160	0.01	0.52
34	9																													607.66	3.87	0.145	0.01	0.53
35	9																													607.71	3.92	0.141	0.01	0.54
36	11																													607.81	4.01	0.135	0.01	0.54
37	7																													607.82	4.02	0.134	0.01	0.55
38	11																													607.83	4.04	0.133	0.01	0.56
39	8																													607.85	4.06	0.132	0.01	0.56
40	11																													607.85	4.06	0.131	0.01	0.57
41	11																													607.87	4.07	0.130	0.01	0.58
42	12																													607.89	4.09	0.129	0.01	0.59
43	12																													607.92	4.12	0.127	0.01	0.59
44	9																													607.95	4.15	0.125	0.01	0.60

*model*  
*average*<sup>e</sup>

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$\beta$	-0.26	-0.94	0.29	-0.07	-0.25	-0.91	-0.23	-0.79	-1.04	-0.53	-0.46	0.00	-0.11
variance	0.13	0.04	0.05	0.02	0.12	0.07	0.09	0.07	0.09	0.12	0.06	0.00	0.04
relative importance	0.50	1.00	0.82	0.36	0.50	1.00	0.54	1.00	1.00	0.86	0.91	0.11	1.00
95% CI	0.66	0.40	0.41	0.23	0.63	0.50	0.55	0.52	0.57	0.65	0.44	0.04	0.39

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**Table S23. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for species richness of open steppic habitat birds in the summer (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICC <sup>c</sup>	$\Delta AICC^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights		
1	12																													463.30	0.00	1.000	0.08	0.08		
2	11																														463.60	0.30	0.860	0.07	0.16	
3	10																														463.78	0.48	0.787	0.07	0.22	
4	11																														463.88	0.58	0.749	0.06	0.28	
5	10																														464.69	1.39	0.499	0.04	0.33	
6	9																														465.09	1.80	0.408	0.03	0.36	
7	11																														465.11	1.81	0.404	0.03	0.39	
8	13																														465.21	1.91	0.384	0.03	0.43	
9	10																														465.34	2.04	0.361	0.03	0.46	
10	12																														465.34	2.05	0.359	0.03	0.49	
11	9																														465.37	2.07	0.355	0.03	0.52	
12	11																														465.43	2.14	0.344	0.03	0.55	
13	12																														465.44	2.14	0.342	0.03	0.57	
14	10																														465.93	2.63	0.268	0.02	0.60	
15	11																														466.10	2.80	0.247	0.02	0.62	
16	11																														466.14	2.84	0.241	0.02	0.64	
17	10																														466.16	2.86	0.239	0.02	0.66	
18	11																														466.26	2.97	0.227	0.02	0.68	
19	10																														466.44	3.14	0.208	0.02	0.69	
20	10																														466.46	3.16	0.206	0.02	0.71	
21	11																														466.46	3.16	0.206	0.02	0.73	
22	10																														467.22	3.92	0.141	0.01	0.74	
23	11																														467.33	4.03	0.133	0.01	0.75	
24	12																														467.33	4.03	0.133	0.01	0.76	
25	12																														467.40	4.10	0.129	0.01	0.77	
<i>model average<sup>e</sup></i>																																				
	$\beta$		0.01	-0.21	-0.19				-0.04				-0.16	-0.18						-0.10	-0.26	-0.16				-0.06	0.09	0.51								
	variance		0.00	0.00	0.00				0.00				0.00	0.00						0.01	0.01	0.00				0.01	0.00	0.00								
	relative importance		0.30	1.00	1.00				0.49				0.98	1.00						0.79	1.00	0.97				0.51	0.78	1.00								
	95% CI		0.07	0.12	0.12				0.11				0.13	0.12						0.15	0.14	0.13				0.15	0.13	0.10								





**Table S26. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of large-area birds in the summer (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights
1	12																												1672.94	0.00	1.000	0.03	0.03	
2	11																												1673.16	0.22	0.895	0.02	0.05	
3	10																												1673.57	0.63	0.731	0.02	0.07	
4	11																												1673.88	0.93	0.627	0.02	0.08	
5	11																												1673.91	0.97	0.616	0.02	0.10	
6	12																												1674.13	1.19	0.551	0.01	0.11	
7	13																												1674.32	1.38	0.502	0.01	0.13	
8	11																												1674.53	1.59	0.452	0.01	0.14	
9	11																												1674.59	1.65	0.439	0.01	0.15	
10	10																												1674.62	1.67	0.433	0.01	0.16	
11	10																												1674.67	1.73	0.422	0.01	0.17	
12	11																												1674.77	1.82	0.402	0.01	0.18	
13	9																												1674.79	1.84	0.398	0.01	0.19	
14	10																												1674.85	1.91	0.385	0.01	0.20	
15	11																												1674.91	1.97	0.374	0.01	0.21	
16	12																												1675.03	2.09	0.352	0.01	0.22	
17	11																												1675.14	2.20	0.333	0.01	0.23	
18	10																												1675.23	2.29	0.318	0.01	0.24	
19	12																												1675.27	2.32	0.313	0.01	0.24	
20	12																												1675.34	2.40	0.302	0.01	0.25	
21	10																												1675.37	2.43	0.297	0.01	0.26	
22	10																												1675.41	2.47	0.291	0.01	0.27	
23	10																												1675.63	2.68	0.261	0.01	0.27	
24	11																												1675.63	2.68	0.261	0.01	0.28	
25	9																												1675.69	2.75	0.253	0.01	0.29	
26	10																												1675.78	2.83	0.243	0.01	0.29	
27	10																												1675.82	2.88	0.237	0.01	0.30	
28	12																												1675.82	2.88	0.237	0.01	0.31	
29	11																												1675.86	2.92	0.232	0.01	0.31	
30	9																												1675.89	2.95	0.229	0.01	0.32	
31	10																												1675.94	3.00	0.223	0.01	0.32	
32	11																												1676.02	3.07	0.215	0.01	0.33	
33	9																												1676.02	3.08	0.215	0.01	0.33	
34	11																												1676.04	3.09	0.213	0.01	0.34	
35	12																												1676.05	3.11	0.211	0.01	0.35	
36	10																												1676.08	3.14	0.209	0.01	0.35	
37	10																												1676.08	3.14	0.208	0.01	0.36	
38	11																												1676.09	3.14	0.208	0.01	0.36	
39	9																												1676.11	3.16	0.206	0.01	0.37	
40	11																												1676.15	3.20	0.202	0.01	0.37	
41	10																												1676.16	3.22	0.200	0.01	0.38	
42	11																												1676.18	3.24	0.198	0.01	0.38	
43	9																												1676.19	3.24	0.197	0.01	0.39	
44	10																												1676.21	3.27	0.195	0.01	0.39	
45	9																												1676.23	3.29	0.193	0.00	0.40	







**Table S29. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for species richness of large-area birds in the winter, model (d) (shading indicates inclusion of the variable in each model).**

model no.	<i>K</i> <sup>b</sup>	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	ΔAICc <sup>d</sup>	Relative likelihood	Akaike weights	Cumulative Akaike weights		
1	9																													593.94	0.00	1.000	0.09	0.09		
2	8																													594.17	0.23	0.893	0.08	0.17		
3	10																													594.81	0.87	0.649	0.06	0.22		
4	10																													595.03	1.09	0.581	0.05	0.27		
5	9																													595.08	1.14	0.566	0.05	0.32		
6	9																													595.08	1.14	0.565	0.05	0.37		
7	11																													595.39	1.45	0.485	0.04	0.41		
8	10																													595.46	1.52	0.468	0.04	0.45		
9	9																													596.31	2.36	0.307	0.03	0.48		
10	8																													596.38	2.44	0.295	0.03	0.51		
11	10																													596.53	2.58	0.275	0.02	0.53		
12	7																													596.63	2.69	0.261	0.02	0.55		
13	9																													596.73	2.79	0.248	0.02	0.58		
14	8																													597.04	3.09	0.213	0.02	0.59		
15	10																													597.12	3.18	0.204	0.02	0.61		
16	9																													597.21	3.26	0.196	0.02	0.63		
17	9																													597.40	3.45	0.178	0.02	0.64		
18	8																													597.47	3.52	0.172	0.02	0.66		
19	8																													597.67	3.73	0.155	0.01	0.67		
20	8																													597.67	3.73	0.155	0.01	0.69		
21	9																													597.82	3.87	0.144	0.01	0.70		
22	10																													597.90	3.95	0.138	0.01	0.71		
<i>model average<sup>e</sup></i>																																				
	<i>β</i>	-0.05	-0.45	0.27	0.18									0.19											-0.07	-0.23	0.05	0.12	1.21							
	variance	0.01	0.01	0.01	0.01									0.01											0.01	0.01	0.01	0.01	0.01							
	relative importance													0.91											0.52	0.96	0.47	0.78	1.00							
	95% CI	0.14	0.19	0.18	0.17									0.20											0.18	0.20	0.16	0.18	0.14							

**Table S30. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for species richness of large-area birds in the winter, model (b) (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights
1	9																													593.94	0.00	1.000	0.03	0.03
2	8																													594.17	0.23	0.893	0.03	0.07
3	10																													594.70	0.76	0.684	0.02	0.09
4	10																													595.03	1.09	0.581	0.02	0.11
5	9																													595.08	1.14	0.566	0.02	0.13
6	10																													595.17	1.23	0.541	0.02	0.15
7	11																													595.22	1.28	0.527	0.02	0.16
8	9																													595.44	1.49	0.474	0.02	0.18
9	9																													595.46	1.52	0.468	0.02	0.20
10	11																													595.58	1.63	0.442	0.02	0.21
11	10																													595.75	1.81	0.405	0.01	0.23
12	13																													595.82	1.88	0.391	0.01	0.24
13	9																													596.06	2.12	0.346	0.01	0.25
14	12																													596.11	2.16	0.339	0.01	0.26
15	10																													596.16	2.21	0.330	0.01	0.27
16	12																													596.21	2.26	0.323	0.01	0.29
17	12																													596.21	2.27	0.321	0.01	0.30
18	10																													596.24	2.29	0.318	0.01	0.31
19	11																													596.24	2.29	0.318	0.01	0.32
20	11																													596.30	2.35	0.308	0.01	0.33
21	11																													596.36	2.42	0.299	0.01	0.34
22	8																													596.38	2.44	0.295	0.01	0.35
23	10																													596.48	2.54	0.281	0.01	0.36
24	10																													596.49	2.54	0.280	0.01	0.37
25	7																													596.63	2.69	0.261	0.01	0.38
26	11																													596.76	2.82	0.245	0.01	0.39
27	11																													596.82	2.87	0.238	0.01	0.39
28	10																													596.94	3.00	0.224	0.01	0.40
29	11																													597.05	3.11	0.211	0.01	0.41
30	10																													597.06	3.12	0.210	0.01	0.42
31	11																													597.07	3.12	0.210	0.01	0.42
32	10																													597.19	3.25	0.197	0.01	0.43
33	9																													597.20	3.26	0.196	0.01	0.44
34	11																													597.20	3.26	0.196	0.01	0.44
35	8																													597.23	3.28	0.194	0.01	0.45
36	10																													597.24	3.30	0.192	0.01	0.46
37	12																													597.29	3.35	0.188	0.01	0.46
38	12																													597.29	3.35	0.187	0.01	0.47
39	12																													597.37	3.42	0.181	0.01	0.48
40	9																													597.40	3.45	0.178	0.01	0.48
41	8																													597.47	3.52	0.172	0.01	0.49
42	9																													597.51	3.57	0.168	0.01	0.49
43	10																													597.54	3.60	0.165	0.01	0.50
44	9																													597.55	3.61	0.165	0.01	0.51
45	12																													597.56	3.62	0.164	0.01	0.51



**Table S31. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of complementing passerine birds in the summer (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights
1	10	■	■	■	■		■	■	■										■	■	■								1741.09	0.00	1.000	0.03	0.03	
2	6	■	■				■	■	■											■	■	■								1741.13	0.04	0.983	0.03	0.06
3	7	■	■		■		■	■	■											■	■	■								1741.17	0.08	0.961	0.03	0.09
4	11	■	■		■		■	■	■											■	■	■								1741.30	0.21	0.899	0.03	0.12
5	10	■	■				■	■	■						■					■	■	■								1741.48	0.39	0.825	0.03	0.15
6	9	■	■				■	■	■											■	■	■								1741.49	0.40	0.820	0.03	0.17
7	11	■	■		■		■	■	■											■	■	■					■			1741.61	0.52	0.772	0.02	0.20
8	12	■	■		■		■	■	■											■	■	■								1741.73	0.64	0.727	0.02	0.22
9	11	■	■				■	■	■											■	■	■								1741.79	0.70	0.706	0.02	0.24
10	10	■	■		■		■	■	■											■	■	■								1741.87	0.78	0.677	0.02	0.26
11	8	■	■		■		■	■	■											■	■	■								1741.93	0.84	0.656	0.02	0.28
12	7	■	■				■	■	■											■	■	■								1742.15	1.06	0.588	0.02	0.30
13	7	■	■				■	■	■											■	■	■								1742.34	1.25	0.536	0.02	0.32
14	7	■	■				■	■	■											■	■	■								1742.38	1.29	0.526	0.02	0.34
15	8	■	■				■	■	■											■	■	■								1742.39	1.30	0.522	0.02	0.35
16	9	■	■		■		■	■	■											■	■	■								1742.43	1.34	0.511	0.02	0.37
17	8	■	■		■		■	■	■											■	■	■								1742.44	1.35	0.509	0.02	0.38
18	8	■	■		■		■	■	■											■	■	■								1742.49	1.40	0.496	0.02	0.40
19	7	■	■				■	■	■											■	■	■								1742.54	1.45	0.484	0.02	0.41
20	8	■	■		■		■	■	■											■	■	■								1742.54	1.45	0.483	0.02	0.43
21	9	■	■				■	■	■											■	■	■								1742.80	1.71	0.425	0.01	0.44
22	8	■	■		■		■	■	■											■	■	■								1742.99	1.90	0.387	0.01	0.46
23	9	■	■		■		■	■	■											■	■	■								1743.00	1.91	0.384	0.01	0.47
24	7	■	■				■	■	■											■	■	■								1743.01	1.92	0.383	0.01	0.48
25	8	■	■		■		■	■	■											■	■	■								1743.16	2.07	0.355	0.01	0.49
26	9	■	■		■		■	■	■											■	■	■								1743.19	2.10	0.350	0.01	0.50
27	8	■	■		■		■	■	■											■	■	■								1743.20	2.11	0.348	0.01	0.51
28	9	■	■		■		■	■	■											■	■	■								1743.29	2.20	0.333	0.01	0.52
29	10	■	■		■		■	■	■											■	■	■								1743.34	2.25	0.325	0.01	0.53
30	8	■	■		■		■	■	■											■	■	■								1743.38	2.29	0.318	0.01	0.54
31	8	■	■		■		■	■	■											■	■	■								1743.40	2.31	0.315	0.01	0.55
32	5	■	■				■	■	■											■	■	■								1743.47	2.38	0.304	0.01	0.56
33	8	■	■		■		■	■	■											■	■	■								1743.67	2.58	0.275	0.01	0.57
34	9	■	■		■		■	■	■											■	■	■								1743.68	2.59	0.274	0.01	0.58
35	6	■	■				■	■	■											■	■	■								1743.75	2.66	0.264	0.01	0.59
36	9	■	■		■		■	■	■											■	■	■								1743.77	2.68	0.262	0.01	0.60
37	9	■	■		■		■	■	■											■	■	■								1743.88	2.79	0.248	0.01	0.60
38	9	■	■		■		■	■	■											■	■	■								1743.95	2.86	0.239	0.01	0.61
39	10	■	■		■		■	■	■											■	■	■								1744.01	2.92	0.232	0.01	0.62
40	10	■	■		■		■	■	■											■	■	■								1744.05	2.96	0.228	0.01	0.63
41	8	■	■				■	■	■											■	■	■								1744.14	3.05	0.218	0.01	0.63
42	8	■	■		■		■	■	■											■	■	■								1744.17	3.08	0.215	0.01	0.64
43	9	■	■				■	■	■											■	■	■								1744.21	3.12	0.210	0.01	0.65
44	9	■	■		■		■	■	■											■	■	■								1744.25	3.16	0.206	0.01	0.65
45	9	■	■				■	■	■											■	■	■								1744.32	3.23	0.199	0.01	0.66

46	8											1744.36	3.27	0.195	0.01	0.67
47	9											1744.39	3.30	0.192	0.01	0.67
48	10											1744.40	3.31	0.192	0.01	0.68
49	6											1744.42	3.33	0.189	0.01	0.68
50	9											1744.49	3.40	0.183	0.01	0.69
51	8											1744.50	3.41	0.182	0.01	0.69
52	6											1744.70	3.61	0.165	0.01	0.70
53	10											1744.80	3.71	0.157	0.00	0.70
54	7											1744.86	3.77	0.152	0.00	0.71
55	10											1744.90	3.81	0.149	0.00	0.71
56	10											1744.94	3.85	0.146	0.00	0.72
57	10											1745.00	3.91	0.142	0.00	0.72
58	6											1745.03	3.94	0.140	0.00	0.73
59	7											1745.04	3.95	0.139	0.00	0.73
60	7											1745.09	4.00	0.135	0.00	0.74
61	10											1745.10	4.01	0.134	0.00	0.74
62	9											1745.12	4.03	0.133	0.00	0.74
63	10											1745.15	4.06	0.131	0.00	0.75
64	6											1745.18	4.09	0.129	0.00	0.75
65	9											1745.18	4.09	0.129	0.00	0.76
66	9											1745.21	4.12	0.128	0.00	0.76

model

average<sup>e</sup>

$\beta$	0.16	0.08	0.07	0.34	-0.23	0.30	0.02	0.08	0.07	-0.03	3.25
variance	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.01
relative importance	0.93	0.53	0.51	1.00	0.99	0.99	0.29	0.52	0.52	0.34	1.00
95% CI	0.16	0.20	0.17	0.15	0.16	0.19	0.08	0.21	0.19	0.10	0.14

**Table S32. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of complementing passerine birds in the winter, model (b) (shading indicates inclusion of the variable in each model).**

model no.	$K^b$	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	$\Delta AICc^d$	Relative likelihood	Akaike weights	Cumulative Akaike weights		
1	9																													1455.90	0.00	1.000	0.08	0.08		
2	11																													1455.94	0.04	0.980	0.08	0.16		
3	12																													1456.28	0.38	0.825	0.07	0.23		
4	10																													1456.58	0.68	0.711	0.06	0.28		
5	10																													1456.68	0.78	0.677	0.05	0.34		
6	11																													1456.71	0.81	0.665	0.05	0.39		
7	8																													1456.72	0.82	0.664	0.05	0.45		
8	7																													1457.11	1.22	0.545	0.04	0.49		
9	10																													1457.20	1.30	0.522	0.04	0.53		
10	10																													1457.67	1.77	0.412	0.03	0.57		
11	8																													1457.73	1.83	0.401	0.03	0.60		
12	9																													1457.87	1.97	0.373	0.03	0.63		
13	9																													1458.32	2.42	0.298	0.02	0.65		
14	11																													1458.42	2.52	0.283	0.02	0.67		
15	9																													1458.58	2.68	0.262	0.02	0.70		
16	11																													1458.60	2.70	0.259	0.02	0.72		
17	8																													1458.61	2.71	0.258	0.02	0.74		
18	9																													1458.62	2.72	0.256	0.02	0.76		
19	8																													1458.72	2.82	0.244	0.02	0.78		
20	8																													1458.81	2.91	0.233	0.02	0.80		
21	9																													1459.23	3.33	0.190	0.02	0.81		
22	9																													1459.23	3.33	0.189	0.02	0.83		
23	9																													1459.25	3.35	0.187	0.02	0.84		
24	10																													1459.28	3.38	0.185	0.01	0.86		
25	10																													1459.61	3.71	0.156	0.01	0.87		
26	10																													1459.75	3.85	0.146	0.01	0.88		
27	10																													1459.85	3.95	0.139	0.01	0.89		
28	9																													1460.04	4.14	0.126	0.01	0.90		
<i>model average<sup>e</sup></i>																																				
$\beta$		0.09				0.13	0.30					0.28		0.35	0.29			-0.13	0.06									0.04	2.48							
variance		0.02				0.02	0.01					0.01		0.01	0.01			0.02	0.01									0.01	0.01							
relative importance		0.50				0.68	1.00					1.00		1.00	1.00			0.67	0.40									0.37	1.00							
95% CI		0.24				0.24	0.17					0.18		0.20	0.23			0.25	0.19									0.13	0.16							

**Table S33. Confidence set<sup>a</sup> of models resulting from the information-theoretic approach and multi-model inference for abundance of complementing passerine birds in the winter, model (c) (shading indicates inclusion of the variable in each model).**

model no.	<i>K</i> <sup>b</sup>	artificial land-cover	arable land-cover	cereal	tilled	fallow	horticulture	grassland land-cover	fruit tree land-cover	groves	olive	carob	citrus	almond & other fruit	vineyard land-cover	active viticulture	abandoned viticulture	boundary features	complex agriculture	scrub land-cover	scrub habitat	tree density	forest land-cover	forest habitat	unvegetated land	elevation	habitat diversity	spatial autocovariate	constant	AICc <sup>c</sup>	ΔAICc <sup>d</sup>	Relative likelihood	Akaike weights	Cumulative Akaike weights																							
1	10																													1455.43	0.00	1.000	0.10	0.10																							
2	11																													1455.83	0.40	0.819	0.09	0.19																							
3	9																													1455.91	0.48	0.787	0.08	0.27																							
4	10																													1456.42	0.99	0.608	0.06	0.34																							
5	11																													1456.69	1.26	0.533	0.06	0.39																							
6	12																													1457.08	1.65	0.438	0.05	0.44																							
7	9																													1457.15	1.72	0.422	0.04	0.48																							
8	10																													1457.63	2.20	0.332	0.03	0.52																							
9	8																													1457.90	2.48	0.290	0.03	0.55																							
10	8																													1457.99	2.56	0.278	0.03	0.58																							
11	11																													1458.15	2.72	0.256	0.03	0.60																							
12	7																													1458.17	2.74	0.254	0.03	0.63																							
13	10																													1458.24	2.81	0.245	0.03	0.66																							
14	10																													1458.35	2.92	0.232	0.02	0.68																							
15	9																													1458.73	3.30	0.192	0.02	0.70																							
16	8																													1458.79	3.37	0.186	0.02	0.72																							
17	9																													1459.27	3.84	0.147	0.02	0.74																							
18	11																													1459.42	3.99	0.136	0.01	0.75																							
<i>model average<sup>e</sup></i>																																																									
β		-0.04				0.11	0.28				0.30	0.30	0.24	-0.19	-0.16	-0.80											0.02	2.47																													
variance		0.00				0.01	0.01				0.01	0.01	0.01	0.02	0.02	0.02											0.00	0.01																													
relative importance		0.35				0.62	1.00				1.00	1.00	1.00	0.84	0.73	1.00											0.29	1.00																													
95% CI		0.12				0.23	0.16				0.18	0.21	0.19	0.26	0.25	0.27											0.09	0.16																													

<sup>a</sup> Set of models for which the relative likelihood value is greater than 0.125, following Burnham and Anderson (2002).

<sup>b</sup> Number of parameters in the model.

<sup>c</sup> Akaike's Information Criterion (AIC) adjusted for small sample size (AICc).

<sup>d</sup> Differences between the model AICc and that of the best fitting model ( $\Delta$ AICc).

<sup>e</sup> Model-averaged effect size ( $\beta$ ), unconditional variance, 95% confidence interval (CI), and relative importance, following Burnham and Anderson (2002).

## **Reference**

Burnham, K.P. & Anderson, D.R. 2002. *Model Selection and Multi-model Inference: A Practical Information-theoretic Approach* . New York: Springer.